ADULT TERTIARY ANESTHESIA

INTRODUCTION
The adult tertiary rotations are the largest component of the training program. The goals and objectives for this component mirror very closely the overall program goals and objectives. The adult tertiary experience is divided between the Health Sciences Centre and St. Boniface General Hospital. Each provides a different case mix and approach, all contributing toward the ultimate fulfillment of the Goals and Objectives detailed below. The incremental achievement of these goals and objectives is fundamental for these rotations. Residents will rotate through adult tertiary periods during each year of their residency. Upon completion of the program it is expected that residents meet the goals and objectives listed below in their entirety. The document “Expectations Regarding Incremental Achievement of Goals and Objectives” is critical in interpreting for each level of training the degree to which these goals and objectives should be met.

GOALS AND OBJECTIVES
The University of Manitoba Training Program for Residents in Anesthesia has been developed in accordance with the guidelines of the Royal College of Physicians and Surgeons of Canada.

The following Rotation Specific Goals and Objectives for Adult Anesthesia at the Health Sciences Centre site and at the St. Boniface General Hospital site, provide additional emphasis to particular components of the Overall Program Goals and Objectives.

Please refer also to the National Curriculum for Canadian Anesthesia Residency for more information on expected knowledge and skills.

All appropriate Program Goals and Objectives also apply to this rotation.

1) Medical Expert/Clinical Decision Maker
By the end of the training in adult tertiary anesthesia, the resident will be able perform the following with respect to patients with all varieties of pre-existing conditions, and for the entire spectrum of surgical complexity, excluding cardiac surgery:

a) Explain the adult anatomy, physiology of the following systems and pathophysiology of the disease states that affect them:
   i) Cardiovascular
   ii) Upper airway and respiratory system
   iii) Central and peripheral nervous systems
   iv) Hepatic
v) Renal  
vi) Endocrine  
vi) Hematologic  

b) Explain the concepts in physics, biochemistry, and pharmacology, relevant to anesthesia, as detailed in the overall program curriculum  

c) Appropriately select and administer a complete spectrum of anesthetic and analgesic agents for the induction and maintenance of anesthesia, taking into account the relative advantages and disadvantages of each approach and tailoring that approach to the specific anesthetic goals for each individual case  

d) Appropriately select and administer a complete spectrum of drugs for cardiovascular support and resuscitation during anesthesia and the perioperative period, taking into account the relative advantages and disadvantages of each approach and tailoring that approach to the specific anesthetic goals for each individual case  

e) Independently perform specific techniques for the administration of general, local and regional anesthesia, with a sufficient spectrum of choice to meet the anesthetic goals for all patients within the scope of practice defined above  

f) Identify and manage complications as they occur in the perioperative period  

g) Identify risk factors for postoperative complications and modify anesthetic plans to minimize those complications  

h) Assess the suitability for discharge to ICU, intermediate care, ward and home settings  

i) Identify and address the risk factors that may impede recovery in the perioperative period including (but not limited to):  
i) PONV  
ii) Pain  
iii) Postoperative cognitive dysfunction/delirium  
iv) ileus  
v) cigarette smoking  
vi) morbid obesity  

j) Explain the principles of the function of all anesthetic equipment, including the anesthetic machine, mechanical ventilator, safe delivery of anesthetic gases, monitoring equipment  

k) Use the anesthesia machine to provide anesthesia care, including performing appropriate safety inspection
l) Identify and correct equipment malfunction before and during anesthesia care

m) Select, apply, and interpret the information from the appropriate monitors, including invasive and NIBP, 5-lead EKG, neuromuscular monitor, oximeter, end-tidal gas monitor, temperature, urine output, and invasive monitors of cardiac output and filling.

n) Identify and correct sources of error in the above monitoring equipment

o) Select and administer appropriate fluids and blood products, taking into account the indications, contraindications, and correct procedures

p) Identify and manage complications of fluid and blood product administration in the entire perioperative period

q) Appropriately assess the patient, assess risks, and formulate and implement an appropriate individualized plan for perioperative patient management taking into account the implications of the underlying patient problem, surgical procedure, coexisting patient factors including other medical problems, anxiety, discomfort, culture, language, ethnicity, age, and gender

r) Appropriately modify management in response to monitoring information, and change in patient, anesthetic, or surgical factors

s) Provide anesthetic care with specific reference to pregnant patients for obstetric and non-obstetric procedures, patients in the geriatric age group, and ambulatory patients

t) Initiate appropriately individualized perioperative pain management strategies

u) Manage adult patients in a variety of settings including:
   i) elective, urgent and emergent/trauma procedures
   ii) sites distant from the operating room
   iii) unforeseen emergencies (e.g. Malignant Hyperthermia)

v) Independently perform all technical skills necessary to manage adult patients in the perioperative period including:
   i) routine and difficult airway management including airway topicalization & fiberoptic bronchoscopy
   ii) techniques of monitored anesthesia care (MAC)
   iii) local, neuraxial and regional anesthesia (with the aid of ultrasonography)
   iv) techniques of general anesthesia including induction, maintenance, and emergence techniques
   v) peripheral and central venous access (the latter with the aid of dynamic ultrasound imaging), invasive monitoring (all with the consideration of sterile technique)
vi) resuscitation of the critically ill adult patient (with reference to ACLS and ATLS procedures and protocols)

2) Communicator

By the end of the training in adult tertiary anesthesia, the resident will be able perform the following:

a) Establish a therapeutic relationship with patients and/or family members as appropriate, including
   i) Encouraging patient participation in decision-making, and to do this in consultative, elective, and emergent situations, and in challenging situations such as patient anger, confusion, language or ethno-cultural differences, or extremes of age
   ii) Listening to patients, answering their questions, and decreasing their anxiety
   iii) Demonstrate respect and empathy in relationships with patients

b) Gather sufficient information from the patient, family members, and/or medical personnel to identify all issues that will have implications for perioperative management
   i) medical and surgical status of the patient
   ii) patient expectations, beliefs, and concerns (in addition to medical problem information), while also considering the influence of age, gender, and ethno-cultural, spiritual, and socio-economic background on the medical problem
   iii) Articulate the above findings and concerns to the attending Anesthesiologist and other members of the health care team.

c) Impart sufficient information to patients and appropriate family members or delegates to allow a complete understanding of the implications of the planned procedure, options, risks and benefits

d) Obtain complete informed consent for anesthetic care

3) Collaborator

By the end of the training in adult tertiary anesthesia, the resident will be able perform the following:

a) Consult other physicians and allied health professionals in order to provide optimal perioperative care

b) Coordinate care of adult patients with other members of OR team, PAC/POAC, ward, ICU staff and other physicians

c) Communicate effectively with other team members

d) Manage urgent and crisis situations such as cardiac arrest, trauma, anaphylaxis, and malignant hyperthermia, as a team member or a team leader
e) Resolve conflicts or provide feedback where appropriate

**Leader**

By the end of the training in adult tertiary anesthesia, the resident will be able perform the following

a) Utilize personal and outside resources effectively to balance patient care, continuing education, practice, and personal activities

b) Manage assigned room/slate regarding maintaining the schedule, changing the schedule in response to emergencies, delays, additional cases etc.

c) Manage after hours scheduling of cases including prioritisation and adapting to changes

d) Schedule co-residents slate assignments when responsible as Senior/slating resident

e) Use limited health resources appropriately including
   
   i) time for patient assessment, OR equipment preparation, anesthesia induction and emergence, OR changeover
   
   ii) expenses of anesthesia resources including cost-effective drug and technique choice, equipment and invasive monitoring options

f) Participate in the assessment of outcomes of patient care and practice including Quality Assurance (QA) methods. This will include
   
   i) maintaining a personal record of experience and outcomes (log of experience)
   
   ii) participating in any appropriate case reviews

g) Explain how an anesthetic department is structured and managed

**2) Health Advocate**

By the end of the training in adult tertiary anesthesia, the resident will be able perform the following

a) Recognize individual and systemic issues with an impact on anesthetic care and safety of the adult patient

b) Participate in and lead where appropriate patient safety procedures such as briefing, time out and debriefing.

c) Communicate identified concerns and risks to patients, other health care professionals, and administration as applicable

d) Intervene on behalf of individual patients and the system as a whole regarding quality of care and safety
e) Identify and react to risks to health care providers specifically including, but not limited to:
   i) substance abuse among anesthesiologists and other health care providers
   ii) dangers to workplace health and safety

f) Implement CAS and CSA standards and guidelines related to anesthetic practice and equipment

3) **Scholar**
By the end of the training in adult tertiary anesthesia, the resident will be able perform the following
   a) Develop and maintain a personal learning strategy which will continue to maintenance of certification
   b) Seek out and critically appraise literature to support clinical care decisions and practice evidence-based application of new knowledge
   c) Contribute to the appropriate application, dissemination, and development of new knowledge
   d) Teach medical students, other residents, faculty members, other health professionals, and patients using the principles and methods of adult learning

4) **Professional**
Throughout the training in adult tertiary anesthesia the resident shall:
   a) deliver the highest quality patient care with integrity, honesty, and compassion
   b) Fulfill the ethical and legal aspects of patient care
   c) Maintain patient confidentiality
   d) Demonstrate appropriate interpersonal and professional behaviour
   e) Recognize personal limits through appropriate consultation (with staff supervisors, other physicians, and other health professionals) and show appropriate respect for those consulted
   f) Recognize conflict in patient care situations, professional relationships, and value systems, and demonstrate the ability to discuss and resolve differences of opinion.
   g) Accept constructive feedback and criticism, and implement appropriate advice
   h) Continually review personal and professional abilities and demonstrate a pattern of continuing development skills and knowledge through education
i) Identify problems of physical and mental health including chemical dependence, stress, and depression, and ways to deal with these problems in oneself and others.
CLINICAL RESPONSIBILITIES

1) Daily
   a) **Preoperative assessment**: The resident will assess each patient on his/her slate preoperatively at the earliest reasonable opportunity. Inpatients scheduled the night beforehand or earlier must be assessed by the resident the night beforehand at the latest. To that end, the resident will review the slating for the next day at the end of each OR day, to determine his/her responsibilities with respect to preoperative assessment and communication with staff.
   b) **Anesthetic planning**: For each case, the resident will generate an anesthetic plan with a level of detail commensurate with the expectations described for his/her level of training in the “Expectations for Incremental Achievement of Goals and Objectives”.
   c) **Communication with Attending staff**: It is the responsibility of the resident to ensure that this plan is discussed with and approved by the attending anesthesiologist before proceeding. It is also the responsibility of the resident to contact the attending anesthesiologist on the day prior to the slate. That contact will be used at the mutual discretion of the staff and resident to prepare a teaching plan, review the anesthetic plans, and make any applicable special plans for the conduct of the slate as a whole.
   d) **Preparation**:  
      i) The resident shall arrive in the hospital with sufficient time to complete the following and start the first case at the slated time  
         (1) check and prepare all necessary equipment for the first case  
         (2) make any arrangements that will be required for the efficient conduct of the slate  
         (3) assess the first patient and review the assessment and plan with attending anesthesiologist  
      ii) The resident will prepare for each subsequent case with sufficient alacrity to ensure the efficient conduct of the slate.
   e) **Administration of Anesthesia**: The resident will implement the anesthetic plan, including modification in response to evolving conditions, from preoperative assessment and optimization through to postoperative disposition, with a degree of autonomy commensurate with the expectations for his/her level of training.
   f) **Postoperative Followup**: The resident will attend to any postoperative investigation or management that derives from either the initial anesthetic plan or intraoperative events. The resident will follow up on any complications and communicate the results of that followup to the attending anesthesiologist. The resident will direct the postoperative management of such complications in concert with the attending anesthesiologist to point of their resolution or delegation to an appropriate health care provider.

2) Call
   a) The resident shall take call as indicated on the call schedule for the clinical site in which s/he is rotating. This call shall conform to the relevant policies on call found in the Residency Program Policy Manual. While on call, the resident is
expected to perform all of the same functions as outlined above for an elective slate, within the context of emergency care.

3) Consults:
   Residents shall see consults in the following circumstances:
   a) Any patient for whom s/he has been slated if one has been requested.
   b) Any outstanding consults while on call or late call, secondary to availability for the OR
   c) During days slated into the preanesthetic clinic
   d) As delegated by the attending staff or Floor Director

OTHER RESPONSIBILITIES

1) Teaching
   Residents shall participate in the clinical teaching of medical students, junior residents, and paramedical trainees that are slated to work with them.

2) Talk Rounds and Grand rounds
   Resident will attend all talk rounds and Grand rounds that occur at their site during their rotation with the following exceptions
   i) While on holidays
   ii) Wednesday morning talk rounds when on call Wednesday evening
   iii) Illness

3) Evaluations
   Residents must complete their faculty evaluations for each staff they work with in a given period and submit them electronically as outlined in the Residency Program Policy Manual.

LEARNING RESOURCES

During this rotation, the following resources will be available to residents in addition to those available at all times through the University Department:

1) Clinical teaching - The most important learning resource during clinical rotations is the direct teaching that occurs during discussion with staff of the management of actual cases, and topics of interest. The quality of this discussion is enhanced by communication in advance to generate a teaching plan.

2) Site Library - Each tertiary site has a collection of current textbooks relevant to the pattern of practice of the site

3) Computer access - Each tertiary site has computer access within the OR for resident use in accessing literature

4) Anesthesia Toolkit – This resource may be accessed electronically by the residents through the University of Manitoba Health Sciences Library. It contains a wealth of links to useful books, journals, articles useful for clinical anesthesia but also making effective presentations, teaching, providing patient resources, and understanding evidence-based medicine. Anesthesia Toolkit can be accessed at http://umanitoba.ca/faculties/medicine/anesthesia/
INTRODUCTION
The Cardiac Anesthesia rotation in the Residency Program at the University of Manitoba is designed to give residents an appreciation of the issues involved in the management of anesthesia for cardiac surgery. Residents are expected to become competent in the management patients with cardiovascular diseases perioperatively during this rotation. Although residents are expected to gain sufficient knowledge to actively participate in the perioperative care of these patients, it is not intended to produce anesthesiologists capable of independently managing anesthesia for cardiac surgery.

GOALS AND OBJECTIVES
The University of Manitoba Training Program for Residents in Anesthesia has been developed in accordance with the guidelines of the Royal College of Physicians and Surgeons of Canada.

The following Rotation Specific Goals and Objectives for Cardiac Anesthesia, provide specialty specific emphasis to particular components of the general Program Goals and Objectives.

Please refer also to the National Curriculum for Canadian Anesthesia Residency for more information on expected knowledge and skills.

All appropriate Program Goals and Objectives also apply to this rotation.

1) MEDICAL EXPERT/CLINICAL DECISION MAKER

By the end of this rotation, the Resident will be able to:

a) Identify the implications for anesthesia management and create an anesthetic plan to accommodate those implications based on a thorough understanding of the pathophysiology of the more common cardiac lesions that occur in adult patients, including:
   i) Coronary artery disease
   ii) Valvular heart disease including aortic, mitral and tricuspid lesions
   iii) Diseases of the thoracic aorta including
       (1) Aneurysm
       (2) Dissection
       (3) Traumatic rupture
iv) Disease of the pericardium including acute tamponade and chronic effusions  
b) Apply an organized method to understand the pertinent factors in the preoperative  
assessment of the cardiac surgical patients  
c) Become familiar with the common medical conditions in patients presenting for  
cardiac surgery  
d) Identify the indications for and correctly interpret basic angiographic, imaging,  
and echocardiographic data  
e) Formulate and implement an appropriate plan for perioperative patient  
management based on understanding of the cardiac problem, the surgical  
procedure, coexisting problems, and patient factors such as anxiety, discomfort,  
culture, language, ethnicity, age, and gender  
f) Implement a plan based on currently accepted anesthetic techniques in cardiac  
anesthesia  
g) Practice vigilance and respond to monitoring information and changing patient,  
anesthetic, or surgical factors with appropriate and timely management  
h) Explain the physiology and management of cardiopulmonary bypass including:  
  i) full and partial bypass  
  ii) extracorporeal membrane oxygenation (peripheral and central)  
  iii) myocardial, cerebral, and spinal cord preservation  
  iv) circulatory arrest  
  v) intra-aortic balloon counter pulsation  
i) Select, use and interpret advanced monitoring equipment and monitoring  
techniques including  
  i) Invasive hemodynamic monitors  
  ii) Respiratory monitors  
  iii) Processed EEG  
  iv) Cerebral oximetry  
j) Identify and manage complications and problems associated with these  
monitoring modalities  
k) Discuss the basic principles of Transesophageal Echocardiography (TEE)  
l) Independently perform technical skills necessary to manage cardiac patients in the  
perioperative period including:  
  i) central venous access (CVP) and pulmonary artery catheter insertion  
  ii) intra-arterial catheter insertion  
  iii) routine and difficult airway management  
  iv) techniques of general anesthesia (induction / maintenance / emergence)  
  v) appropriate local and regional anesthesia  
  vi) resuscitation of the critically ill adult patient  
m) Manage the transfer of complicated and potentially critically ill patients to the  
operating room and back to the intensive care unit  
n) Have a basic understanding of ventricular assist devices and their anesthetic  
considerations  

Residents are also referred to the National Curriculum for a detailed list of expected  
knowledge and skills for a particular subspecialty
2) **Communicator**

By the end of the rotation, the resident will be able perform the following:

a) Establish a therapeutic relationship with patients and/or family members as appropriate, including
   i) Encouraging patient participation in decision-making, and to do this in consultative, elective, and emergent situations, and in challenging situations dictated by patient anger, confusion, language or ethno-cultural differences, or extremes of age
   ii) Listening to patients, answering their questions, and decreasing their anxiety
   iii) Demonstrate respect and empathy in relationships with patients

b) Gather sufficient information from the patient, family members, and/or medical personnel to identify all issues that will have implications for perioperative management
   i) medical and surgical status of the patient
   ii) patient expectations, beliefs, and concerns (in addition to medical problem information), while also considering the influence of age, gender, and ethno-cultural, spiritual, and socio-economic background on the medical problem

c) Impart sufficient information to patients and appropriate family members or delegates to allow a complete understanding of the implications of the planned procedure, options, risks and benefits

d) Obtain complete *informed* consent for anesthetic care

2) **Collaborator**

By the end of the rotation, the resident will be able perform the following:

a) Consult other physicians and allied health professionals in order to provide optimal perioperative care
b) Coordinate care of adult patients with other members of OR team, PACU, ward, ICCS staff and other physicians
c) Communicate effectively with other team members
d) Manage urgent and crisis situations such as cardiac arrest, trauma, anaphylaxis, as a team member or a team leader
e) Resolve conflicts and provide feedback where appropriate

3) **Leader**

By the end of the rotation, the resident will be able perform the following

a) Utilize personal and outside resources effectively to balance patient care, continuing education, practice, and personal activities
b) Manage assigned room/slate regarding maintaining the schedule, changing the schedule in response to emergencies, delays, additional cases etc.
c) Manage after-hours scheduling of cases including prioritization and adapting to changes
d) Schedule co-residents slate assignments when responsible as Senior/slating resident

e) Use limited health resources appropriately including:
   i) time for patient assessment, OR equipment preparation, anesthesia induction and emergence, OR changeover
   ii) expenses of anesthesia resources including cost-effective drug and technique choice, equipment and invasive monitoring options

f) Participate in the assessment of outcomes of patient care and practice including Quality Assurance (QA) methods. This will include
   i) maintaining a personal record of experience and outcomes (log of experience)
   ii) participating in any appropriate case reviews

g) Explain how an anesthetic department is structured and managed

4) Health Advocate

By the end of the rotation, the resident will be able perform the following:

   a) Recognize individual and systemic issues with an impact on anesthetic care and safety of the adult patient
   b) Communicate identified concerns and risks to patients, other health care professionals, and administration as applicable
   c) Intervene on behalf of individual patients and the system as a whole regarding quality of care and safety
   d) Identify and react to risks to health care providers specifically including, but not limited to:
      i) substance abuse among anesthesiologists and other health care providers
      ii) dangers to workplace health and safety
   e) Implement CAS standards and guidelines related to anesthetic practice and equipment
   f) Actively participate in patient safety initiatives such as the surgical safety check list and time out

5) Scholar

By the end of the rotation, the resident will be able perform the following

   a) develop and maintain a personal learning strategy which will continue to maintenance of certification
   b) Seek out and critically appraise literature to support clinical care decisions and practice evidence based application of new knowledge
   c) Contribute to the appropriate application, dissemination, and development, of new knowledge
   d) Teach medical students, other residents, faculty members, other health professionals, and patients using the principles and methods of adult learning

6) Professional
Throughout this rotation, the resident shall:

- a) deliver the highest quality patient care with integrity, honesty, and compassion
- b) Fulfill the ethical and legal aspects of patient care
- c) Maintain patient confidentiality
- d) Demonstrate appropriate interpersonal and professional behaviour
- e) Recognize personal limits through appropriate consultation (with staff supervisors, other physicians, and other health professionals) and show appropriate respect for those consulted
- f) Recognize conflict in patient care situations, professional relationships, and value systems, and demonstrate the ability to discuss and resolve differences of opinion.
- g) Accept constructive feedback and criticism, and implement appropriate advice
- h) Continually review personal and professional abilities and demonstrate a pattern of continuing development skills and knowledge through education
- i) Identify problems of physical and mental health including chemical dependence, stress, and depression, and ways to deal with these problems in oneself and others

**CLINICAL RESPONSIBILITIES**

1) Daily

- a) **Preoperative assessment**: The resident will assess each patient on his/her slate preoperatively at the earliest reasonable opportunity. Inpatients scheduled the night beforehand or earlier must be assessed by the resident the night beforehand at the latest. To that end, the resident will review the slating for the next day at the end of each OR day, to determine his/her responsibilities with respect to preoperative assessment and communication with staff.

- b) **Anesthetic planning**: For each case, the resident will generate an anesthetic plan with a level of detail commensurate with the expectations described for his/her level of training in the “Expectations for Incremental Achievement of Goals and Objectives”.

- c) **Communication with Attending staff**: It is the responsibility of the resident to ensure that this plan is discussed with and approved by the attending anesthesiologist before proceeding. It is also the responsibility of the resident to contact the attending anesthesiologist on the day prior to the slate. That contact will be used at the mutual discretion of the staff and resident to prepare a teaching plan, review the anesthetic plans, and make any applicable special plans for the conduct of the slate as a whole.

- d) **Preparation**:
  - i) The resident shall arrive in the hospital with sufficient time to complete the following and start the first case at the slated time
     1. check and prepare all necessary equipment for the first case
     2. make any arrangements that will be required for the efficient conduct of the slate
     3. assess the first patient and review the assessment and plan with attending anesthesiologist
ii) The resident will prepare for each subsequent case with sufficient alacrity to ensure the efficient conduct of the slate.

e) Administration of Anesthesia: The resident will implement the anesthetic plan, including modification in response to evolving conditions, from preoperative assessment and optimization through to postoperative disposition, with a degree of autonomy appropriate to the complexity of the case.

f) Postoperative Follow up: The resident will attend to any postoperative investigation or management that derives from either the initial anesthetic plan or intraoperative events. The resident will follow up on any complications and communicate the results of that follow up to the attending anesthesiologist. The resident will direct the postoperative management of such complications in concert with the attending anesthesiologist to point of their resolution or delegation to an appropriate health care provider.

2) Call
   a) The resident shall take call according to the policies on cardiac call found in the Residency Program Policy Manual. While on call, the resident is expected to perform all of the same functions as outlined above for an elective slate, within the context of emergency care.

3) Consults:
   a) Residents shall see consults for all patients whose care they will be involved with during the rotation and other consults at the discretion of the cardiac anesthesia staff. Consults should be completed, at minimum, the day prior to the patient’s anticipated operation.

OTHER RESPONSIBILITIES

1) Teaching
   Residents shall participate in the clinical teaching of medical students, junior residents, and paramedical trainees that are slated with them.

2) Off-Site Exposure
   Residents should appreciate the anesthetic considerations of off-site cardiac procedures including (but not limited to) pulmonary vein ablations. Residents are encouraged to actively participate in at least one day of off-site cardiac anesthesia during their two-month cardiac anesthesia exposure.

3) Talk/Grand rounds
   Residents will attend all talk rounds and Grand Rounds that occur at their site during their rotation with the following exceptions
     i) While on holidays
     ii) If post-call from the previous night
     iii) Illness

4) Cardiac Rounds
   a) The Resident will attend all cardiac anesthesia rounds during his/her rotation.
b) Over the course of the two mandatory Cardiac Anesthesia rotations the resident will be responsible for one journal club and one grand rounds presentation. One presentation per rotation will be required.

(5) Evaluation
As per the policy in the Residency Program Policy Manual, the resident will receive a daily evaluation. The staff person will complete the electronic daily evaluation form via the VENTIS academic & clinical online scheduling system.

LEARNING RESOURCES

During this rotation, the following resources will be available to residents in addition to those available at all times through the University Department:

1) Clinical teaching- The most important learning resource during clinical rotations is the direct teaching that occurs during discussion with staff of the management of actual cases, and topics of interest. The quality of this discussion is enhanced by communication in advance to generate a teaching plan.

2) SBGH Anesthesia Library- The SBGH Anesthesia Library has a collection of current textbooks relevant to the pattern of practice of the site, including cardiac anesthesia.

3) Computer access- The SBGH OR has computer access within the OR for resident use in accessing literature

4) For additional reading Resources please refer to the Anesthesia Tool Kit found on http://umanitoba.ca/faculties/medicine/anesthesia/

5) The UMLearn section: Cardiac anesthesia for residents. This contains a list of topics that must be discussed with the cardiac anesthesia staff during the course of the two rotations. The topics must be signed off on and submitted to the cardiac anesthesia supervisor of training. References for each topic are provided on the UMLearn site.

COMMUNITY ANESTHESIA

INTRODUCTION
The community anesthesia rotation has been developed with two purposes. The first is to provide residents with expertise in the aspects of anesthesia practice in a community setting. These goals and objectives reflect the skills and attributes that are necessary for successful practice in a community setting. Therefore, they are essentially the same as the Adult tertiary goals and objectives, with the exception of specific surgical subspecialties. However, certain issues take a greater precedence in the community setting such as ambulatory management, and working with limited resources.

The second purpose is to provide the resident with an awareness of the nature of practice in a community setting, including differences in caseloads and types of call arrangements.

Residents may do the community rotations at various points in the overall training program and the degree to which they must fulfill all of the components of the goals and objectives will depend upon their level of seniority at the time of the rotation. The resident is expected to achieve the following goals and objectives in an incremental manner, as outlined in the document “Expectations regarding Incremental Achievement of Goals and Objectives”.

GOALS AND OBJECTIVES
The University of Manitoba Training Program for Residents in Anesthesia has been developed in accordance with the guidelines of the Royal College of Physicians and Surgeons of Canada.

The following Rotation Specific Goals and Objectives for Community Anesthesia at the Grace General Hospital site and at the Victoria General Hospital site, provide additional emphasis to particular components of the general Program Goals and Objectives. Please refer also to the National Curriculum for Canadian Anesthesia Residency for more information on expected knowledge and skills.

All appropriate Program Goals and Objectives also apply to this rotation.
1) Medical Expert/Clinical Decision Maker:

By the end of the rotation, the resident should be able to perform the following with respect to patients with all varieties of pre-existing conditions, and for the entire spectrum of surgical complexity, excluding vascular, neurologic, thoracic and cardiac surgery:

a) Explain the adult anatomy and physiology of the following systems and pathophysiology of the disease states that affect them:
   i) Cardiovascular
   ii) Upper airway and respiratory system
   iii) Central and peripheral nervous systems
   iv) Hepatic
   v) Renal
   vi) Endocrine
   vii) Hematologic

b) Explain the concepts in physics, biochemistry and pharmacology relevant to anesthesia, as detailed in the overall program curriculum

c) Appropriately assess the patient, assess risks, and formulate and implement an appropriate individualized plan for perioperative patient management taking into account the implications of the underlying patient problem, surgical procedure, coexisting patient factors including other medical problems, anxiety, discomfort, culture, language, ethnicity, age, and gender

d) Appropriately select and administer a complete spectrum of anesthetic and analgesic agents for the induction and maintenance of anesthesia, taking into account the relative advantages and disadvantages of each approach and tailoring that approach to the specific anesthetic goals for each individual case

e) Appropriately select and administer a complete spectrum of drugs for cardiovascular support and resuscitation during anesthesia and the perioperative period, taking into account the relative advantages and disadvantages of each approach and tailoring that approach to the specific anesthetic goals for each individual case

f) Independently perform specific techniques for the administration of general, local and regional anesthesia, with a sufficient spectrum of choice to meet the anesthetic goals for all patients within the scope of practice defined above

h) Identify and manage complications as they occur in the perioperative period

h) Identify risk factors for postoperative complications and modify anesthetic plans to minimize those complications
i) Assess the suitability for discharge to ICU, intermediate care, ward and home settings

j) Predict, identify and contribute to the alleviation of impediments to recovery in the perioperative period such as
   i) PONV
   ii) Pain
   iii) Functional impairment
   iv) Ileus
   v) Malnutrition

k) Explain the principles of the function of all anesthetic equipment, including the anesthetic machine, mechanical ventilator, safe delivery of anesthetic gases and monitoring equipment

l) Use the anesthesia machine to provide anesthesia care, including performing appropriate safety inspection

m) Identify and correct equipment malfunction before and during anesthesia care

n) Select, apply, and interpret the information from the appropriate monitors, including invasive and NIBP, 5-lead EKG, Neuromuscular monitor, Oximeter, End-tidal gas monitor, temperature and urine output

o) Identify and correct sources of error in the above monitoring equipment

p) Select and administer appropriate fluids and blood products, taking into account the indications, contraindications, and correct procedures

q) Identify and manage complications of fluid and blood product administration in the entire perioperative period

r) Appropriately modify management in response to monitoring information, and change in patient, anesthetic, or surgical factors

s) Initiate appropriately individualized perioperative pain management strategies appropriate to the community setting

t) Manage adult patients in a variety of settings including:
   i) Dealing with limited availability of expert support and consultation
   ii) Elective, urgent and emergent/trauma procedures
   iii) Sites distant from the operating room
   iv) Unforeseen emergencies (e.g. Malignant Hyperthermia)
u) Independently perform all technical skills necessary to manage adult patients in the perioperative period including:
   i) Routine and difficult airway management
   ii) Techniques of monitored anesthesia care (MAC)
   iii) Local and regional anesthesia
   iv) Techniques of general anesthesia including induction, maintenance, and emergence techniques
   v) Peripheral and central venous access invasive monitoring
   vi) Resuscitation of the critically ill adult patient (with reference to ACLS, ATLS and Surviving Sepsis guidelines)

2) Communicator

By the end of the rotation, the resident will be able perform the following:

   a) Establish a therapeutic relationship with patients and/or family members as appropriate, including
      i) Encouraging patient participation in decision-making, and to do this in consultative, elective,
         and emergent situations, and in challenging situations such as patient anger, confusion, language
         or ethno-cultural differences, or extremes of age
      ii) Listening to patients, answering their questions, and decreasing their anxiety
      iii) Demonstrate respect and empathy in relationships with patients

   b) Gather sufficient information from the patient, family members, and/or medical personnel to identify
      all issues that will have implications for perioperative management
      i) Medical and surgical status of the patient
      ii) Patient expectations, beliefs, and concerns (in addition to medical problem information), while
          also considering the influence of age, gender, and ethno-cultural, spiritual, and socio-economic
          background on the medical problem

   c) Impart sufficient information to patients and appropriate family members or delegates to allow a
      complete understanding of the implications of the planned procedure, options, risks and benefits
   d) Obtain complete informed consent for anesthetic care

3) Collaborator

By the end of the rotation, the resident will be able perform the following:
   a) Consult other physicians and allied health professionals in order to provide optimal perioperative care
b) Coordinate care of adult patients with other members of OR team, PAC/POAC, ward, ICU staff and other physicians

c) Communicate effectively with other team members

d) Manage urgent and crisis situations such as cardiac arrest, trauma, anaphylaxis, and malignant hyperthermia, as a team member or a team leader

e) Resolve conflicts or provide feedback where appropriate

4) Leader

By the end of the rotation, the resident will be able perform the following

a) Utilize personal and outside resources effectively to balance patient care, continuing education, practice, and personal activities, particularly

b) Use limited health resources appropriately including

i) Time for patient assessment, OR equipment preparation, anesthesia induction and emergence, OR changeover

ii) Expenses of anesthesia resources including cost-effective drug and technique choice, equipment and invasive monitoring options

iii) Identifying the need for and coordinating access to consultative, allied health and tertiary services for patients in a community setting

By the end of the rotation, the resident will be able perform the following

a) Recognize individual and systemic issues with an impact on anesthetic care and safety of the adult patient

b) Communicate identified concerns and risks to patients, other health care professionals, and administration as applicable

c) Intervene on behalf of individual patients and the system as a whole regarding quality of care and safety

5) Health Advocate

By the end of the rotation, the resident will be able perform the following

a) Recognize individual and systemic issues with an impact on anesthetic care and safety of the adult patient

b) Communicate identified concerns and risks to patients, other health care professionals, and administration as applicable

c) Intervene on behalf of individual patients and the system as a whole regarding quality of care and safety
d) Identify and react to risks to health care providers specifically including, but not limited to:
   i) Substance abuse among anesthesiologists and other health care providers
   ii) Dangers to workplace health and safety

e) Implement CAS and CSA standards and guidelines related to anesthetic practice and equipment

6) Scholar

By the end of the rotation, the resident will be able perform the following
   a) develop and maintain a personal learning strategy which will continue to maintenance of certification

   b) Seek out and critically appraise literature to support clinical care decisions and practice evidence based application of new knowledge

   c) Contribute to the appropriate application, dissemination, and development, of new knowledge

   d) Teach medical students, other residents, faculty members, other health professionals, and patients using the principles and methods of adult learning

7) Professional

Throughout this rotation, the resident shall:

   a) Deliver the highest quality patient care with integrity, honesty, and compassion

   b) Fulfill the ethical and legal aspects of patient care

   c) Maintain patient confidentiality

   d) Demonstrate appropriate interpersonal and professional behaviour

   e) Recognize personal limits through appropriate consultation (with staff supervisors, other physicians, and other health professionals) and show appropriate respect for those consulted

   f) Recognize conflict in patient care situations, professional relationships, and value systems, and demonstrate the ability to discuss and resolve differences of opinion.

   g) Accept constructive feedback and criticism, and implement appropriate advice
h) Continually review personal and professional abilities and demonstrate a pattern of continuing development skills and knowledge through education

i) Identify problems of physical and mental health including chemical dependence, stress, and depression, and ways to deal with these problems in oneself and others

CLINICAL RESPONSIBILITIES

1) Daily

a) Preoperative assessment: The resident will assess each patient on his/her slate preoperatively at the earliest reasonable opportunity. Inpatients scheduled the night beforehand or earlier must be assessed by the resident the night beforehand at the latest. To that end, the resident will review the slating for the next day at the end of each OR day, to determine his/her responsibilities with respect to preoperative assessment and communication with staff.

b) Anesthetic planning: For each case, the resident will generate an anesthetic plan with a level of detail commensurate with the expectations described for his/her level of training in the “Expectations for Incremental Achievement of Goals and Objectives”. Residents should seek out opportunities whereby they increase their familiarity with airway equipment they are seldom exposed to in tertiary hospital setting. This would include, but is not limited to supraglottic devices and nasal intubations. In addition, Residents are encouraged to seek out slates in the community hospital setting that they are not exposed to in the tertiary hospital setting. This includes, but is not limited to bariatric surgery, oral surgery, Green Light laser TURPS, and a variety of gynecologic and urologic procedures that are conducted almost exclusively in community hospitals.

c) Communication with Attending staff: It is the responsibility of the resident to ensure that this plan is discussed with and approved by the attending anesthesiologist before proceeding. It is also the responsibility of the resident to contact the attending anesthesiologist on the day prior to the slate. That contact will be used at the mutual discretion of the staff and resident to prepare a teaching plan, review the anesthetic plans, and make any applicable special plans for the conduct of the slate as a whole.
d) Preparation:
   i. The resident shall arrive in the hospital with sufficient time to complete the following and start his first case at the slated time
      (1) Check and prepare all necessary equipment for the first case
      (2) Make any arrangements that will be required for the efficient conduct of the slate
      (3) Assess the first patient and review the assessment and plan with attending anesthesiologist
   ii. The resident will prepare for each subsequent case with sufficient alacrity to ensure the efficient conduct of the slate.

e) Administration of Anesthesia: The resident will implement the anesthetic plan, including modification in response to evolving conditions, from preoperative assessment and optimization through to postoperative disposition, with a degree of autonomy commensurate with the expectations for his/her level of training.

f) Postoperative follow-up: The resident will attend to any postoperative investigation or management that derives from either the initial anesthetic plan or intraoperative events. The resident will follow up on any complications and communicate the results of that follow-up to the attending anesthesiologist. The resident will direct the postoperative management of such complications in concert with the attending anesthesiologist to the point of their resolution or delegation to an appropriate health care provider.

2) Call

   a) The resident shall take call at the Peripheral Hospital as indicated in the Resident Policy Manual. As well, the resident shall take call at one or both of the tertiary sites as indicated in Resident Policy Manual.

3) Consults:

   Residents shall see consults in the following circumstances:
   a) Any patient for whom s/he has been slated if one has been requested.
   b) During days slated into the preanesthetic clinic
   c) As delegated by the attending staff or Floor Director

OTHER RESPONSIBILITIES

1) Teaching

   Residents shall participate in the clinical teaching of medical students, junior residents, and paramedical trainees that are slated to work with them.
2) Evaluations

As per the policy in the Residency Program Policy Manual, residents must complete an evaluation on all faculty that they worked with at the end of their rotation. This feedback will be done online through VENTIS.
LEARNING RESOURCES

During this rotation, the following resources will be available to residents in addition to those available at all times through the University Department:

1) Clinical teaching

The most important learning resource during clinical rotations is the direct teaching that occurs during discussion with staff of the management of actual cases, and topics of interest. The quality of this discussion is enhanced by communication in advance to generate a teaching plan.

2) Site Library

Each community site has a collection of current textbooks relevant to the pattern of practice of the site.

For online reading resources please refer to the Anesthesia Tool Kit found at http://umanitoba.ca/faculties/medicine/anesthesia/

3) Computer access

Each community site has computer access within the OR for resident use in accessing literature
INTRODUCTION

The Neuro Anesthesia rotation at the University of Manitoba is intended to build upon the adult tertiary goals and objectives. In order to function safely and effectively in the Neurosurgical environment, the resident must clearly have all of the skills required of a tertiary anesthesiologist in general. These goals and objectives focus on the additional areas of skill and knowledge that relate specifically to Neuro Anesthesia.

GOALS AND OBJECTIVES

The University of Manitoba Training Program for Residents in Anesthesia has been developed in accordance with the guidelines of the Royal College of Physicians and Surgeons of Canada.

The following Rotation Specific Goals and Objectives for Neuro Anesthesia, provide specialty specific emphasis to particular components of the general Program Goals and Objectives.

The resident is also referred to the National Anesthesia Curriculum for a detailed list of expected knowledge.

*All appropriate Program Goals and Objectives also apply to this rotation.*

1. Medical Expert/Clinical Decision Maker

By the end of this rotation, the Resident will be able to:

A. Identify the anesthetic implications of the more common central and peripheral nervous system lesions in adult patients, and give a complete rationale based upon the underlying pathophysiology:

1. Cerebrovascular disease including
   a) Aneurysms
   b) A-V malformations
   c) Cerebrovascular occlusive disease
2. Intracranial mass lesions
a) Supratentorial
b) Posterior fossa
c) Increased ICP

3. Head Injury
4. Epilepsy
5. Diseases of the Spine and Cord
   a) Tumours
   b) Fractures and Instability
   c) Trauma
6. Neuroendocrine Disease
7. Minimally Invasive Neurosurgery
8. Non-neurological surgery in the patient with neurological disease
9. Intraoperative MRI in neurosurgical patients including
   a) Indications
   b) Safety precautions
   c) Potential hazards
   d) Anesthetic implications relevant to iMRI

B. Apply an organized method of pre-anesthetic assessment of patients with neurological disease.

C. Identify indications for and correctly interpret angiographic, CT, and MRI data as appropriate

D. Formulate and implement an appropriate plan for perioperative patient management based on understanding of the neurological problem, the surgical procedure, coexisting problems, and patient factors such as anxiety, discomfort, culture, language, ethnicity, age, and gender

E. Apply current techniques in Neuro Anesthesia and give a rationale based upon their impact on pathophysiology.

F. Independently manage anesthetics for the following Neurosurgical procedures:
   1. Supine, prone, park-bench and sitting position for craniotomy
   2. Lateral and prone positions for lumbar discectomy
   3. Lateral, supine, prone and sitting positions for cervical discectomy or fusion
   4. Cerebral aneurysm clipping / coiling
   5. Carotid endarterectomy
   6. Transphenoidal surgery
   7. Neuroradiologic procedures
   8. Stereotactic biopsy
   9. Neurotrauma
   10. Unstable cervical spine
   11. Use of controlled hypotension
   12. Deep brain stimulation

Reviewed/Updated November 2017 / RC/JS/pg
G. Respond to monitoring information, and change in patient, anesthetic, or surgical factors with appropriate and timely management. The resident must specifically be able to recognize and treat neurological emergencies such as:

1. sudden air embolus
2. seizure
3. raised intracranial pressure
4. resuscitation of the critically ill patient
5. intraoperative rupture of intracranial aneurysm
6. postoperative failure to awake

H. Identify the indications for, and correctly apply and interpret the information from high level monitoring equipment and techniques used in Neuro Anesthesia including:

1. arterial catheter
2. CVP
3. pulmonary artery catheter
4. Precordial Doppler
5. end-tidal CO2
6. end-tidal anesthetic vapour
7. processed EEG and bispectral analysis
8. Evoked potentials: SSEP, MEP, BAEP
9. Cerebral oximetry
10. Intracranial pressure monitoring

I. Identify and alleviate impediments to the accurate interpretation of these monitors

J. Identify and manage complications associated with these monitors.

K. Explain the clinical utility and information available from evoked potentials

L. Modify the anesthetic plan in a manner that optimizes the interpretation of evoked potentials, and give a rationale for that plan based on the interactions of anesthesia and evoked potentials

M. Manage the transfer of complicated and potentially critically ill patients to the operating room and back to the intensive care unit.

2. Communicator

By the end of this rotation the Resident will be able to:

A. Establish a therapeutic relationship with neurosurgical patients emphasizing understanding, trust, empathy, and confidentiality

B. Elicit and synthesize relevant information from the patient and/or family, and be able to assess and take into account, the impact of a patient's age, gender,
ethno cultural background, social supports, and emotional influences on neurological illness and perioperative clinical course

C. Demonstrate sensitivity to the possible neuropsychological complications and communication problems of these patients and skill at decreasing their anxiety

D. Discuss appropriate information with the patient, his/her family to facilitate the optimal management plan for the care of the patient. This should include discussion of anesthetic procedures, options and risk (and surgical risk where appropriate)

3. Collaborator

By the end of this rotation the Resident will be able to:

A. Communicate a succinct assessment and peri-operative anesthetic management plan to Attending Staff

B. Effectively consult with other physicians and health care professionals and demonstrate appropriate judgment regarding the assessment of neurosurgical anesthetic risk

C. Coordinate the care of neurosurgical patients with other members of the operating room and perioperative teams, including surgeons, nurses, and allied health staff in the OR, intensive care unit, ward and step-down unit, and in off-site locations such as radiology and iMRI neurosuite.

D. Manage urgent and crisis situations listed above as a team member or leader

4. Leader

By the end of this rotation the Resident will be able to:

A. Make efficient use of time regarding:
   1. Patient assessment
      1. Operating room equipment set-up
      2. Anesthesia induction
      3. Patient transfer to the post-anesthesia care unit or intensive care
      4. Operating room changeover

B. Generate anesthetic plans that take into account cost-effective use of anesthesia resources such as:
   1. Drug choice
   2. Equipment options
   3. Invasive monitoring

C. Manage decisions regarding patient slating and OR care (elective and emergent), and ICU/PACU/step-down/ward care postoperatively.
D. Manage the assigned room/slate with regard to maintaining the schedule, or changing the schedule in response to emergencies, additional cases etc.

E. Manage after hours scheduling of cases including prioritization and adapting to changes

5. Health Advocate

By the end of this rotation the Resident will be able to:

A. Recognize and explain the relevance of broad health and societal issues with impact on the anesthetic care of the neurosurgery patient. Issues relevant to care include:
   1. Risk factors and demographics which contribute to the development of neurological disease (e.g. alcohol, drugs and risk of neurotrauma)
   2. Lifestyle changes and programs which aid in the prevention of neurological disease
   3. Factors that identify high-risk patients in the preoperative, intraoperative, and postoperative periods (e.g. raised ICP, decreased level of consciousness and aspiration risk)
   4. Joint decision with surgeons re: cerebral protection in temporary clipping

B. Advocate for, and intervene on behalf of patients regarding their care and safety

C. Recognize and act upon individual and systemic threats to safe anesthesia working practices, on behalf of patients and health care personnel

D. Apply CAS and CSA standards to the care of neurosurgical patients.

6. Scholar

By the end of this rotation the Resident will be able to:

A. Maintain a personal continuing education strategy

B. Formulate questions for ongoing appraisal

C. Search and critically appraise current neuroanesthesia literature

D. Apply new knowledge to make care decisions based on appropriate evidence

E. Present case reports, journal club, or rounds with effective style and sound synthesis of pertinent information

F. Teach patients, housestaff, students and other professionals when appropriate
7. Professional

Throughout this rotation, the resident shall:

A. Deliver highest quality care with integrity, honesty, and compassion
B. Demonstrate appropriate interpersonal and professional behavior
C. Practice medicine ethically consistent with the obligations of a physician
D. Practice with consideration of ethical and legal aspects of patient care
E. Recognize personal limits through appropriate consultation (with staff supervisors, other physicians, and other health professionals) and show appropriate respect for those consulted
F. Include the patient in discussions of care management
G. Recognize and mediate potential conflict between staff, patients, families based on socioeconomic, cultural, belief system and other differences to generate a successful outcome to neuro anesthetic care.

CLINICAL RESPONSIBILITIES

DAILY

a) Preoperative assessment: The resident will assess each patient on his/her slate preoperatively at the earliest reasonable opportunity. Inpatients scheduled the night beforehand or earlier must be assessed by the resident the night beforehand at the latest. To that end, the resident will review the slating for the next day at the end of each OR day, to determine his/her responsibilities with respect to preoperative assessment and communication with staff.

b) Anesthetic planning: For each case, the resident will generate an anesthetic plan based upon all of the anesthetic considerations relevant to that case.

c) Communication with Attending staff: It is the responsibility of the resident to ensure that this plan is discussed with and approved by the attending anesthesiologist before proceeding. It is also the responsibility of the resident to contact the attending anesthesiologist on the day prior to the slate. That contact will be used at the mutual discretion of the staff and resident to prepare a teaching plan, review the anesthetic plans, and make any applicable special plans for the conduct of the slate as a whole.

d) Preparation:

1. The resident shall arrive in the hospital with sufficient time to complete the following and start the first case at the slated time
2. Check and prepare all necessary equipment for the first case
3. Make any arrangements that will be required for the efficient conduct of the slate
4. Assess the first patient and review the assessment and plan with attending anesthesiologist
5. The resident will prepare for each subsequent case with sufficient alacrity to ensure the efficient conduct of the slate.

e) **Administration of Anesthesia:** The resident will implement the anesthetic plan, including modification in response to evolving conditions, from preoperative assessment and optimization through to postoperative disposition, with a degree of autonomy commensurate with the expectations for his/her level of training.

f) **Postoperative Follow-up:** The resident will attend to any postoperative investigation or management that derives from either the initial anesthetic plan or intraoperative events. The resident will follow up on any complications and communicate the results of that follow-up to the attending anesthesiologist. The resident will direct the postoperative management of such complications in concert with the attending anesthesiologist to point of their resolution or delegation to an appropriate health care provider.

**CALL**
The resident shall take call as indicated on the call schedule for the clinical site. This call shall confirm to the relevant policies on call found in the Residency Program Policy Manual.

**CONSULTS**
Residents shall see all Neuro Anesthesia consults with the exception of emergency consults that arrive when the resident is not on duty.

**OTHER RESPONSIBILITIES**

**TEACHING**
Residents shall participate in the clinical teaching of medical students, junior residents, and paramedical trainees that are slated to work with them.

**ROUNDS**

1. **Talk/Grand Rounds**

   Resident will attend all talk rounds and Grand rounds that occur at HSC during their rotation with the following exceptions:

   a) Wednesday morning talk rounds or Grand Rounds when Post-Call
   b) Illness

2. **Neuro Anesthesia Rounds**

   a) The resident will attend all neurosurgical rounds with the same exceptions
   c) The resident will present one Neuro Anesthesia rounds
3. Evaluations

As per the policy in the Residency Program Policy Manual, the resident will receive a daily evaluation. The staff person will complete the electronic daily evaluation form via the VENTIS PGME academic online scheduling system.
LEARNING RESOURCES

During this rotation, the following resources will be available to residents in addition to those available at all times through the University Department:

1. Clinical teaching- The most important learning resource during clinical rotations is the direct teaching that occurs during discussion with staff of the management of actual cases, and topics of interest. The quality of this discussion is enhanced by communication in advance to generate a teaching plan. An outline of topics to be reviewed by the resident during the Neuro Anesthesia rotation will be presented to the resident prior to the rotation.

2. Site Library- each tertiary site has a collection of current textbooks relevant to the pattern of practice of the site

3. Computer access- each tertiary site has computer access within the OR for resident use in accessing literature.

4. Textbook- an electronic version of the textbooks Essentials of Neuro Anesthesia and Neuro Intensive Care by Gupta and Gelb as well as Cottrell and Young's Neuroanesthesia are available on the Anesthesiology toolkit. The resident should also review the appropriate neurosciences chapters in their major anesthesia textbooks.

5. The University of Manitoba Department of Anesthesia website has an MRI portal that provides the resident with information relevant to intraoperative MRI during neurosurgical procedures.
INTRODUCTION
Residents will have the opportunity to gain experience in Obstetrical anesthesia in the course of their adult anesthesia exposure at the St. Boniface General Hospital and Women’s Hospital. This rotation allows the opportunity to spend a concentrated period of time in the Obstetrical anesthesia environment, particularly with staff with a subspecialty interest. It is therefore intended to broaden and deepen the understanding of Obstetrical anesthesia. This rotation is divided into two periods, one at each of the tertiary centres. The intent of this is to allow one to be completed early and provide basic knowledge of OB anesthesia, while the second is completed at a senior stage to provide the full depth of understanding required of the consultant anesthesiologist. Therefore, residents will be expected to meet these goals and objectives in an incremental fashion, as described in the document “Expectations Regarding Incremental Achievement of Goals and Objectives”.

GOALS AND OBJECTIVES
The University of Manitoba Training Program for Residents in Anesthesia has been developed in accordance with the guidelines of the Royal College of Physicians and Surgeons of Canada.

The following Rotation Specific Goals and Objectives for Obstetrical Anesthesia, provide specialty specific emphasis to particular components of the general Program Goals and Objectives. These Goals and Objectives are written in the CanMEDS format. The resident is expected to achieve the following goals and objectives in an appropriately incremental manner, as experience increases during the two mandatory rotations in Obstetrical Anesthesia (and during any other Obstetrical Anesthesia assignments at adult hospital sites).

Please refer also to the National Curriculum for Canadian Anesthesia Residency for more information on expected knowledge and skills.

All appropriate Program Goals and Objectives also apply to this rotation.
1. MEDICAL EXPERT/CLINICAL DECISION MAKER

By the end of the second rotation, the resident will be able to perform the following:

A. Explain fully the physiologic changes of normal pregnancy and labor and the anesthetic implications of these, including the relative importance of each change throughout gestation.

B. Explain the pharmacokinetic and pharmacodynamic changes in normal pregnancy and their anesthetic implications.

C. Appropriately utilize commonly used drugs in labour and delivery and and provide a rationale based on the indications, contraindications, relative differences, potential drug interactions.

D. Make therapeutic decisions and provide a rationale taking into account the effect of pharmacologic agents and anesthetic techniques on uterine blood flow and fetal development.

E. Provide effective labour analgesia using a variety of modalities,
   i. Non-pharmacologic analgesia
   ii. Pharmacologic analgesia including:
       a. Opioid analgesia (routes of administration, patient control)
       b. Regional analgesia: epidural, spinal, combined

F. Formulate an individualized treatment plan, and provide a rationale that is based on
   i. Physiology and anatomy of labour pain
   ii. Family involvement and patient satisfaction
   iii. Consent issues concerning labour analgesia
   iv. Goals of analgesia and strategies for maintenance
   v. Physiologic effects, contraindications and complications of obstetrical analgesia

G. Formulate and implement a plan for anesthetic management of the following situations and provide a rationale based on relative advantages and disadvantages, contraindications and complications of appropriate options
   i. Anesthesia for operative vaginal delivery
   ii. Analgesia for elective, urgent and emergency caesarean section
   iii. Airway management in the parturient
   iv. Anesthetic implications of multiple gestation and malpresentations (e.g.: twins, breech and transverse lie)

H. Formulate and implement a plan for the anesthetic management of Obstetric hemorrhage and provide a rationale that takes into account:
   i. Classification and differential diagnosis
   ii. Maternal and fetal effects of hemorrhage
   iii. Anesthetic considerations
   iv. Commonly used obstetrical drugs

I. Diagnose and direct the management of the following obstetrical complications and provide a rationale based on the pathophysiology,
pharmacological management, expected obstetric management and anesthetic implications
i. Pre-eclampsia/eclampsia
ii. Preterm labour
iii. Amniotic fluid embolism
iv. Fatty liver of pregnancy
v. Chorioamnionitis
vi. Fetal death
vii. Prolapsed umbilical cord
e. Tetanic contractions
ix. Maternal resuscitation and life support

J. Identify and appropriately assess the following medical/surgical issues in the obstetrical patient:
i. Diabetes
ii. Hypertension
iii. Heart disease (e.g. valvular heart disease, coronary artery disease, shunts)
iv. Neurological diseases (raised intracranial pressure, CNS diseases, peripheral nervous system diseases, muscular dystrophies, MH)
v. Trauma

K. Formulate and implement an appropriate anesthetic plan, and provide a rationale based on the pathophysiology, anesthetic implications of the above problems

L. Interpret information used for Assessment of fetal well-being and identify the anesthetic implications of that information
i. Biophysical profile
ii. Fetal heart rate monitoring
iii. Scalp sampling
iv. Doppler blood flow

M. Formulate and implement a plan for the anesthetic management for non-obstetrical surgery in the healthy and complicated pregnant patient, providing a rationale that takes into account
i. Physiologic changes of pregnancy
ii. Fetal and maternal effects of anesthetic drugs and interventions
iii. Risk assessment and choice of anesthetic
iv. Intraoperative considerations including positioning and monitoring
v. Postoperative considerations including monitoring and analgesia

N. The resident will be able to demonstrate the following skills:
i. Spinal anesthesia
ii. Epidural anesthesia
iii. Combined Spinal and Epidural anesthesia (CSE)
iv. General anesthesia for C/S or other indication
2. **Communicator**

By the end of the second rotation, the resident will be able to perform the following:

A. Gather appropriate information concerning the following issues while demonstrating consideration of the special situation of the pregnant patient (e.g. stress, anxiety and pain);
   i. medical and surgical status of the patient and fetus
   ii. patient expectations, beliefs, and concerns (in addition to medical problem information)

B. Demonstrate respect, empathy, and confidentiality while considering the influences of age, gender, and ethno-cultural, spiritual, and socioeconomic background of the patient

C. Exchange information with patient and appropriate family members, and encourage patient participation in decision-making including pregnant patients in challenging situations (e.g. pain, anxiety, fetal concerns)

3. **Collaborator**

By the end of the second rotation, the resident will be able to perform the following:

A. Identify and describe the role (expertise and limitations) of all members of the maternal/fetal interdisciplinary care team dealing with obstetrical patient care.

B. Participate in patient care as a part of a multidisciplinary obstetrical care team in the obstetrical suite, recovery room, OR, ICU, ER, Preoperative Assessment Clinic, etc. whenever the resident’s participation is expected or requested. Participation will include demonstrating the ability to consider and respect the opinions of other team members while personally contributing specialty specific expertise.

C. Manage urgent and crisis situations such as fetal distress, maternal hemorrhage, cardiac arrest, trauma, and anaphylaxis, as a team member or a team leader.

D. Appropriately consult with, and delegate or transfer care to, other health professionals (e.g. mother to PARR/ICU, neonate to NICU).

E. Work in a team to try to resolve conflicts or provide feedback where appropriate.

F. Promote cooperation and communication among health professionals involved in care of the obstetrical patient (Nurses, Obstetricians, Neonatologists, and Anesthesiologists) regarding areas of responsibility, and consistent patient information

4. **Leader**

By the end of the second rotation, the resident will be able to perform the following:

A. Utilize personal and outside resources effectively to balance patient care, continuing education, practice, and personal activities.

B. Demonstrate wise use of finite obstetrical care resources.

C. Discuss the administrative aspects of obstetrical anesthetic practice including:
i. Budgets including anesthetic costs
ii. Ordering appropriate anesthetic equipment supplies
iii. Quality Assurance programs
iv. Practice and equipment guidelines
v. Maintaining appropriate records

D. Manage the following
i. daily elective and emergent cases on the labor floor (including preparation, time management, facilitating completion, adjusting case order etc.)
ii. on-call experience including facilitation and prioritization of emergency cases; duties as a resident member obstetrical anesthesia section committee.

E. Discuss the principles and importance of the assessment of outcomes of patient care and practice including Quality Assurance (QA) methods. A participate in these activities by
i. maintaining a personal record of experience and outcomes (log of experience
ii. participating in any scheduled obstetrical section case reviews.

5. Health Advocate
By the end of the second rotation, the resident will be able to perform the following:

A. Identify the determinants of health related to obstetrical, general medical, and anesthetic care and advocate for improved health for individual patients and communities or groups. Examples may include:
   i. Advice to pregnant women regarding pain relief and labor and delivery
   ii. Advice to patients regarding cessation of smoking, treatment for substance abuse, appropriate diet, exercise, and weight reduction
   iii. Advice to patients regarding risk reduction with associated problems (e.g. reducing aspiration risk and patients with full stomachs) by using rapid sequence induction or delay of surgery, regional vs. general anesthesia, optimization of medical problems and timing of surgery
   iv. Advice to government and public regarding risk associations such as alcohol consumption during pregnancy and fetal alcohol syndrome, and cigarette smoking and low birth weight.

B. Adhere to CAS and CSA standards and guidelines related to anesthetic practice and equipment.

C. Advocate for needed resources to improve obstetrical patient care, including patient safety and pain management.

6. Scholar
By the end of the second rotation, the resident will be able to perform the following:
A. Develop and maintain a personal strategy for continuing education which will link to maintenance of certification after residency.
B. Demonstrate skill with critical appraisal of literature and evidence based application of new knowledge.
C. Understand the principles and methods of adult learning and apply these appropriately when teaching medical students, other residents, faculty members, other health professionals, and patients.

7. Professional
Throughout the rotation, the resident will:

A. Deliver the highest quality patient care with integrity, honesty, and compassion.
B. Be aware of the ethical and legal aspects of obstetrical patient care
   i. Consent
   ii. Fetal vs. maternal rights
   iii. Maternal/paternal conflicts
C. Demonstrate appropriate interpersonal and professional behavior.
D. Show recognition of personal limits through appropriate consultation (with staff supervisors, other physicians, and other health professionals) and show appropriate respect for those consulted.
E. Demonstrate including the patient in discussions of care management.
F. Be able to recognize conflict in patient care situations, professional relationships, and value systems, and demonstrate the ability to discuss and resolve differences of opinion. Additionally, be able to accept constructive feedback and criticism and implement appropriate advice.
G. Anesthesia Toolkit – This resource may be accessed electronically by the residents through the University of Manitoba Health Sciences Library. It contains a wealth of links to useful books, journals, articles useful for clinical anesthesia but also making effective presentations, teaching, providing patient resources, and understanding evidence-based medicine. Anesthesia Toolkit can be accessed at http://umanitoba.ca/faculties/medicine/anesthesia/
INTRODUCTION

The University of Manitoba Training Program for Residents in Anesthesia has been developed in accordance with the guidelines of the Royal College of Physicians and Surgeons of Canada. The resident is expected to achieve the following goals and objectives in an appropriately incremental manner, as experience increases during the four periods of Pediatric Anesthesia. When printed in italics, a competent resident shall demonstrate knowledge of the principles without expectation of independent performance.

All appropriate General Program Goals & Objectives apply to this rotation.

Please refer also to the National Curriculum for Canadian Anesthesia Residency for more information on expected knowledge and skills.

MEDICAL EXPERT/CLINICAL DECISION MAKER

1. The resident will acquire an understanding of the anatomical, physiological, pharmacological and psychological differences between the neonate, child and adolescent in relation to anesthesia practice. He/she must demonstrate knowledge regarding:
   a. The Respiratory System
      i. Anatomic differences of the neonate and pediatric airway
      ii. Age differences in control of respiration, compliance, lung volumes, oxygen consumption
      iii. Normal values for different stages of development
      iv. Neonatal post-op apnea
   b. The Cardiovascular System
      i. Anatomy and physiology of transitional circulation
      ii. Maturation of the myocardium and autonomic nervous system
      iii. Normal vital signs for ages
      iv. Pediatric basic and advanced life support
   c. The Central Nervous System
      i. Anatomical differences and fontanelles
      ii. Age differences with respect to intracranial pressure, cerebral blood flow and auto-regulation
   d. The Genitourinary System
      i. Renal Maturation

Revised/Approved by PGME Committee, November 2017
ii. Fluid & Electrolyte balance, maintenance requirements and hydration assessment
e. The Gastrointestinal/Hepatic System
   i. Feeding and fasting guidelines
   ii. Glucose control
   iii. Maturation of hepatic function
f. Hematological System
   i. Normal values in infants and children
   ii. Natural history of fetal hemoglobin
   iii. Blood component therapy
g. Thermoregulation
   i. Body surface area and heat loss
   ii. Differences in and ability to thermo-regulate
   iii. Heat loss & prevention
h. Psychological Issues
   i. Anxiety/fear at different ages
   ii. Separation anxiety and parental anxiety
   iii. Use of premedications
   iv. Consent in the pediatric population
i. Pharmacology
   i. Pediatric induction techniques: sedation, inhalation vs intravenous
   ii. Age differences with respect to absorption, volume of distribution, protein binding, pharmacokinetics and pharmacodynamics, metabolism, clearance and toxicity
j. Pain Management
   i. Options of systemic analgesia, local infiltration, ultrasound-guided regional anesthesia, neuraxial analgesia
   ii. Indications and contraindications with advantages and disadvantage of each modality in the pediatric population.
   iii. Difference in performing caudal and epidural block in children vs adults
k. Anesthesia Equipment
   i. Equipment specific to patient age, circuits ventilators
   ii. Sizing of masks, ETTs, LMAs, laryngoscopy blades, Bronchoscopes and Glidescope blades
   iii. Vascular access and invasive monitoring with use of ultrasound for vascular access
   iv. Regional Block Equipment
   v. Warming devices

2. The resident will acquire the knowledge and understanding of coexisting diseases in Pediatric patients that is required to independently provide anesthetic care for children including:
   a. Full term infants, former preterm infants, and healthy children and adolescents presenting for common surgical procedures, as well as the anesthetic management of neonates and premature infants
   b. Cardiovascular Disease

Revised/Approved by PGME Committee, November 2017
Revised/Approved by PGME Committee, November 2017

i. ASD, VSD, PDA, TOF and repaired simple lesions
ii. Cardiomyopathies
iii. Heart Transplant Recipients
iv. Complex Congenital Heart Disease e.g. Transposition of the great vessels, Truncus arteriosus, single ventricle physiology, obstructive lesions
v. Post-Operative: Norwood, Bicavopulmonary anastomosis, Fontan
vi. Pulmonary hypertension

c. Respiratory Disease
i. Upper Respiratory Tract Infections
ii. Asthma
iii. Cystic Fibrosis
iv. Chronic lung disease
v. Obstructive sleep apnea
vi. Stridor -- congenital and acquired (e.g. cystic hygroma, epiglottitis, croup, retropharyngeal abscess)

d. Gastrointestinal Disease
i. Hepatobiliary disease
ii. Liver transplant
iii. Gastroesophageal reflux
iv. Feeding disorders

e. Neuromuscular Disease
i. Hydrocephalus
ii. Repaired spina bifida
iii. Cerebral Palsy
iv. Muscular Dystrophy
v. Myotonic Dystrophy
vi. Seizure disorders

f. Infections
i. Infectious diseases including HIV, Hepatitis, TB
ii. Septic shock

g. Endocrine and Metabolic
i. Diabetes
ii. Thyroid Diseases
iii. Obesity and morbid obesity
iv. Malignant Hyperthermia and Masseter Muscle Spasm
v. Mitochondrial Disease, Mucopolysaccharidoses, Lactic Acidosis

h. Hematological/Malignancies
i. Anemia’s- Sickle cell disease, thalassemia’s
ii. Bleeding disorders including Hemophilia and Von Willebrand’s
iii. ITP
iv. Leukemia
v. Malignancies
vi. Mediastinal Masses

i. Common Syndromes
i. Down Syndrome
ii. Developmental delay
iii. Other syndromes including Pierre Robin Sequence, Crouzon’s, Goldenhaar, Treacher Collins, etc.

3. The resident must be able to demonstrate an understanding of the indications of as well as provide independent anesthetic care of children presenting for common surgical procedures. This would include:
   a. Pre-term infant and neonate
      i. Tracheo-esophageal fistula repair, omphalocele, gastroschisis, congenital diaphragmatic hernia
      ii. Bowel obstruction, necrotizing enterocolitic, duodenal atresia, malrotation, volvulus, imperforate anus
   b. Term infant
      i. Hernia, Pyloromyotomy
      iii. Laparotomy
   c. General surgery
      i. Emergency management and implications of full stomach, evaluation and resuscitation, fluids and electrolytes, trauma
      ii. Laparoscopic surgery
      iii. Appendectomy, cholecystectomy, splenectomy, anti-reflux surgery
      iv. Liver transplant, lung transplant
      v. Thoracic surgery, thoracoscopy including the need for lung isolation
   d. Otolaryngology
      i. Tonsillectomy and adenoidectomy, including post-tonsillectomy bleed
      ii. Myringotomy, tympanoplasty, mastoidectomy
      iii. Thyroidectomy
      iv. Suspension Laryngoscopy for diagnosis and treatment (e.g. airway papillomas, epiglottitis, etc.)
      v. Bronchoscopy (rigid and flexible), removal of foreign body from the airway
      vi. Laryngeal/tracheal reconstruction
      vii. Neonatal airway surgery
      viii. Tracheostomy
   e. Orthopedic Surgery
      i. Fracture reduction
      ii. Soft tissue surgery
      iii. Club foot repair
      iv. Congenital/acquired e.g. cerebral palsy
      v. Spinal surgery
   f. Plastic Surgery
      i. Cleft lip/palate (isolated)
      ii. Burn debridement /skin grafting
      iii. Craniofacial reconstructive surgery
g. Neurosurgery
   i. V-P shunt insertions and revision
   ii. Tumor resection
   iii. Raised ICP
   iv. *Myelomeningocoele repair*
   v. *Neonatal V-P shunt insertion*

h. Urology
   i. Circumcision, hypospadias
   ii. Ureteric reimplantation
   iii. Cystoscopy, nephrectomy
   iv. *Renal transplant*
   v. *Bladder extrophy repair*

i. Ophthalmology
   i. Strabismus
   ii. Cataract and Glaucoma
   iii. Eye trauma
   iv. *Laser for retinopathy of prematurity*

j. Cardiac surgery
   i. Pacemaker insertion
   ii. Radiofrequency ablation
   iii. *Cardiac catheterization (diagnostic and procedural)*
   iv. *PDA ligation*
   v. *Cardiopulmonary bypass for complete repair/palliation of congenital heart lesion*

k. Dental Surgery
   i. Dental extraction/restorations
   ii. Orthognathic surgery

l. Remote Locations
   i. MRI/CT
   ii. Interventional radiology
   iii. *Cardiac catheterization*

m. Perioperative/PACU Issues
   i. Criteria for day surgery, especially for exprematures
   ii. Uncooperative patient, Autism
   iii. Post-operative Delirium
   iv. Post-extubation stridor
   v. Pain
   vi. Laryngospasm
   vii. Nausea and vomiting

n. Regional
   i. Perform single shot caudal blocks and ultrasound guided nerve blocks
   ii. *Caudal, epidural and wound catheters*
COMMUNICATOR

The provision of anesthesia in the pediatric setting is unique as the caregiver must be able to communicate in an appropriate and age specific manner with the patient and their parents/legal guardians, as well as other members of the health care team.

The successful resident will:

1. Demonstrate application of knowledge of age-specific psychological concerns of pediatric patients with respect to anesthesia and surgery, and ability to respond to these concerns at an age-appropriate level.

2. Establish a therapeutic relationship with both pediatric patients and their parents/caregivers that emphasizes understanding, trust, empathy and confidentiality.

3. Elicit and synthesize relevant information from the patient and family, and be able to assess and take into account the impact of the child’s age, gender, ethno-cultural background, social supports, and emotional influences on illness and preoperative clinical course.

4. Discuss appropriate information with the child and family, as well as other healthcare providers (including surgeons and nursing staff) in order to facilitate the optimal management plan for the care of the patient. This should include discussion of anesthetic procedures, options and risks, as well as answering questions and decreasing anxiety.

5. Communicate a succinct assessment and peri-operative anesthetic management plan to Attending Staff.

6. Participation in Pediatric Anesthesia Rounds, including as a presenter, which will allow the resident to continue to develop the formal communication skills involved in the presentation of a topic and subsequent response to questions from peers.

COLLABORATOR

The successful delivery of peri-operative care requires the effective collaboration of the anesthetist, surgeon, nurses, trainees, respiratory technicians, anesthesia support personnel and aides.

The successful resident will:

1. Effectively consult with other physicians and health care professionals, and demonstrate appropriate judgment regarding the assessment of pediatric anesthetic risk.
2. Coordinate the care of pediatric patients with other members of the operating room team, especially surgeons and nurses, as well as staff in the PACU, ICU, hospital wards and off-site locations such as radiology department and the cardiac catheterization laboratory.

3. Demonstrate skill as a team member or leader in managing urgent and crisis situations such as hemodynamic or respiratory instability and cardiac arrest.

Leader:

The successful resident will:

1. Demonstrate efficient use of time with respect to patient assessment, operating room set-up, anesthesia induction, transfer to PACU or ICU, and operating room changeover.

2. Participate in patient safety checklist and time-out in the operating room.

3. Demonstrate the ability to make judgments regarding the cost-effective use of anesthesia resources in drug and equipment options and monitoring.

4. Demonstrate awareness of the principles and priorities of patient slating and OR care for elective and emergent procedures, and for ICU/PACU/ward care postoperatively.

5. Demonstrate the ability to manage assigned room with regard to maintaining the schedule or changing the schedule in response to emergencies and additional cases.

6. Demonstrate the ability to manage after-hours scheduling of cases, including prioritization and adapting to change.

7. Knowledge and demonstration of safe anesthesia working practices such as effective anesthesia gas scavenging and appropriate handling of narcotics.

SCHOLAR

1. Demonstrate development, implementation and monitoring of a personal continuing education strategy.

2. Demonstrate ability to critically appraise current anesthesia literature and apply new knowledge based on appropriate evidence.

3. Demonstrate the ability to formulate questions for ongoing appraisal.

4. Demonstrate effective teaching when assigned with medical students or other residents.
HEALTH ADVOCATE

The successful resident will:

1. Demonstrate knowledge and recognition of broad health and societal issues with impact on anesthetic care of the pediatric surgical patient, including fetal alcohol spectrum disorder, child abuse, maternal and adolescent drug/alcohol abuse, and safety promotion (e.g. seat belt and helmet use).

2. Participate in patient safety checklist and time-out in the operating room.

PROFESSIONAL

The successful resident will:

1. Deliver anesthesia care with integrity, honesty and compassion.

2. Demonstrate the attitude, behaviors and ethical standards expected of a practitioner of anesthesia.

3. Be aware of the ethical and legal aspects of the care of the pediatric patient.

4. Show recognition of personal limits through appropriate consultation with anesthesia staff, and other physicians and health care professionals, as well as show appropriate respect for those consulted.

5. Demonstrate respect for patients by including the patient and family in discussions of care management.

6. Recognize potential conflicts in patient care situations, professional relationships and value systems, and demonstrate the ability to discuss and resolve differences of opinion.

7. Be able to accept constructive feedback and criticism, and implement appropriate advice.

For reading Resources please refer to the Anesthesia Tool Kit found on http://umanitoba.ca/faculties/medicine/anesthesia/
INTRODUCTION
The competent anesthesiologist is a perioperative physician. The traditional slating of residents to elective slates provides good exposure to intraoperative management and the delivery of anesthetics, but very little exposure to some of the fundamental functions of the anesthesiologist. This rotation has been designed to address that deficiency. Instead of being slated into the elective lists for the month, the resident will be assigned to cover these various other roles. It is hoped that this concentrated exposure will allow for a more thorough understanding of the full perioperative role of the anesthesiologist.

The rotation is subdivided into two half-periods. The first two weeks will be spent in the Preanesthesia clinic, and the second two weeks will be spent covering a variety of functions outside of the OR, including PACU, off-site anesthetics, consults and responding to anesthesia emergencies.

ROTATION SCHEDULING
This rotation is designed to provide a concentrated exposure to preoperative evaluation. It is best done in the senior years from PGY3-5. Greater seniority at the time of the rotation will allow the resident to manage a greater spectrum of assessments with autonomy and will increase the appreciation of unusual circumstances. The basic skills of preoperative assessment are important early in the residency, but can be learned through periodic PAC exposures, inpatient preoperative assessments, and emergency cases during anesthesia rotations.

LEARNING RESOURCES
During this rotation, the following resources will be available to residents in addition to those available at all times through the University Department:
1) Clinical teaching- The most important learning resource during clinical rotations is the direct teaching that occurs during discussion with staff of the management of actual cases, and topics of interest. The quality of this discussion is enhanced by communication in advance to generate a teaching plan.
2) Site Library- each tertiary site has a collection of current textbooks relevant to the pattern of practice of the site
3) Computer access- each tertiary site has computer access within the OR for resident use in accessing literature
NON-CLINICAL RESPONSIBILITIES

1) Teaching
   Residents shall participate in the clinical teaching of medical students, junior residents, and paramedical trainees that are slated to work with them.

2) Talk Rounds and Grand rounds
   Resident will attend all talk rounds and Grand rounds that occur at their site during their rotation with the following exceptions
   i) While on holidays
   ii) Wednesday morning talk rounds when on call Wednesday evening
   iii) Illness

3) Evaluations
   As per the policy in the Residency Program Policy Manual, residents must hand in one daily evaluation form for each elective day. The resident must make reasonable attempt to obtain this evaluation from the staff. If that does not occur, a blank form must be submitted indicating the reason for non-completion.

PREANESTHESIA CLINIC COMPONENT

GOALS AND OBJECTIVES

The University of Manitoba Training Program for Residents in Anesthesia has been developed in accordance with the guidelines of the Royal College of Physicians and Surgeons of Canada.

The following Rotation Specific Goals and Objectives for Adult Anesthesia at the Health Sciences Centre site and at the St. Boniface General Hospital site, provide additional emphasis to particular components of the Overall Program Goals and Objectives.

Please refer also to the National Curriculum for Canadian Anesthesia Residency for more information on expected knowledge and skills.

All appropriate Program Goals and Objectives also apply to this rotation.

1) Medical Expert/Clinical Decision Maker

By the end of the training in the preanesthesia clinic, the resident will be able perform the following with respect to patients with all varieties of pre-existing conditions, and for the entire spectrum of surgical complexity, excluding cardiac surgery:

   a) Explain the adult anatomy and physiology of the following systems and pathophysiology and resultant anesthetic implications of the common disease states that affect them:
      i) Cardiovascular
      ii) Upper airway and respiratory system
      iii) Central and peripheral nervous systems
      iv) Hepatic
      v) Renal
vi) Endocrine
vii) Hematologic
b) Apply an organized system to ensure complete assessment and optimization, and identify all of the anesthetic implications for uncommon problems
c) Identify risk factors for postoperative complications and provide individualized preoperative evaluation and treatment to minimize the likelihood of those complications, taking into account the implications of the underlying patient problem, surgical procedure, coexisting patient factors including other medical problems, anxiety, discomfort, culture, language, ethnicity, age, and gender, with particular emphasis on the following specific problem areas
i) Cardiac complications
ii) Postoperative respiratory complications
iii) Infections complications
iv) Transfusion and anemia
v) Pain
vi) Obstructive sleep apnea
d) Predict, identify and contribute to the alleviation of impediments to recovery in the perioperative period such as
i) PONV
ii) Pain
iii) functional impairment
iv) ileus
v) malnutrition
e) Identify the need for special perioperative resources, communicate these needs to the care team and coordinate the preparation of these resources, such as
i) Perioperative intensive care
ii) Enhanced intraoperative and/or postoperative monitoring
iii) Advance pain care
f) Identify the indications for enhanced perioperative investigations, such as
i) Stress testing
ii) MIBI
iii) Echo
iv) PFT’s
v) Radiologic investigations
vi) Other as applicable to the specific problem

2) Communicator

By the end of the training in the preanesthesia clinic, the resident will be able perform the following:
a) Establish a therapeutic relationship with patients and/or family members as appropriate, including
   i) Encourage patient participation in decision-making, and to do this in consultative, elective, and emergent situations, and in challenging situations such as patient anger, confusion, language or ethno-cultural differences, or extremes of age
   ii) Listen to patients, answering their questions, and decreasing their anxiety
   iii) Demonstrate respect and empathy in relationships with patients

b) Gather sufficient information from the patient, family members, and/or medical personnel to identify all issues that will have implications for perioperative management
   i) medical and surgical status of the patient
   ii) patient expectations, beliefs, and concerns (in addition to medical problem information), while also considering the influence of age, gender, and ethno-cultural, spiritual, and socio-economic background on the medical problem

c) Impart sufficient information to patients and appropriate family members or delegates to allow a complete understanding of the implications of the planned procedure, options, risks and benefits

d) Obtain complete informed consent for anesthetic care

3) Collaborator
By the end of the training in the preanesthesia clinic, the resident will be able perform the following:
   a) Consult other physicians and allied health professionals in order to provide optimal perioperative care

   b) Coordinate care of adult patients with other members of OR team, PAC/POAC, ward, ICU staff and other physicians

   c) Communicate effectively with other team members

   d) Resolve conflicts or provide feedback where appropriate

4) Leader
By the end of the training in the preanesthesia clinic, the resident will be able perform the following
   a) Utilize personal and outside resources effectively to balance patient care, continuing education, practice, and personal activities

   b) Use limited health resources appropriately including
      i) Routine and non-routine preoperative investigations
      ii) Routine and non-routine preoperative interventions
      iii) Rescheduling of surgery to allow for appropriate optimization

Revision- 2017
c) Explain how an anesthetic department is structured and managed

5) **Health Advocate**
By the end of the training in the preanesthesia clinic, the resident will be able perform the following
a) Recognize individual and systemic issues with an impact on anesthetic care and safety of the adult patient
b) Communicate identified concerns and risks to patients, other health care professionals, and administration as applicable
c) Intervene on behalf of individual patients and the system as a whole regarding quality of care and safety
d) Identify and react to risks to health care providers specifically including, but not limited to:
   i) substance abuse among anesthesiologists and other health care providers
   ii) dangers to workplace health and safety
e) Implement CAS and CSA standards and guidelines related to anesthetic practice and equipment

6) **Scholar**
By the end of the training in the preanesthesia clinic, the resident will be able perform the following
a) develop and maintain a personal learning strategy which will continue to maintenance of certification
b) Seek out and critically appraise literature to support clinical care decisions and practice evidence based application of new knowledge
c) Contribute to the appropriate application, dissemination, and development, of new knowledge
d) Teach medical students, other residents, faculty members, other health professionals, and patients using the principles and methods of adult learning

7) **Professional**
Throughout the training in the preanesthesia clinic the resident shall:

a) deliver the highest quality patient care with integrity, honesty, and compassion
b) Fulfill the ethical and legal aspects of patient care
c) Maintain patient confidentiality

Revision- 2017
d) Demonstrate appropriate interpersonal and professional behaviour

e) Recognize personal limits through appropriate consultation (with staff supervisors, other physicians, and other health professionals) and show appropriate respect for those consulted

f) Recognize conflict in patient care situations, professional relationships, and value systems, and demonstrate the ability to discuss and resolve differences of opinion.

g) Accept constructive feedback and criticism, and implement appropriate advice

h) Continually review personal and professional abilities and demonstrate a pattern of continuing development skills and knowledge through education

i) Identify problems of physical and mental health including chemical dependence, stress, and depression, and ways to deal with these problems in oneself and others

**CLINICAL RESPONSIBILITIES**

1) Daily
   a) The resident will be scheduled in the preanesthesia clinic at the HSC on all elective days. The clinic will be supervised by a faculty member, but the resident will be expected to see all patients and manage the schedule for the day. The resident will assess patients and create a plan for management independently. The degree to which individual patients and plans must be reviewed with the attending is at the mutual discretion of the staff and resident, based on the complexity and rarity of the particular issues, as well as the experience of the resident.
   b) The resident will attend all off-site procedures that are assigned to the PAC supervising staff person and do not conflict with the clinic schedule.

2) Call
   a) The resident shall take call as indicated on the call schedule for the clinical site in which s/he is rotating. This call shall conform to the relevant policies on call found in the Residency Program Policy Manual. While on call, the resident is expected to perform all of the same functions as outlined above for an elective slate, within the context of emergency care.

3) Consults:
   a) The resident will see all consults the come through department during elective hours from 0800-1700.

**PERIOPERATIVE COMPONENT**

**GOALS AND OBJECTIVES**

Revision- 2017
The University of Manitoba Training Program for Residents in Anesthesia has been developed in accordance with the guidelines of the Royal College of Physicians and Surgeons of Canada.

The following Rotation Specific Goals and Objectives for Adult Anesthesia at the Health Sciences Centre site and at the St. Boniface General Hospital site, provide additional emphasis to particular components of the Overall Program Goals and Objectives. These Goals and Objectives are written in the CanMEDS 2005 format.”

All appropriate Program Goals and Objectives also apply to this rotation.

8) Medical Expert/Clinical Decision Maker

By the end of the rotation, the resident will be able perform the following with respect to patients with all varieties of pre-existing conditions, and for the entire spectrum of surgical complexity, excluding cardiac surgery:

a) Explain the adult anatomy and physiology of the following systems and pathophysiology, implications for recovery, and expected perioperative complications of the common disease states that affect them:
   i) Cardiovascular
   ii) Upper airway and respiratory system
   iii) Central and peripheral nervous systems
   iv) Hepatic
   v) Renal
   vi) Endocrine
   vii) Hematologic

b) Identify, evaluate and treat common problems in the postanesthesia care unit (PACU), with particular emphasis on the following issues
   i) Pain
   ii) Nausea
   iii) Residual neuromuscular blockade
   iv) Decreased level of consciousness
   v) Hypoxia
   vi) Hypertension
   vii) Hypotension
   viii) Tachycardia

c) Identify, evaluate and treat life-threatening problems in the PACU.

d) Anticipate postoperative complications and assess the likelihood of those complications, taking into account the implications of the underlying patient problem, surgical procedure, coexisting patient factors including other medical problems, anxiety, discomfort, culture, language, ethnicity, age, and gender, with particular emphasis on the following specific problem areas
   i) Cardiac complications
   ii) Postoperative respiratory complications
iii) Infections complications  
iv) Transfusion and anemia  
v) Pain  
vi) Obstructive sleep apnea  

e) Identify the need for special perioperative resources, communicate these needs to the care team and coordinate the preparation of these resources, such as  
i) Perioperative intensive care  
ii) Advance pain care  
iii) Extended postoperative monitoring  
f) Prepare for and deliver anesthetic care in non-OR settings, with particular attention to the special considerations for care outside of the usual environment  
g) Assess, stabilize, transport and manage anesthesia care for patients with immediately life-threatening surgical conditions, with the exception of cardiac surgical emergencies  

9) Communicator  
By the end of the rotation, the resident will be able perform the following:  

a) Establish a therapeutic relationship with patients and/or family members as appropriate, including  
i) Encourage patient participation in decision-making, and to do this in consultative, elective, and emergent situations, and in challenging situations such as patient anger, confusion, language or ethno-cultural differences, or extremes of age  
ii) Listen to patients, answering their questions, and decreasing their anxiety  
iii) Demonstrate respect and empathy in relationships with patients  
b) Gather sufficient information from the patient, family members, and/or medical personnel to identify all issues that will have implications for perioperative management and recovery  
i) medical and surgical status of the patient  
ii) patient expectations, beliefs, and concerns (in addition to medical problem information), while also considering the influence of age, gender, and ethno-cultural, spiritual, and socio-economic background on the medical problem  
c) Impart sufficient information to patients and appropriate family members or delegates to allow a complete understanding of the implications of the planned procedure, options, risks and benefits  
d) Obtain complete informed consent for anesthetic care  

10) Collaborator  
By the end of the rotation, the resident will be able perform the following:
a) Consult other physicians and allied health professionals appropriately in order to provide optimal perioperative care

b) Coordinate care of adult patients with other members of OR team, PAC/POAC, ward, ICU staff and other physicians

c) Communicate effectively with other team members

d) Resolve conflicts or provide feedback where appropriate

11) Leader
By the end of the rotation, the resident will be able perform the following
   a) Utilize personal and outside resources effectively to balance patient care, continuing education, practice, and personal activities
   b) Coordinate access to limited resources for perioperative care, such as monitoring environments, and special investigations

12) Health Advocate
By the end of the rotation, the resident will be able perform the following
   a) Recognize individual and systemic issues with an impact on anesthetic care and safety of the adult patient
   b) Communicate identified concerns and risks to patients, other health care professionals, and administration as applicable
   c) Intervene on behalf of individual patients and the system as a whole regarding quality of care and safety
   d) Identify and react to risks to health care providers specifically including, but not limited to:
      i) substance abuse among anesthesiologists and other health care providers
      ii) dangers to workplace health and safety
   e) Implement CAS and CSA standards and guidelines related to anesthetic practice and equipment

13) Scholar
By the end of the rotation, the resident will be able perform the following
   a) develop and maintain a personal learning strategy which will continue to maintenance of certification
   b) Seek out and critically appraise literature to support clinical care decisions and practice evidence based application of new knowledge
   c) Contribute to the appropriate application, dissemination, and development, of new knowledge

Revision- 2017
d) Teach medical students, other residents, faculty members, other health professionals, and patients using the principles and methods of adult learning

14) Professional
Throughout the rotation the resident shall:

a) deliver the highest quality patient care with integrity, honesty, and compassion

b) Fulfill the ethical and legal aspects of patient care

c) Maintain patient confidentiality

d) Demonstrate appropriate interpersonal and professional behaviour

e) Recognize personal limits through appropriate consultation (with staff supervisors, other physicians, and other health professionals) and show appropriate respect for those consulted

f) Recognize conflict in patient care situations, professional relationships, and value systems, and demonstrate the ability to discuss and resolve differences of opinion.

g) Accept constructive feedback and criticism, and implement appropriate advice

h) Continually review personal and professional abilities and demonstrate a pattern of continuing development skills and knowledge through education

i) Identify problems of physical and mental health including chemical dependence, stress, and depression, and ways to deal with these problems in oneself and others

CLINICAL RESPONSIBILITIES

4) Daily
a) The resident will supervise the function of the PACU from 0930-1830 Monday to Friday, exclusive of precall, postcall, statutory holidays and scheduled academic days.

b) The resident will attend all off-site procedures that are assigned to the In-House Anesthesiologist (IHA) and do not conflict with immediate care priorities in the PACU.

c) The resident will become involved with all E1 emergency cases between 0930 and 1530 and manage them with a degree of autonomy appropriate to his/her level and the specifics of the case.

5) Call
a) The resident shall take call as indicated on the call schedule for the clinical site in which s/he is rotating. This call shall conform to the relevant policies on call found in the Residency Program Policy Manual. While on call, the resident is
expected to perform all of the same functions as outlined above for an elective slate, within the context of emergency care.
Introduction
The scholarly role is a distinct constellation of skills related to creation, interpretation and application of the medical literature. This has been described in the CanMeds roles as published by the Royal College. The following document outlines the plan of the Department of Anesthesia to ensure that residents are proficient in those skills that comprise the scholarly role. In addition, this document will provide the structure and policies governing the use of the scholarly activity/elective time.

The Scholarly Role- Core Competencies:
CanMeds describes the Scholar role as requiring the following activities:
- Develop implement and monitor a personal CME strategy
- Critically appraise sources of medical Information
- Facilitate learning of students and other health professionals
- Contribute to the development of new knowledge

These areas are in turn supported by the following areas of competence:
- Develop criteria for evaluating the anesthetic literature
- Critically appraise the literature using these criteria
- Describe the principles of good research
- Using these principles, judge whether a research project is well designed

In order to teach these competencies, we consider that they can ultimately be broken down to the following specific skill and knowledge sets:
- Literature searching
- Basic experimental design
- Critical appraisal
- Basic statistics
- Information collection, organization presentation
- Verbal, written and visual presentation skills
- Poster preparation
- Teaching effectiveness
- Delivering feedback

Resources to Teach the Skills within the Scholar Role
The teaching of the scholar role requires an integrated plan spanning the entire residency. Such a plan must make use of a range of educational tools and activities. These are outlined in the following table. No attempt to instill specific attributes can be effectively implemented without a plan to assess the results, as also indicated in the table. The
companion document “Evaluation at the University of Manitoba” further describes the methods used to evaluate resident performance in the CanMeds roles.

<table>
<thead>
<tr>
<th>Scholar Skill</th>
<th>Learning Format</th>
<th>Evaluation of Learning format</th>
<th>Individual learner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lit searching</td>
<td>Grand Rounds</td>
<td>Overall resident performance</td>
<td>Grand rounds evaluations</td>
</tr>
<tr>
<td></td>
<td>Scholarly project</td>
<td>Resident feedback</td>
<td>SA evaluation</td>
</tr>
<tr>
<td>Basic Experimental Design</td>
<td>Biostatistics II</td>
<td>Overall resident performance</td>
<td>Course marks</td>
</tr>
<tr>
<td></td>
<td>Research project</td>
<td>Resident feedback</td>
<td>SA evaluation</td>
</tr>
<tr>
<td>Data Collection, Organization, presentation</td>
<td>Grand Rounds Scholarly project</td>
<td>Attendee feedback</td>
<td>Rounds evaluations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Annual research symposium</td>
<td>Project summary</td>
</tr>
<tr>
<td>Basic Statistics</td>
<td>Biostatistics I</td>
<td>Overall resident performance</td>
<td>Course marks</td>
</tr>
<tr>
<td></td>
<td>Biostatistics II (optional)</td>
<td>Resident feedback</td>
<td>Course marks</td>
</tr>
<tr>
<td>Visual presentation skills</td>
<td>Grand rounds</td>
<td>Attendee feedback</td>
<td>Rounds evaluations</td>
</tr>
<tr>
<td></td>
<td>Research symposium</td>
<td>Resident feedback</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Meetings (supported)</td>
<td>Review at Education committee</td>
<td></td>
</tr>
<tr>
<td>Poster preparation</td>
<td>Research symposium</td>
<td>Overall resident performance</td>
<td>SA evaluation</td>
</tr>
<tr>
<td></td>
<td>Meetings (supported)</td>
<td>Resident feedback</td>
<td></td>
</tr>
<tr>
<td>Written presentation skills</td>
<td>Scholarly project</td>
<td>Review at Education committee</td>
<td>Project summary</td>
</tr>
<tr>
<td>Verbal presentation skills</td>
<td>Grand rounds</td>
<td>Resident feedback</td>
<td>Student feedback</td>
</tr>
<tr>
<td></td>
<td>MSR lecture series</td>
<td>Review at Education committee</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Talk rounds</td>
<td>Student feedback</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oral exam training series</td>
<td>Resident oral exam pass rate</td>
<td></td>
</tr>
<tr>
<td>Teaching effectiveness</td>
<td>TIPS</td>
<td>Resident feedback</td>
<td>Course marks</td>
</tr>
<tr>
<td>Feed back delivery effectiveness</td>
<td>TIPS</td>
<td>Resident feedback</td>
<td>Course marks</td>
</tr>
<tr>
<td>Database use</td>
<td>PGY 1-2 seminar</td>
<td>Attendee feedback</td>
<td>Written exam questions</td>
</tr>
<tr>
<td></td>
<td>Critical appraisal series</td>
<td>Resident feedback</td>
<td>Journal Club evaluations</td>
</tr>
<tr>
<td></td>
<td>Journal Club</td>
<td>Review at Education committee</td>
<td>SA evaluation</td>
</tr>
<tr>
<td></td>
<td>Scholarly project</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GRAND ROUNDS (for details see Grand Rounds outline)
Resident involvement in Grand Rounds includes mandatory attendance at all Grand Rounds during their anesthesia rotations, as well as presentations. This will afford residents the opportunity to learn, by observation and practice, the skills of organized presentation, use of AV materials, and public speaking skills. In addition, they will practice the collection, interpretation and collation of data.

JOURNAL CLUB (for details see Journal Club outline)
Residents will practice the principles of critical appraisal that they learn in the Critical Appraisal Seminar Series (below). In addition, they will reinforce their presentation skills.

RESEARCH SYMPOSIUM
The main purpose of the Research Symposium is to allow residents the opportunity to share what they have produced. It is hoped that this will foster enthusiasm among staff and residents alike for research and stimulate further involvement. In addition, residents get the opportunity to practice their presentation for potential repetition at external meetings. Finally, the presentations here also serve the same educational function as those in Grand Rounds.

Reviewed – 2017
TALK ROUNDS

In talk rounds, residents practice presentation skills with an emphasis on problem solving, clinical reasoning, and communication of clinical information.

MSR LECTURE SERIES

The residents all must participate in the MSR lecture series. This is a series of seminars presented to the med 3-4 students during their mandatory anesthesia rotations. In this presentation format, residents have the opportunity to practice

TIPS

In this program, residents will learn teaching and presentation skills by a combination of practice and instruction. It is mandatory for all residents.

CRITICAL APPRAISAL SEMINAR SERIES

In this series of sessions, the residents will receive instruction on the principles of critical appraisal. It is mandatory that all residents complete the entire series by the end of the program.

BIOSTATISTICS

There are two half courses offered through the faculty for Biostatistics. Biostatistics I is a basic introduction to biostatistics. It is not mandatory, but strongly recommended. Residents wishing to take this course may apply for funding. They will also be eligible for points toward their scholarly requirement. Biostatistics II is a follow-up course, emphasizing study design. It is recommended to anyone with a strong interest in future research. Funding is available for those who are interested.

Scholarly Projects and Scholarly/Elective Time

All residents in the University of Manitoba Anesthesia program are expected to complete a scholarly project. There is a range of types of projects from which students may choose, all of which contribute toward the ultimate goal. Traditional basic or clinical research, along with the other resources listed above, forms the basis for a strong future in research as well as instilling the characteristics of the scholar. The future of our discipline is contingent on training skilled researchers, and for that reason, research is strongly encouraged at the University of Manitoba. To that end, all residents are entitled to up to 6 months of time with minimal clinical responsibilities for the completion of a scholarly research project. At the same time, it is recognized that some clinicians have no interest in research. The educational goals of these individuals may be better served by allowing them to use the time for clinical or academic electives. However, it is not acceptable to forego scholarly training and so alternative types of projects are necessary.

Most of these alternative projects can be completed in parallel with clinical or academic elective time. It follows that it is the nature of the non-traditional projects that they may require less or no dedicated time, and the amount of scholarly time that a resident will be granted to complete the project will be determined on an individual basis. Prior to being having time for Scholarly Activity added to his/her schedule, each resident shall apply for that time. The amount to be

Reviewed-2017
granted will be decided by the Associate Head of Research and Academic Affairs, based upon the nature of the project. Residents pursuing projects that are deemed to require less than the six months of SA time, are expected to use the remaining time for pursuit of clinical/elective studies. The nature of these elective experiences will be determined in advance by discussion between the Associate Head of Research and the individual resident, but may include anything that will qualify under section 2(c) of the RCPS Requirements of Training for Anesthesia, and will, in the opinion of the Associate Head of Research, contribute to the ability of the resident to become a consultant in anesthesia. This includes, but is not necessarily limited to clinical anesthesia activity, ICU, related non-anesthesia skill such as ultrasound/echocardiography or pharmacology.

Planning for Scholarly Activity
In order for any project to evolve to completion, whether hypothesis based or an alternative, significant advance planning is necessary. The actual data collection and analysis, then write-up and presentation is considered to be the core of the project and is the minimum participation expected. However, the whole process from initial idea, finding a staff mentor, literature and precedent review, ethics submission, draft proposal, funding acquisition, final protocol, hospital resource committee reviews all precedes the actual study conduct, and can take months. While few residents actually perform all of this themselves, it is still a process that occurs, and time must be allowed. Thus, some consideration of the scholarly project must begin in PGY1, gradually becoming more specific through PGY2, until a specific project is identified early in PGY3 to allow for the actual preparation prior to the SA time in PGY4-5. Which steps apply to an individual project and the specific timing will vary, but the attached timeline is provided as an illustration to help residents with the progress of their project. Planning for SA will be discussed at the semiannual resident assessment meeting, to ensure sufficient advance preparation.

The Scholarly Activity Log
In order to incorporate this degree of flexibility and still maintain consistency, the Department of Anesthesia uses a scholarly activity log (attached). The types of allowable projects are listed in the log. A resident may opt to emphasize certain aspects over others within the scope of the allowable activities, to ultimately achieve an educational experience that suits his/her future plans. The log also provides a mechanism by which the varying curricula pursued by different residents can be recorded and used as evidence of scholarly pursuit. The log is divided into sections, in which points may be accrued. There is a minimum number of points overall, as well a minimum for section three. Thus, each resident must accrue a minimum number of points from a project. Those whose projects exceed the minimum expectations will need fewer in section 2.
University of Manitoba  
Department of Anesthesia  
SCHOLARLY ACTIVITY LOG

SECTION 1: Mandatory Requirements  
Each resident must complete each of these items once prior to the issuance of a FITER  

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIPS</td>
<td></td>
</tr>
<tr>
<td>Critical appraisal series</td>
<td>Session 1</td>
</tr>
<tr>
<td></td>
<td>Session 2</td>
</tr>
<tr>
<td></td>
<td>Session 3</td>
</tr>
<tr>
<td></td>
<td>Session 4</td>
</tr>
</tbody>
</table>

SECTION 2: Supplementary Academic Activities  
Each resident must accumulate a minimum of 300 points between sections 2 and 3. Each resident must complete at least the minimum number of each activity for which a minimum is indicated. The remainder of the 300 points may be fulfilled by any combination of the listed activities. To be eligible for credit under any of these headings, the resident must present the supporting evidence as indicated in the table below. Each resident should maintain a portfolio of this evidence for future reference.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Minimum</th>
<th>Supporting Evidence</th>
<th>Points</th>
<th>Date Completed</th>
<th>PD Verification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grand Rounds</td>
<td>2</td>
<td>Slides, evaluations</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mini-rounds</td>
<td>0</td>
<td>Slides, evaluations</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undergrad lecture writing</td>
<td>0</td>
<td>Slides +/- or notes</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undergrad lecture delivery</td>
<td>0</td>
<td>Schedule, evaluations</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undergrad simulator session-preceptor</td>
<td>0</td>
<td>Schedule, evaluations</td>
<td>2.5/h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postgraduate lecture writing</td>
<td>0</td>
<td>Slides +/- or notes</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postgraduate lecture/seminar presentation</td>
<td>0</td>
<td>Schedule, evaluations</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postgraduate simulator session preceptor</td>
<td>0</td>
<td>Schedule, evaluations</td>
<td>2.5/h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allied Health lecture writing</td>
<td>0</td>
<td>Slides +/- or notes</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allied Health lecture delivery</td>
<td>0</td>
<td>Schedule, evaluations</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Journal Club presentation</td>
<td>1</td>
<td>Slides, notes, evaluations</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coursework</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biostats 1</td>
<td>N/A</td>
<td>Transcript</td>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biostats 2</td>
<td>N/A</td>
<td>Transcript</td>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minor Projects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Case Report</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literature search and references</td>
<td>N/A</td>
<td>Bibliography</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Write up</td>
<td>N/A</td>
<td>Manuscript</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Publication</td>
<td>N/A</td>
<td>Copy/reference</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local presentation</td>
<td>N/A</td>
<td>Slides</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letter to the Editor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Write up</td>
<td>N/A</td>
<td>Manuscript</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Publication</td>
<td>N/A</td>
<td>Copy/reference</td>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reviewed – 2017
SECTION 3: Scholarly Projects
Each resident must accumulate at least 125 points from this section. Points in excess of 125 will reduce the required points from section 2. Projects must be previewed and approved by the Program Director and Research Coordinator prior to commencement in order to assess both the number of points and non-clinical time that will be awarded for their completion.

<table>
<thead>
<tr>
<th>Major research project</th>
<th>Points</th>
<th>Supporting Evidence</th>
<th>Supervisor Confirmation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature review (annotated bibliography)</td>
<td>20</td>
<td>Bibliography</td>
<td></td>
</tr>
<tr>
<td>Creation of Protocol</td>
<td>25</td>
<td>Copy of protocol</td>
<td></td>
</tr>
<tr>
<td>Ethics submission</td>
<td>25</td>
<td>Submission and acceptance letters</td>
<td></td>
</tr>
<tr>
<td>Data Collection</td>
<td>40</td>
<td>Blank data sheets and description of collection process</td>
<td></td>
</tr>
<tr>
<td>Data Analysis</td>
<td>40</td>
<td>Results section</td>
<td></td>
</tr>
<tr>
<td>Manuscript completed (and submitted)</td>
<td>35</td>
<td>Manuscript</td>
<td></td>
</tr>
<tr>
<td>Publication – accepted (peer reviewed)</td>
<td>10</td>
<td>Copy/reference</td>
<td></td>
</tr>
<tr>
<td>Manuscript completed (and submitted)</td>
<td>35</td>
<td>Manuscript</td>
<td></td>
</tr>
<tr>
<td>Presentation - local</td>
<td>10</td>
<td>Slides/notes</td>
<td></td>
</tr>
<tr>
<td>Presentation - meeting</td>
<td>15</td>
<td>Slides/notes</td>
<td></td>
</tr>
<tr>
<td>Award</td>
<td>15</td>
<td>Letter/certificate</td>
<td></td>
</tr>
</tbody>
</table>

| Review article/ Book Chapter                  |        |                                                 |                         |
| Literature Search and references              | 50     | Bibliography                                     |                         |
| Write up                                      | 50     | Manuscript                                       |                         |
| Publication                                   | 10     | Copy/reference                                   |                         |
| Manuscript completed (and submitted)          | 35     | Manuscript                                       |                         |
| Presentation - local                          | 10     | Slides/notes                                     |                         |
| Presentation - meeting                        | 10     | Slides/notes                                     |                         |
| Award                                         | 10     | Letter/certificate                               |                         |

| Curriculum Development                        |        |                                                 |                         |
| Literature review/research                     | 20     | Bibliography                                     |                         |
| Design                                        | 30     | Protocol                                         |                         |
| Implementation                                | 40     | Schedules/evaluations                            |                         |
| Manuscript completed (and submitted)          | 35     | Manuscript                                       |                         |
| Presentation-local                            | 10     | Slides/notes                                     |                         |
| Manuscript completed (and submitted)          | 35     | Manuscript                                       |                         |
| Presentation - meeting                        | 10     | Slides/notes                                     |                         |
| Award                                         | 10     | Letter/certificate                               |                         |

<p>| Other (Master’s program etc.)                 |        |                                                 |                         |
| To be determined on a case-by-case basis      |        | Assessed per project                             |                         |</p>
<table>
<thead>
<tr>
<th>Task</th>
<th>PGY2</th>
<th>PGY3</th>
<th>PGY4</th>
<th>PGY5</th>
</tr>
</thead>
<tbody>
<tr>
<td>What subspecialty/area?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Talk to the experts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What opportunities are available?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Find a mentor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assess feasibility and relevance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major Research</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literature Search</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific hypothesis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protocol design</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Funding</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethics submission</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital approvals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data collection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finalize manuscript</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Submission/revision</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present at Research Day</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Review Article</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literature review</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Submission/Revision</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present at research day</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curriculum Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Search existing resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Draft general goals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Draft specific goals and objectives</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Draft structure and resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Draft evaluation and feedback</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final curriculum</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implementation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present at research day</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Peri-operative medicine is an area of rapid expansion in Anesthesia. As we proceed it will play an increasingly prominent role in the specialty. As such, there has been increasing interest in elective training for both anesthesia and surgical residents. The University Of Manitoba Department Of Anesthesia offers an opportunity for residents who have completed a minimum of two years of post-graduate training including at least two four week blocks of critical care to have an elective experience in peri-operative medicine. The majority of time during this elective will be spent caring for patients in the Surgical step-down unit and Post-anesthesia care unit with some time also spent in the Pre-Anesthetic Clinic.

The Royal College of Physicians and Surgeons CanMEDs format has been used to categorize the goals and objectives for this rotation. Some of the behaviors, knowledge and skills should be present when the resident starts the rotation and all should be achieved at the end of a four week rotation.

Please refer also to the National Curriculum for Canadian Anesthesia Residency for more information on expected knowledge and skills.

All appropriate Program Goals and Objectives also apply to this rotation.

Medical Expert/Clinical Decision Maker

General Requirements

- Elicit, present, and document a history that is relevant, concise, accurate and appropriate to the patient's problem(s).
- Perform, interpret, document and present the findings a physical examination that is relevant and appropriate.
- Select medically appropriate investigative tools, interpret the results of common diagnostic tests and demonstrate an understanding of their cost effectiveness, limitations and complications.
- Formulate a comprehensive patient problem list, synthesize an effective diagnostic and therapeutic plan and establish appropriate follow up.
Awareness of the ethical principles pertinent to critically ill patients and transition towards supportive and palliative strategies

**Specific Requirements**

- Describe the preoperative risk assessment of patients with regard to both preoperative patient risk factors, various surgical procedures and using scoring tools such as the revised cardiac risk index, NSQIP surgical risk calculator, and other disease specific scoring tools.
- Perform preoperative patient assessments and develop management strategies with a view to risk stratification and management, medical optimization, anesthetic and postoperative planning.
- Manage high-risk surgical patients in the intraoperative and immediate postoperative period.
- Provide in-hospital anesthetic consultation for high risk patients.
- Describe the options available for postoperative analgesia, their advantages and disadvantages, including multimodal analgesia and select appropriate therapies for individual patients.
- Explain the concept of facilitated recovery, and how it is implemented with particular emphasis on
  - Peri-operative nutrition
  - Pain management and rehabilitation
- Identify, investigate and manage important postoperative complications, with particular emphasis on the following areas:
  - Cardiac – recognition and management of patients with
    - Ischemia
    - Arrhythmias
    - Congestive heart failure
  - Respiratory
    - Assessment and management of patients with or at risk of respiratory failure
    - Knowledge of non-invasive ventilation techniques
    - Interpretation of arterial blood gases
  - Neurologic
    - Work-up and management of post-operative altered level of consciousness and delirium
  - Infectious
    - Knowledge of antibiotic prophylaxis guidelines
    - Work-up and treatment of a patient with a fever
    - Goal directed therapy for sepsis
    - Broad spectrum antibiotic coverage for common Peri-operative infections
• Renal
  o Assessment of volume status using invasive and non-invasive modalities
  o Indications and complications of the various volume expanders – i.e. crystalloid, colloid, albumin and blood products
  o Work-up and management of common electrolyte abnormalities
  o Management of patients with acute and chronic renal failure in the peri-operative setting
• Hematologic
  o Indications and complications of transfusion of blood products
  o Work-up and management of common coagulation disorders
  o Work-up and management of peri-operative thromboembolic complications
• Gastrointestinal
  o Implications of peri-operative nutritional compromise
  o Treatment of ileus and constipation

Communicator

General requirements

• Establish a professional relationship with patients and families.
• Obtain and collate relevant history from patients, and families.
• Listen effectively.
• Discuss appropriate information with patients and families and other members of the health care team.
• Obtain complete informed consent for procedures performed

Specific requirements

• Demonstrate consideration and compassion in communicating with patients and families.

• Demonstrate skills in:
  • providing clear, concise and timely verbal and written communication as applied to progress notes, sign over of patient care and discharge planning;
  • communication with patients and families regarding the medical condition, plan of treatment, prognosis, adverse events, medical uncertainty, medical errors and end of life wishes
• Communication with families in such a way that encourages patient participation in decision-making, and to do this in consultative and emergent situations, and in challenging situations such as patient anger, confusion or language or ethno-cultural differences
• Communication with other health care professionals regarding all aspects of patient care.

Collaborator

General Requirements

Consult effectively with other physicians and health care professionals. Contribute effectively to other interdisciplinary team activities.

Specific Requirements

Identify and describe the role, expertise and limitations of all members of an interdisciplinary team required to optimally achieve a goal related to patient care, or an administrative responsibility.

- Effectively collaborate with other allied health professionals, demonstrating the ability to accept, consider and respect the opinions of other team members, while contributing personal specialty-specific expertise
- Manage urgent and crisis situations such as cardiac arrest, trauma, anaphylaxis, and malignant hyperthermia, as a team member or a team leader
- Attend weekly Thoracic Case rounds to provide an Opinion from the Anesthesia perspective to the surgery team

Leader

General Requirements

• Utilize personal resources effectively in order to balance patient care, continuing education, and personal activities.
  • Allocate finite health care resources wisely.
  • Work effectively and efficiently in a health care organization.
  • Utilize information technology to optimize patient care, and lifelong learning.

Specific Requirements

Utilize appropriate time management for effective patient care, administrative duties and scholarly activities.

- Appropriate timing for handover, morning rounds, and seeing and reviewing consults

Implement patient care practices considering available health care resources.

Able to complete the tasks discussed on rounds in a timely manner.

Able to seek help appropriately and appreciate their personal limitations.
Health Advocate

General Requirements

- Identify the important determinants of health affecting patients.
- Contribute effectively to improved health of patients and communities.
- Recognize and respond to those issues where advocacy is appropriate.

Specific Requirements

- Educate patients and families about and promote the importance of long-term healthy behaviours and preventive health care (e.g. smoking cessation, screening tests, vaccinations, exercise, and nutrition).
- Ensure appropriate medical care is always maintained for individual patients and investigations, consults, and follow ups are appropriately communicated to patients and the health care team.
- Respect and empower patient autonomy.
- Promote equitable health care.
- Apply the principles of quality improvement and quality assurance
- Identify and react to risks to other health care providers including, but not limited to:
  - Substance abuse among health care providers
  - Dangers to workplace safety and health

Scholar

- Develop and maintain a personal learning strategy which will continue to maintenance of certification
- Seek out and critically appraise literature to support clinical care decisions and practice evidence based application of new knowledge
- Contribute to the appropriate application, dissemination, and development, of new knowledge
- Teach medical students, other residents, faculty members, other health professionals, and patients using the principles and methods of adult learning
- Present a topic of interest at SSCU rounds the last Wednesday of the rotation to SSCU staff and anesthesia residents

Professional

- Deliver the highest quality patient care with integrity, honesty, and compassion
- Fulfill the ethical and legal aspects of patient care
- Maintain patient confidentiality
• Demonstrate appropriate interpersonal and professional behaviour
• Recognize personal limits through appropriate consultation (with staff supervisors, other physicians, and other health professionals) and show appropriate respect for those consulted
• Recognize conflict in patient care situations, professional relationships, and value systems, and demonstrate the ability to discuss and resolve differences of opinion. Accept constructive feedback and criticism, and implement appropriate advice continually review personal and professional abilities and demonstrate a pattern of continuing development skills and knowledge through education
• Seek out feedback from all members of the health care team with respect to ways to improve interpersonal interactions, patient care, personal knowledge base and team dynamic
• Identify problems of physical and mental health including chemical dependence, stress, and depression, and ways to deal with these problems in oneself and others

SSCU Resident Learning Topics

The following are topics residents should make an effort to discuss with their staff person while on their SSCU Rotation:

1. Perioperative A. Fib
2. Delirium in the post operative patient
3. Post operative Hypotension – differential and management (in PACU and SSCU)
4. Post operative Hypertension – differential and management (in PACU and SSCU)
5. Perioperative MI
6. Assessment and management of respiratory failure – with specific attention to:
   a. Flash Pulm edema
   b. Hypercapnic respiratory failure
   c. Pneumonia
7. TTE basics – volume assessment and basic ventricular and valvular function
8. Acid base disturbances
9. Nutrition
10. Risk Reduction/Quality Improvement Initiatives

****The resident should notify their staff person the day before working with them re: which topic they would like to discuss.
The Thoracic Anesthesia rotation at the University of Manitoba is intended to build upon the adult tertiary goals and objectives. In order to function safely and effectively in the Thoracic Anesthesia Operating Room, the resident must clearly have all of the skills required of a tertiary anesthesiologist. The following goals and objectives focus on the additional skills and knowledge that relate specifically to Thoracic Anesthesia.

GOALS AND OBJECTIVES

The University of Manitoba Anesthesia Residency Training Program has been developed in accordance with the guidelines of the Royal College of Physicians and Surgeons of Canada. The following Rotation Specific Goals and Objectives for Thoracic Anesthesia provide subspecialty specific emphasis to particular components of the General Program Goals and Objectives.

The resident is also referred to the National Anesthesia Curriculum for a detailed list of expected knowledge.

All appropriate Program Goals and Objectives also apply to this rotation.

Medical Expert/Clinical Decision Maker

By the end of this rotation, the Resident should:

<table>
<thead>
<tr>
<th>1. Preoperative Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Be able to discuss Slingers “three-legged stool”, including respiratory mechanics, cardiopulmonary interaction and lung parenchymal function</td>
</tr>
<tr>
<td>▪ Know what tests and cut off values exist for each component of the three-legged stool and clinically apply them towards the anesthetic plan, and risk stratification for each patient</td>
</tr>
<tr>
<td>▪ Be able to interpret PFT’s, and calculate post-operative predictive values of FEV1 and DLCO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Lung Isolation</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Be aware of different options for lung isolation, and when one is more appropriate than another</td>
</tr>
<tr>
<td>▪ Be aware of what types and sizes of DLT and bronchial blockers are available and how to select the appropriate size and type for patients</td>
</tr>
<tr>
<td>▪ Be able to isolate the lung with a DLT or bronchial blocker</td>
</tr>
<tr>
<td>▪ Recognize tracheobronchial tree anatomy with FOB</td>
</tr>
<tr>
<td>▪ Be able to trouble shoot tube malposition of the lung isolation device</td>
</tr>
</tbody>
</table>
3. **Management of OLV**
   - Be aware of when the indication for lung isolation is absolute vs relative
   - Know and understand ventilation parameters for OLV, and apply them clinically
   - Be able to manage hypoxemia during OLV which includes having a clinical approach and knowledge of all techniques that can be utilized to improve oxygenation on one lung
   - Know what clinical factors correlate with an increased risk of desaturation on one lung
   - Understand the changes in ventilation and perfusion for each lung, and the effects of an anesthetic, position, muscle relaxation and surgical entry on compliance of the operative and non-operative lung
   - Understand the physiology of hypoxic pulmonary vasoconstriction and factors that can affect HPV

4. **Anesthetic Considerations for VATS vs Open Thoracotomy**
   - Understand the physiologic differences for both surgical approaches
   - Be able to develop and execute an appropriate anesthetic plan for both including induction, maintenance, emergence and postoperative care
   - Have an approach to perioperative fluid management for these patients
   - Understand the difference in physiologic impact and anesthetic risks of a wedge resection, segmentectomy, lobectomy, bilobectomy, sleeve lobectomy or pneumonectomy

5. **Anesthetic Considerations for Esophageal and Mediastinal Surgery**
   - Be able to outline the anesthetic considerations and execute an anesthetic for the above type of surgery
   - Including but not limited to mediastinoscopy, esophagectomy, pericardial surgery, mediastinal mass, tracheal surgery, thoracic trauma

6. **Management of Intraoperative and Postoperative Pain control**
   - Understand the risks and benefits of various analgesia options for thoracic surgery, including epidural analgesia, paravertebral catheters and IV opioid
   - Gain proficiency in placing thoracic epidurals
   - Know what type and concentration of local anesthetics and opioids can be used for epidural and paravertebral catheters
   - Understand the etiology of post thoracotomy pain

7. **Postoperative Complications**
   - Be able to manage postop pneumonia, hypoxemia, bleeding, cardiac ischemia
   - Be able to manage postop ARDS and pulmonary oedema
   - Manage postoperative arrhythmias including atrial fibrillation
   - Have an approach to the management of cardiac herniation

*Reviewed November: HG/JS*
2. **Communicator**

By the end of the rotation the Resident will be able to:

A. Establish a therapeutic relationship with thoracic surgery patients, emphasizing understanding, trust, empathy, and confidentiality

B. Elicit and synthesize relevant information from the patient and/or family, and be able to assess and take into account, the impact of a patient's age, gender, ethno cultural background, social supports, and emotional influences on thoracic illnesses and perioperative clinical course

C. Discuss appropriate information with the patient, his/her family to facilitate the optimal management plan for the care of the patient. This should include discussion of anesthetic procedures, options and risk (and surgical risk where appropriate)

3. **Collaborator**

By the end of this rotation the Resident will be able to:

A. Communicate a succinct assessment and peri-operative anesthetic management plan to Attending Staff

B. Effectively consult with other physicians and health care professionals and demonstrate appropriate judgment regarding the assessment of anesthetic risk

C. Coordinate the care of thoracic surgery patients with other members of the operating room and perioperative teams, including surgeons, nurses and allied health staff in the OR, intensive care unit, ward and step-down unit, and in off-site locations.

D. Manage urgent and crisis situations listed above as a team member or leader

4. **Leader**

By the end of this rotation the Resident will be able to:

A. Make efficient use of time regarding:
   1. Patient assessment
      1. Operating room equipment set-up
      2. Anesthesia induction
      3. Patient transfer to the post-anesthesia care unit or intensive care
      4. Operating room changeover

B. Generate anesthetic plans that take into account cost-effective use of anesthesia resources such as:

   - Drug choice
   - Equipment options
   - Invasive monitoring

C. Manage decisions regarding patient slating and OR care (elective and emergent),

*Reviewed November: HG/JS*
and ICU/PACU/step-down/ward care postoperatively.

D. Manage the assigned room/slate with regard to maintaining the schedule, or changing the schedule in response to emergencies, additional cases etc.

E. Manage after hours scheduling of cases including prioritization and adapting to changes

5. Health Advocate

By the end of this rotation the Resident will be able to:

A. Recognize and explain the relevance of broad health and societal issues with impact on the anesthetic care of the thoracic surgery patient. Issues relevant to care include:
   - Risk factors and demographics which contribute to the development of cardiorespiratory disease (e.g. alcohol, smoking, illicit drugs)
   - Lifestyle changes and programs which aid in the prevention of cardiothoracic disease
   - Factors that identify high-risk patients in the preoperative, intraoperative, and postoperative periods

B. Advocate for, and intervene on behalf of patients regarding their care and safety

C. Recognize and act upon individual and systemic threats to safe anesthesia working practices, on behalf of patients and health care personnel

D. Apply CAS and CSA standards to the care of cardiothoracic patients.

6. Scholar

By the end of this rotation the Resident will be able to:

A. Maintain a personal continuing education strategy

B. Formulate questions for ongoing appraisal

C. Search and critically appraise current thoracic anesthesia literature

D. Apply evidence based knowledge to make decisions based on appropriate evidence

E. Teach patients, house staff, students and other professionals when appropriate
7. Professional

Throughout this rotation, the resident shall:

A. Deliver highest quality care with integrity, honesty, and compassion

B. Demonstrate appropriate interpersonal and professional behavior

C. Practice medicine ethically consistent with the obligations of a physician

D. Practice with consideration of ethical and legal aspects of patient care

E. Recognize personal limits through appropriate consultation (with staff supervisors, other physicians, and other health professionals) and show appropriate respect for those consulted

F. Include the patient in discussions of care management

G. Recognize and mediate potential conflict between staff, patients, families based on socioeconomic, cultural, belief system and other differences to generate a successful outcome to thoracic surgical care.

CLINICAL RESPONSIBILITIES

DAILY

a) Preoperative assessment: The resident will assess each patient on his/her slate preoperatively at the earliest reasonable opportunity. Inpatients scheduled the night beforehand or earlier must be assessed by the resident the night beforehand at the latest. To that end, the resident will review the slating for the next day at the end of each OR day, to determine his/her responsibilities with respect to preoperative assessment and communication with staff.

b) Anesthetic planning: For each case, the resident will generate an anesthetic plan based upon all of the anesthetic considerations relevant to that case.

c) Communication with Attending staff: It is the responsibility of the resident to ensure that this plan is discussed with and approved by the attending anesthesiologist before proceeding. It is also the responsibility of the resident to contact the attending anesthesiologist on the day prior to the slate. That contact will be used at the mutual discretion of the staff and resident to prepare a teaching plan, review the anesthetic plans, and make any applicable special plans for the conduct of the slate as a whole.

d) Preparation:

1. The resident shall arrive in the hospital with sufficient time to complete the following and start the first case at the slated time
2. Check and prepare all necessary equipment for the first case
3. Make any arrangements that will be required for the efficient conduct of the slate
4. Assess the first patient and review the assessment and plan with attending anesthesiologist
5. The resident will prepare for each subsequent case with sufficient alacrity to ensure the efficient conduct of the slate.
e) **Administration of Anesthesia**: The resident will implement the anesthetic plan, including modification in response to evolving conditions, from preoperative assessment and optimization through to postoperative disposition, with a degree of autonomy commensurate with the expectations for his/her level of training.

f) **Postoperative Follow-up**: The resident will attend to any postoperative investigation or management that derives from either the initial anesthetic plan or intraoperative events. The resident will follow up on any complications and communicate the results of that follow-up to the attending anesthesiologist. The resident will direct the postoperative management of such complications in concert with the attending anesthesiologist to the point of their resolution or delegation to an appropriate health care provider.

**CALL**

The resident shall take call as indicated on the call schedule for the clinical site in which s/he is rotating. This call shall conform to the relevant policies on call found in the Residency Program Policy Manual.

**CONSULTS**

Residents shall review all thoracic surgery PAC and inpatient consults with the exception of emergency consults that arrive when the resident is not on duty.

**OTHER RESPONSIBILITIES**

**TEACHING**

Residents shall participate in the clinical teaching of medical students, junior residents, and paramedical trainees that are slated to work with them.

**ROUNDS**

1. **Talk/Grand Rounds**

   Resident will attend *all* talk rounds and Grand rounds that occur at HSC during their rotation with the following exceptions:

   a) Vacation
   
   b) Illness

*Reviewed November: HG/JS*
LEARNING RESOURCES
During this rotation, the following resources will be available to residents in addition to those available at all times through the University Department:

1) Clinical teaching - The most important learning resource during clinical rotations is the direct teaching that occurs during discussion with staff of the management of actual cases, and topics of interest. The quality of this discussion is enhanced by communication in advance to generate a teaching plan.

2) Site Library - Each tertiary site has a collection of current textbooks relevant to the pattern of practice of the site.

3) Computer access - Each tertiary site has computer access within the OR for resident use in accessing literature.

4) Anesthesia Toolkit – This resource may be accessed electronically by the residents through the University of Manitoba Health Sciences Library. It contains a wealth of links to useful books, journals, articles useful for clinical anesthesia but also making effective presentations, teaching, providing patient resources, and understanding evidence-based medicine. Anesthesia Toolkit can be accessed at http://umanitoba.ca/faculties/medicine/anesthesia/

Evaluations

As per the policy in the Residency Program Policy Manual, the resident will receive a daily evaluation. The staff person will receive an e-mail reminder for the daily evaluation. The staff person will complete the electronic daily evaluation form via the VENTIS academic & clinical online scheduling system.
CHRONIC PAIN MANAGEMENT CLINIC

INTRODUCTION
The Chronic Pain Management Clinic at the University of Manitoba consists of the HSC and the Pan am sites. The clinic provides a comprehensive management approach including multi-disciplinary input, systemic, behavioural and interventional techniques as applicable. Resident will gain an exposure to all aspects of chronic pain management, and should emerge with the ability to manage simple chronic pain problems and understand the issues and principles involved in the management of more complex cases.

GOALS AND OBJECTIVES
The University of Manitoba Training Program for Residents in Anesthesia has been developed in accordance with the guidelines of the Royal College of Physicians and Surgeons of Canada.

The following Rotation Specific Goals and Objectives for Chronic Pain Management provide additional emphasis to particular components of the Overall Program Goals and Objectives.

Please refer also to the National Curriculum for Canadian Anesthesia Residency for more information on expected knowledge and skills.

*All appropriate Program Goals and Objectives also apply to this rotation.*

1.0 Medical Expert

1.1 Foundational Knowledge of Chronic Pain

1.1.1. Describe the anatomy and neurophysiology of nociception

1.1.2. Describe the pathophysiology of acute pain and the transition from acute pain to chronic pain including mechanisms and associated physiologic consequences

1.1.3. Describe the biopsychosocial theory of chronic pain and explain the importance of utilizing these modalities in the management of patients with chronic pain

1.1.4. Describe the mechanisms and effects of inhibitory pathways on the modulation of pain transmission including neurotransmitters involved in the peripheral and central nervous system

1.1.5. Define the disorder of chronic pain utilizing the International
Association for the Study of Pain (IASP) Classification of Chronic Pain in addition to other commonly utilized terms such as: neuropathic pain, nociceptive pain, nociplastic pain, allodynia, analgesia, dysesthesia, hyperalgesia, hyperesthesia, paresthesia, pain threshold and pain tolerance.

1.1.6. Summarize the mechanism of action, pharmacology, side effects, indications, contraindications and monitoring of the following drugs or drug classes:

1.1.6.1. Opioid receptor agonists
1.1.6.2. Serotonin/norepinephrine re-uptake inhibitors
1.1.6.3. Calcium channel blockers
1.1.6.4. Sodium channel blockers
1.1.6.5. Prostaglandin inhibitors
1.1.6.6. N- Methyl D- Aspartic acid (NMDA) receptor antagonists
1.1.6.7. Cannabinoids
1.1.6.8. Acetaminophen
1.1.6.9. Alpha 2 agonists

1.1.7. Describe common validated measurement tools used in assessing and monitoring management of patients with chronic pain including the following domains:

1.1.7.1. Pain
1.1.7.2. Mood
1.1.7.3. Function
1.1.7.4. Sleep
1.1.7.5. Quality of life and health care utilization

1.1.8. Summarize the 2017 Canadian Opioid Prescribing Guideline

1.2. Psychiatry/Psychology Component of Chronic Pain

1.2.1. Describe how psychiatric illness, relevant to pain medicine, may contribute to the experience of chronic pain

1.2.2. List diagnostic criteria for the following psychiatric disorders

1.2.2.1. Major depressive disorder
1.2.2.2. Bipolar mood disorders
1.2.2.3. Post-traumatic stress disorder, panic disorder, social anxiety disorder, generalized anxiety disorder
1.2.2.4. Substance use disorders
1.2.2.5. Attention deficit disorders
1.2.2.6. Somatoform disorders
1.2.2.7. Personality disorders

1.2.3. List important psychological mechanisms involved in pain and suffering

Revised November 2017/Hi/JS
1.2.4. Describe the theory and outline indications, contraindications, benefits (efficacy) and risks (safety) and summarize the evidence that supports the following clinical treatments:

1.2.2.4.1. Biofeedback
1.2.2.4.2. Cognitive Behavioral Therapy
1.2.2.4.3. Hypnosis
1.2.2.4.4. Goal setting
1.2.2.4.5. Imagery training
1.2.2.4.6. Mindfulness Based Cognitive Therapy (MBCT)
1.2.2.4.7. Mindfulness Based Stress Reduction (MBSR)
1.2.2.4.8. Patient education programs
1.2.2.4.9. Patient self-management techniques

1.2.5. Define catastrophizing and kinesophobia as predictors of chronic pain treatment outcomes; describe common assessment tools for detecting each and outline interventions that can be used to reduce the severity of each condition.

1.3. Addiction Medicine

1.3.1. Define addiction, tolerance and physical dependence
1.3.2. Describe the core clinical features and treatment of patients with pain and addiction
1.3.3. Describe validated risk assessment tools to stratify patients into low, moderate or high risk categories for addiction, misuse and/or abuse of medication
1.3.4. Describe the concept of "universal precautions" as it applies to treatment with opioids
1.3.5. Describe a range of treatment strategies for pain management in patients with addiction either active or in remission
1.3.6. Identify strategies to reduce opioid diversion, including but not limited to health provider education, patient education regarding safe storage, improved treatment resources for patient with pain, government collaboration regarding surveillance and regulations, and abuse resistant formulations
1.3.7. Outline appropriate withdrawal schedules and strategies for managing withdrawal symptoms for opioids and benzodiazepines
1.3.8. Demonstrate knowledge of effective, appropriate and timely use of urine drug screening tests

1.4. Sleep Medicine

1.4.1. Describe how sleep disorders may affect patients with acute and chronic pain
1.4.2. Describe the basic classification of sleep disorders according to the International Classification of Sleep Disorders (ICSD)
1.4.3. List common assessment procedures used in the diagnosis of sleep disorders
1.4.4 Outline non pharmacologic and pharmacologic treatment options for the common sleep problems that occur in association with chronic pain disorders

1.5. Musculoskeletal system and rehabilitation:

1.5.1 Describe the epidemiology, pathophysiology, natural history, diagnosis and treatments of common painful musculoskeletal diseases, including but not limited to:

1.5.1.1. rheumatoid arthritis
1.5.1.2. connective tissue diseases,
1.5.1.3. seronegative arthritis,
1.5.1.4. polymyalgia rheumatica
1.5.1.5. inflammatory myopathy
1.5.1.6. soft tissue pain disorders such as myofascial pain and fibromyalgia
1.5.1.7. degenerative joint disease

1.5.2. Describe specific pain syndromes that may occur following spinal cord injury, post-stroke and after limb amputation

1.5.3. Demonstrate knowledge of the diagnosis and management of common pathologies of the spine that may cause pain, including but not limited to:

1.5.3.1. mechanical back pain
1.5.3.2. intervertebral disc herniations with radiculopathy
1.5.3.3. spinal stenosis
1.5.3.4. whiplash associated disorders

1.5.4. Describe the indications, contraindications, risks and technique associated with interventional diagnostic/therapeutic techniques that may be used to treat painful soft tissue and joint disorders including but not limited to:

1.5.4.1. Medial branch blocks
1.5.4.2. Medial branch neurotomy
1.5.4.3. Intra articular joint injections-eg. Sacroiliac joint injections
1.5.4.4. Epidural steroid injection
1.5.4.5. Genicular nerve block
1.5.4.6. Neuraxial block technique
1.5.4.7. Peripheral nerve and plexus block
1.5.4.8. Neuromodulation procedures

1.5.5. Describe the principles, indications and limitations of physical treatments, including but not limited to exercise based treatment, passive physical therapies such as ultrasound, transcutaneous electrical nerve stimulation (TENS), manual therapies, manipulation and massage in the management of musculoskeletal pain
1.5.6. Describe the principles, indications and limitations of occupational therapy management (pacing, ergonomics and work/daily activity modification) in the management of musculoskeletal pain

1.6. Neurology

1.6.1. Describe the epidemiology, pathophysiology, natural history, diagnosis, treatments and prognosis of common conditions causing neuropathic pain including but not limited to:

1.6.1.1. Compression and entrapment syndromes
1.6.1.2. Ischemic nerve injuries
1.6.1.3. Infectious lesions including herpes zoster
1.6.1.4. Post-herpetic neuralgia
1.6.1.5. Painful diabetic neuropathy

1.6.2. Describe the features of neuropathic pain including peripheral and central sensitization; list the common symptoms and signs of each and explain their role in the persistence of pain

1.6.3. Demonstrate knowledge of diagnosis, appropriate investigations and management of common painful central nervous system disorders including post-stroke pain, spinal cord injury, and multiple sclerosis

1.6.4. Describe the indications for and limitations of imaging, nerve conduction studies, electromyography and quantitative sensory testing in the diagnosis of neuropathic pain

1.6.5. Describe common validated tools that have been developed to assess neuropathic pain; identify their purpose, scoring, interpretation and limitations

1.6.6. Describe the classification, mechanisms, assessment and management of chronic headache, and facial and orodental pain syndromes

1.7. Cancer pain management

1.7.1. Outline common pain management problems that are unique to cancers or to their treatment

1.7.2. Describe the pain-related complications of chemotherapy, radiotherapy, pharmacotherapy and surgery and their management

1.7.3. Utilize guidelines for the pharmacologic management of cancer pain; identify the differences with regards to utilizing opiates and coanalgesics in a variety of administration routes

1.7.4. Identify acute and life threatening complications of cancer including, but not limited to, raised intracranial pressure, spinal cord compression, and hypercalcemia

1.7.5. Describe the indications, contraindications, risks and benefits of anesthetic and neurosurgical procedures to control cancer related pain, including but not
limited to local anesthetic and neurolytic blocks, and neuraxial drug delivery systems

2.0 Communicator
   2.0.1 Establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, respect, honesty and empathy
   2.0.2 Communicate with patients in a way that is appropriate to their individual preferences and limitations including cultural differences
   2.0.3 Practice the assessment and care of pain patients in a manner that validates the individual patient’s subjective experience of pain
   2.0.4 Respect patient confidentiality, privacy and autonomy
   2.0.5 Obtain a history that identifies the sources and types of pain, impediments to treatment, and biopsychosocial impacts of pain
   2.0.6 Explain the suggested treatment plan including the expected outcomes, and likely course
   2.0.7 Accurately elicit and synthesize relevant information and perspectives of patients and families, caregivers, colleagues and other professionals
   2.0.8 Gather information about a patient’s beliefs, concerns, expectations and the impact of pain on their life.
   2.0.9 Deliver information to a patient and family, colleagues and other professionals in a humane manner and in such a way that it is understandable and encourages discussion and participation in decision-making.
   2.0.10 Engage patients, families, and relevant health professionals in shared decision making to develop an individualized plan of care
   2.0.11 Maintain clear, concise, accurate and appropriate records (e.g., written or electronic) of clinical encounters and plans
   2.0.12 Obtain informed consent for all treatments undertaken

3.0 Collaborator
   3.0.1 Describe the roles and responsibilities of other professionals within the health care team
   3.0.2 Work effectively and appropriately in an interprofessional health care team including but not limited to other physicians, nurses, psychologists, pharmacists, social workers, occupational therapists and physiotherapists
   3.0.3 Demonstrate respect for team ethics, including confidentiality, resource allocation and professionalism

4.0 Leader
   4.0.1 Describe the structure and function of the health care system as it relates to Pain Medicine, including the roles of physicians
   4.0.2 Demonstrate knowledge of components of health administration required to establish pain management services, either at a secondary community-based facility or in a tertiary university-affiliated clinic

5.0 Health Advocate
   5.0.1 Identify opportunities for advocacy, health promotion and disease prevention with individuals to whom they provide care
   5.0.2 Advocate for the needs of individual patients with acute pain, cancer pain and/or chronic pain
   5.0.3 Assist individual patients with pain problems in accessing appropriate diagnostic modalities and treatment in a timely fashion

Revised November 2017/HI/JS
5.0.4 Identify systemic barriers to access to care and resources for patients with acute or chronic pain

6.0 Scholar
6.0.1 Describe the principles of maintenance of competence
6.0.2 Demonstrate an effective lecture or presentation
6.0.3 Apply principles of evidence-based practice to chronic pain therapy

7.0 Professional
7.0.1 Exhibit appropriate professional behaviors in practice, including honesty, integrity, commitment, compassion, respect and altruism
7.0.2 Demonstrate a commitment to delivering the highest quality care and maintenance of competence
7.0.3 Demonstrate an appropriate response to ethical issues encountered in practice
7.0.4 Manage conflicts of interest
7.0.5 Practice within the principles and limits of patient confidentiality as defined by professional practice standards and the law
7.0.6 Maintain appropriate relations with patients
7.0.7 Demonstrate an awareness of own limits and seek advice when necessary
7.0.8 Adhere to all professional expectations as outlined in the overall program Goals and Objectives

CLINICAL RESPONSIBILITIES

Daily
Residents spending a month of their training in the Pain Management Centre at the Health Sciences Centre shall be responsible for the following:

1. Assessing patients in the daily clinics and reviewing these patients with the attending physician.
2. Residents are to see and assess the new patients presenting to the Pain Management Centre and develop a treatment plan prior to reviewing these patients with the attending pain specialist.
3. Residents will be required to review all patients in the Health Sciences Centre followed by the pain management centre, develop a treatment plan and review this plan with the attending pain specialists in the centre on a daily basis.
4. All ward consults will be seen by the resident and reviewed with one of the attending pain specialists in the Pain Management Centre.
5. Residents are to assist the pain specialists with all interventional pain techniques in the operating room and in the procedure room in the Pain Management Centre on a daily basis. During the residents’ month, residents are to develop an understanding of the role of interventional pain management in the treatment of chronic pain.
6. During their rotation residents will spend a minimum of one half day following other disciplines such as nursing, physiotherapy, psychology and physical medicine so as to gain an understanding of the interdisciplinary approach to pain management.

Call
The resident on chronic pain shall do call on the main tertiary call schedules as per call policy on chronic pain.

OTHER RESPONSIBILITIES

Teaching
The resident shall participate in clinical teaching for students and junior trainees in the pain clinic.

Pain Rounds
- The resident shall attend all chronic pain talk rounds
- Each resident shall make a formal presentation to the pain management staff during the Wednesday morning rounds at the end of their month of the service.
INTRODUCTION
The Anesthesia Residency Program at the University of Manitoba has previously had separate Chronic Pain, Regional Anesthesia and Acute Pain rotations. These separate rotations have met the CANMEDS goals of the Royal College of Physicians and Surgeons of Canada. At the same time there is a desire on behalf of the Anesthesia training program to provide the most well-rounded, comprehensive clinical and educational experience possible to our residents. This will include greater continuity of care as regional anesthetics can be followed post-operatively on the Acute Pain service and a day to day scheduling pattern that attempts to ensure the best use of time, accommodating the widest, most comprehensive clinical exposure to the whole spectrum of acute and chronic pain as well as regional anesthesia possible.

The Acute Pain service at the Health Sciences Centre has been in operation now since March of 1997. It provides acute pain management services for all adult services at the health Sciences Center. There is coverage on a 24h basis. The staff member covering is responsible for rounds on the patients daily, as well as 24h beeper coverage. Patients on the service include postoperative patients, those who require management of painful conditions preoperatively as well as for patients (mostly surgical services) who are non-surgical. There is a full range of acute pain modalities utilized. This includes epidural and other continuous regional techniques, with the routine application of local anesthetics. Co-analgesics are used extensively as needed. Management of patients on PCA is limited at this time to those with special problems. Routine PCA management is left to the surgical services, due to staffing constraints. The purpose of a resident rotation would be to give residents a first-hand experience with the management of acute pain, including the assessment, titration and troubleshooting of continuous regional and epidural catheters, appropriate use of co-analgesics, and the approach to facilitated recovery.

Regional anesthesia techniques are used extensively at both of the teaching hospitals (Health Sciences Centre, Saint Boniface), as well as at some of the community hospitals and the Pan Am Day Surgery Center. These techniques are aimed at managing peri-operative pain, non-operative painful conditions and as the sole or combined anesthetic for various surgical procedures. Both single shot and catheter techniques are employed. Ultrasound guidance for these techniques has recently become more common and the training program at the University of Manitoba is working to provide education and experience in this area to residents.

The Chronic Pain Clinic at the University of Manitoba consists of the HSC and the Pan Am sites. The Pain Clinic provides a comprehensive management approach including multi-disciplinary input, systemic, behavioral and interventional techniques as applicable. Resident will gain an exposure to all aspects of chronic pain management, and should emerge with the ability to manage simple chronic pain problems and understand the issues and principles involved in the management of more complex cases.
GOALS AND OBJECTIVES
As this is a subspecialty rotation, the greatest emphasis in the goals and objectives is on the specific elements that are different from or go beyond those of the residency overall. Those overall goals will not be repeated, but are nevertheless, still expected as part of the resident’s performance in this rotation.

Medical Expert:
- The Anesthesia resident must develop an appreciation of all aspects of acute & chronic pain management and Regional Anesthesia. This includes an understanding of the physiologic processes, as well as the physical and psychological impact. This also implies an awareness and ability to effectively utilize a broad range of therapies & the expertise of other health care professionals aimed at modifying those impacts. Finally, he/she should also demonstrate a familiarity with the impact of pain on health care, both for the individual patient and society at large.

Specific Expectations:
ACUTE PAIN:
By the end of the rotation, the resident will be able to:
1. Describe the physiologic changes producing and induced by acute pain.
2. Describe the options available for postoperative analgesia, their advantages and disadvantages, and select appropriate therapies for individual patients.
3. Discuss the rationale for epidural analgesia, including the advantages and disadvantages of local anesthetics +/- opioids.
4. Assess and manage problems with epidural analgesia.
5. Explain the differences in effects of epidural analgesia at different spinal levels.
6. Explain the concept of facilitated recovery, and how it is implemented.
7. Use a variety of systemic agents effectively as co-analgesics, and/or as primary analgesics.
8. Assess and manage continuous regional analgesic techniques.
10. Describe the characteristics of somatic, neuropathic and sympathetic pain.
11. Appropriately identify new pathology as a contributor to ongoing pain.

REGIONAL ANESTHESIA:
By the end of the rotation, the resident will be able to:
1. Demonstrate the following knowledge base:
   Basic principles
   - Rationale for/against regional anesthesia
   - Knowledge of the current guidelines regarding regional anesthesia & anticoagulants, etc
   - Applications of regional anesthesia outside the OR setting
   - Complications of regional anesthesia including
     o identification, management, physiology
   - Physics and physiology of Ultrasound and Peripheral Nerve Stimulation
     o rationale, function and properties, technique
   - For each block be able to describe the applicable:
     - Anatomy
     - Physiologic changes
     - Indications/contraindications
     - Complications specific to block
     - Selection of local and adjuvants
- Pharmacology
- Local anesthetics
  structure, mechanisms, kinetics, dosing
toxicity- physiology, diagnosis, treatment
selection of agent

- Adjuvants
  narcotics, alpha-agonists, bicarb, CO2,
anticholinesterases, etc
rationale for use, physiology, mechanisms
indications, contraindications, complications

2. Demonstrate the following technical Skills:

Upper limb ultrasound guided brachial plexus blocks
- Interscalene
- Supraclavicular
- Intraclavicular
- Axillary

Upper limb ultrasound guided nerve blocks at wrist and elbow
- Radial
- Ulnar
- Median

Upper limb Bier block

Lower Limb ultrasound guided blocks
- Femoral
- Sciatic - subgluteal and popliteal
- Saphenous

Trunk - ultrasound guided blocks
- TAP block
- Paravertebral

Neuraxial Techniques
- Epidural - thoracic & lumbar

Spinal - all approach

Supplemental blocks *(to have knowledge of and exposure to but proficiency in technique not required)*
- Stellate & Celiac sympathetic ganglion blocks
- Cervical plexus - deep & superficial
- Lumbar plexus 3 in 1 / Psoas
- Catheter techniques for plexus blocks
1. Explain the IASP definition of pain and be able to define the following commonly utilized terms: allodynia, analgesia, dysesthesia, hyperalgesia, hyperesthesia, paresthesia, pain threshold and pain tolerance.
2. Describe the anatomy of pain including peripheral and central (spinal, brainstem, and thalamocortical) transmission of pain, and utilize that knowledge in the appropriate localization of pain complaints.
3. Describe the mechanisms and effect of inhibitory modulatory pathways on pain transmission.
4. Explain the neurotransmitters involved in pain transmission and modulation in the peripheral and central nervous system.
5. Explain the physiologic difference between acute and chronic pain.
6. Describe the biopsychosocial theory of chronic pain and explain the importance of this in managing the chronic pain patient.
7. Describe the types of pain measurement tools used in chronic pain management.
8. Explain the difference between nociceptive and neuropathic pain.
9. Describe the diagnostic criteria (IASP Taxonomy of Chronic Pain Syndromes) for the following pain syndromes:
   a) Chronic low back pain/failed back syndrome
   b) Radicular lumbar back pain
   c) Radicular cervical pain and neck pain
   d) Post-herpetic neuralgia
   e) Diabetic peripheral neuropathy
   f) Complex regional pain syndrome Type I and Type II
   g) Fibromyalgia
   h) Trigeminal neuralgia
   i) Post-thalamic pain syndrome
10. Discuss the incidence, causes, principals of cancer pain management
11. Identify barriers to cancer pain management
12. Identify therapeutic options for cancer related pain syndromes
13. Discuss the role of radiotherapy, chemotherapy as well as surgery in cancer pain management.
14. Discuss the role of opioids in chronic pain management
15. Describe the classification and pharmacokinetics of opioid drugs including agonists, partial agonists, endogenous and antagonist of the opioid system.
16. Explain tolerance and physical dependence and the mechanisms that produce these effects.
17. Appropriately prescribe of NSAIDs, COX-2 inhibitors and acetaminophen, taking into account the pharmacokinetics, pharmacodynamics, indications and contraindications.
18. Identify and manage the side effects of NSAIDs, COX-2 inhibitors and acetaminophen
19. Utilize antidepressants for pain management, taking into consideration the indication for use, the specific drugs used for the treatment of pain, principles of dosing antidepressants, and contraindications to different antidepressants.
20. Appropriately prescribe anticonvulsants in the treatment of pain taking into account indications, the relative efficacy and adverse effects, and the appropriate dosing regimens for each anticonvulsant and potential toxicities of these drugs.
21. Discuss the roles and indications of the following drugs in the treatment of pain: neuroleptics, antihistamines, analeptics, corticosteroids, muscle relaxants/antispasticity drugs, NMDA antagonists, local anesthetics and membrane stabilizing drugs, sympatholytic drugs, and alpha-2 agonists.
22. Discuss peripheral stimulation techniques used to produce analgesia including TENS, and acupuncture, including the postulated mechanisms of peripheral stimulation-induced analgesia.
23. Discuss the role of local anesthetic/neurolytic nerve blocks in pain management.
24. Discuss the commonly used local anesthetics and neurolytic agents and be able to describe the potential side effects of this therapy.
25. Discuss the use of nerve blocks for diagnostic purposes and pain control, including the clinical indications, risks, and complications associated with the use of nerve blocks.
26. Recognize and treat side effects and complications of nerve blocks.
27. Discuss the role of surgical procedures in the management of pain including: peripheral neurectomy, sympathectomy, spinal dorsal rhizotomy, cordotomy, dorsal root entry zone procedures, commissural myelotomy, and facet rhizolysis.
28. Discuss the use of neurostimulation techniques, deep brain stimulation, motor cortex stimulation.
29. Appropriately prescribe and administer neuraxial opioids taking into consideration the indications, contraindications, side effects, and relative differences between opioids.

Communicator:

Competencies- The management of Acute & Chronic Pain / Regional Anesthesia requires communication skills sufficient to both solicit and impart information. The physician must be able to quantify and categorize the pain, the underlying cause, and recognize new underlying pathology. The physician also has a duty to inform the patient of the options available, the associated risks and benefits, as well as the expectations and progress in a manner that is useful to the patient.

Specific Expectations- By the end of the rotation the resident will be able to
1. Obtain a complete pain history sufficient to identify the type, severity and impact of pain.
2. Discuss fully the options available in pain management / regional anesthesia and the associated risks and benefits.
3. Help a patient to understand the cause, effect and appropriateness of their clinical course.
4. Instruct outpatients with regard to expectations and safety when discharged home with a completely / partially blocked limb.
5. Obtain complete informed consent for all treatments / interventions undertaken

Collaborator:

Competencies- The acute pain / regional anesthesia physician must work in a team environment, communicating and cooperating with surgeons, nurses, pharmacists, physiotherapists, and others.

Specific Expectations- By the end of the rotation the resident will be able to
1. Appreciate the roles of other members of the care team.
2. Communicate clearly in a collegial manner that facilitates the achievement of care goals.
3. Help other members of the care team to enhance the sharing of important pain information, such as the use of pain scales, consistent charting etc.
4. Identify the need for and coordinate access for patients to other health care professionals involved in the management of pain. These would include but not be limited to Psychology, physiotherapy, occupational therapy, physical medicine & rehabilitation medicine.

Leader:

Competencies- The pain & regional anesthesia physician must be cognizant of the financial impact, both positive and negative, of pain management and regional anesthesia strategies. He/she must also possess an awareness of the logistical constraints of delivery of health care and be able to propose useful and creative solutions.

Specific Expectations-
By the end of the rotation, the resident will
1. Outline the structure of the pain service, and how it fits in the administrative structure of the care setting.
2. Discuss the advantages and disadvantages of alternative models.
3. Explain the costs incurred by pain management strategies.
4. Discuss the potential savings in health care expenditure offered by acute pain management, with a realistic description of the nature and quality of the arguments.
5. Discuss the societal impact of acute pain, and the extent to which acute pain management may or may not be expected to modify that impact.
6. Outline the equipment and resources necessary to properly conduct, monitor and follow up regional anesthetics.

Health Advocate:

**Competencies** - The Pain / regional anesthesia Physician must understand the potential benefits to the individual and to society of organized pain management services, and be able to provide realistic and scientifically supportable arguments in favour of such services. He/she must also be aware of the deficiencies in the system which impede the ideal delivery of these services, and be able to contribute to the attempt to eliminate these deficiencies. He/she must be able to articulate the benefits of regional anesthesia and describe situations when regional anesthetics are most beneficial to a patient.

**Specific Expectations** - By the end of the rotation, the resident will be able to
1. Identify the potential costs and benefits of new and existing techniques.
2. Delineate the obstacles to delivery of analgesia in his/her care environment.
3. Contribute to the development of solutions to the obstacles, and to the expansion of the analgesic armamentarium in his/her care setting.
4. Interact with and advocate on behalf of patients with insuring agencies and social agencies such as WCB.

Scholar:

**Competencies** - The Acute Pain / regional anesthesia Physician must be able to assess the ongoing developments in the literature regarding pain management and regional anesthesia, and be able to appropriately incorporate them into practice. He/she must also be able to utilize a variety of sources in order to answer questions as they arise. Finally, he/she must show an appreciation of the conduct of pain / regional anesthesia research.

**Specific Expectations** - By the end of the rotation, the resident will be able to
1. Read and critique publications about pain / regional anesthesia.
2. List appropriate sources for further study.
3. Contribute to the design of studies on pain and pain management and regional anesthesia.
4. Able to critically appraise the literature

Professional:

**Competencies** - The Acute Pain / regional anesthesia Physician must exemplify the professional behavior and attitudes inherent in the practice of medicine.

**APS CLINICAL RESPONSIBILITIES**

1. **Daily**

   Rounds - The resident will be responsible for rounding on all patients at the beginning of the day. This will include an assessment of the quality of analgesia, presence and anticipation of side effects, levels and appropriateness of blocks, and planning further care. The resident is also expected to make rounds at the end of the day, to assess for potential overnight problems. One or both of these
rounds will be planning rounds with the staff person, the timing of which will be up to the individual staff to discuss with the resident.

Ongoing problem response- The resident will carry a beeper during the day and on designated call nights. The resident will be the first responder for calls from the wards. After assessment, the resident will be expected to manage the problem, consulting with staff as appropriate.

New patients- During the course of the day, new patients in the form of either postop patients or consults will be assessed by the resident and discussed with the staff person.

2. Call

APS call will be assigned by the rotation supervisor and anesthesia call will be assigned by the chief or co-chief resident. The call shall comply with the appropriate policies in the policy manual.

REGIONAL ANESTHESIA CLINICAL RESPONSIBILITIES

1. Slating

   1. Residents will be slated into rooms daily during the week, with the exception of off call and scheduled seminar times.
   
   2. On any given day, the resident may be assigned to any of HSC, Concordia, or the Pan Am Surgical Centre. It will be the responsibility of the resident to check on the slates at the sites other than HSC.
   
   3. The resident will choose slates with the following priorities:
      i. To maximize the potential for regionals.
      ii. When no clear regional slate exists, exposure to regional staff.
      iii. Often, there are potential blocks in more than one room. In this case, the resident will be slated into the room with the greater potential. Every effort will be made to allow the resident out to do the block in the second room as well.

2. Preoperative Assessment

   1. As with any rotation, residents will be expected to see all inpatients and review the available charts of same-day patients the night before surgery.
   
   2. Same-day patients will be seen in the pre-anesthetic waiting area.
   
   3. Residents are not responsible for pre-op assessment of patients from other slates on whom they will be doing a block. However, good practice demands a brief interview to establish rapport and assure the appropriateness of the block.

3. Induction of Regional Anesthetics

   1. Residents will be supervised during the induction of all blocks until competence has been demonstrated.
   
   2. Thereafter, blocks should still be supervised if at all possible, in order to allow for maximal teaching. As with other situations, residents will be granted and expected to exercise a level of autonomy appropriate to their level of experience.

4. Intraoperative Management

   1. Residents will be expected to function with autonomy appropriate to their level, in ongoing anesthetic management and in management of problems.

Responsibilities in the Pain Management Centre at the Health Sciences Centre will include the following:
1. Assessing patients in the daily clinics and reviewing these patients with the attending physician.
2. Residents are to see and assess the new patients presenting to the Pain Management Centre and develop a treatment plan prior to reviewing these patients with the attending pain specialist.
3. Residents will be required to review all patients in the Health Sciences Centre followed by the pain management centre, develop a treatment plan and review this plan with the attending pain specialists in the centre on a daily basis.
4. All ward consults will be seen by the resident and reviewed with one of the attending pain specialists in the Pain Management Centre.
5. Residents are to assist the pain specialists with all interventional pain techniques in the operating room on Tuesdays and in the procedure room in the Pain Management Centre on a daily basis. During the residents’ month, residents are to develop an understanding of the role of interventional pain management in the treatment of chronic pain.
6. During their rotation residents will spend a minimum of one half day following other disciplines such as nursing, physiotherapy, psychology and physical medicine so as to gain an understanding of the interdisciplinary approach to pain management.

Call
The resident on chronic pain shall do call on the main tertiary call schedules as per call policy on chronic pain.

OTHER RESPONSIBILITIES
Teaching
The resident shall participate in clinical teaching for students and junior trainees in the pain clinic.

Pain Rounds
- The resident shall attend all chronic pain talk rounds
- Each resident shall make a formal presentation to the pain management staff during the Wednesday morning rounds at the end of their month of the service.

LEARNING RESOURCES
- Ongoing daily discussion of cases with staff.
- Talk rounds
- Teaching sessions with the staff
  There will be a list of topics that should be covered in the course of the rotation. The staff rotates through the APS, taking Mon-Wed or Thurs-Sun. Each staff person will be expected to select and cover one of these topics at some point over the few days they are on the service. The exact timing and form of the session will be at the discretion of the individual attending.
- Anesthesia Toolkit
### Competency Based Education Stage

#### Year

#### PGY 3

**Transition to Discipline**

<table>
<thead>
<tr>
<th>Rotation</th>
<th>EPAs</th>
<th>Foundations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bootcamp</td>
<td>1</td>
<td>D1, D2, D3, D4</td>
</tr>
<tr>
<td>Anesthesia</td>
<td>1</td>
<td>D1, D2, D3, D4</td>
</tr>
<tr>
<td>Anesthesia</td>
<td>2</td>
<td>F1, F2, F3, F4, F12, F16, F17</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>2</td>
<td>F4, F5, F6, F7</td>
</tr>
<tr>
<td>Gold Surgery</td>
<td>1</td>
<td>F4, F5, F7</td>
</tr>
<tr>
<td>General Surgery</td>
<td>1</td>
<td>F4, F5, F6, F7</td>
</tr>
<tr>
<td>Adult ER</td>
<td>1</td>
<td>F4, F6, F7</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>1</td>
<td>F6, F7, F25, F26</td>
</tr>
<tr>
<td>Pediatric ER</td>
<td>1</td>
<td>F4, F6, F7</td>
</tr>
<tr>
<td>Obstetrics</td>
<td>1</td>
<td>F4, F5, F6, F18</td>
</tr>
</tbody>
</table>

#### PGY 2

**Competency Based Education Stage**

<table>
<thead>
<tr>
<th>Rotation</th>
<th>EPAs</th>
<th>Foundations</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGY2 Anesthesia</td>
<td>5 or 6</td>
<td>F1, F2, F3, F4, F7, F8, F9, F10, F11, F12, F13, F14, F15, F16</td>
</tr>
<tr>
<td>ICU</td>
<td>1 or 2</td>
<td>F1, F2, F3, F4, F7, F8, F9, F10, F11, F12, F13, F14, F15, F16</td>
</tr>
<tr>
<td>Obs Anesthesia</td>
<td>1</td>
<td>F1, F2, F3, F4, F7, F8, F9, F10, F11, F12, F13, F14, F15, F16</td>
</tr>
<tr>
<td>Community</td>
<td>1</td>
<td>F1, F2, F3, F4, F7, F8, F9, F10, F11, F12, F13, F14, F15, F16</td>
</tr>
<tr>
<td>Cardiologist</td>
<td>1</td>
<td>F1, F2, F3, F4, F7, F8, F9, F10, F11, F12, F13, F14, F15, F16</td>
</tr>
<tr>
<td>Respirology</td>
<td>2</td>
<td>F1, F2, F3, F4, F5, F6, F7, F8</td>
</tr>
</tbody>
</table>

### Year

#### PGY 3

**Core**

<table>
<thead>
<tr>
<th>Rotation</th>
<th>EPAs</th>
<th>Foundations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peds Anesthesia</td>
<td>2</td>
<td>C3, C4, C5, C6, C7</td>
</tr>
<tr>
<td>PICU</td>
<td>1</td>
<td>C14, C15, C16, C17</td>
</tr>
<tr>
<td>Adult Anesthesia</td>
<td>2 to 3</td>
<td>C18, C19, C20, C21</td>
</tr>
<tr>
<td>ICU</td>
<td>1</td>
<td>C22, C23, C24</td>
</tr>
<tr>
<td>Neuro</td>
<td>1</td>
<td>C25, C26, C27</td>
</tr>
<tr>
<td>Community</td>
<td>1</td>
<td>C28, C29, C30</td>
</tr>
<tr>
<td>Pain</td>
<td>1 to 3</td>
<td>C31, C32, C33</td>
</tr>
</tbody>
</table>

#### Competency Based Education Stage

**Scholarly***

<table>
<thead>
<tr>
<th>Rotation</th>
<th>EPAs</th>
<th>Foundations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>1 to 3</td>
<td>C15, C19, C29, C30</td>
</tr>
<tr>
<td>Cardiac</td>
<td>2</td>
<td>C31, C32, C33, C34, C35, C36</td>
</tr>
<tr>
<td>Elective</td>
<td>2</td>
<td>C11-19, C29, C30, C32-37</td>
</tr>
<tr>
<td>Transfusion / PAC*</td>
<td>1</td>
<td>C40, C41, C42, C44</td>
</tr>
<tr>
<td>ICU</td>
<td>1</td>
<td>C1, C2, C3, C8, C9, C10, C11-19</td>
</tr>
<tr>
<td>Thoracics*</td>
<td>1</td>
<td>C20, C21, C22, C23</td>
</tr>
<tr>
<td>Peds</td>
<td>1</td>
<td>C14, C15, C16, C17</td>
</tr>
</tbody>
</table>

### Year

#### PGY 4

**Competency Based Education Stage**

**Core**

<table>
<thead>
<tr>
<th>Rotation</th>
<th>EPAs</th>
<th>Foundations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>1 to 3</td>
<td>C15, C19, C29, C30</td>
</tr>
<tr>
<td>Cardiac</td>
<td>2</td>
<td>C31, C32, C33, C34, C35, C36</td>
</tr>
<tr>
<td>Elective</td>
<td>2</td>
<td>C11-19, C29, C30, C32-37</td>
</tr>
<tr>
<td>Scholarly***</td>
<td>6</td>
<td>C40, C41, C42, C44</td>
</tr>
<tr>
<td>Transfusion / PAC*</td>
<td>1</td>
<td>C1, C2, C3, C8, C9, C10, C11-19</td>
</tr>
<tr>
<td>ICU</td>
<td>1</td>
<td>C14, C15, C16, C17</td>
</tr>
<tr>
<td>Thoracics*</td>
<td>1</td>
<td>C20, C21, C22, C23</td>
</tr>
<tr>
<td>Peds</td>
<td>1</td>
<td>C14, C15, C16, C17</td>
</tr>
</tbody>
</table>

### Year

#### PGY 5

**Transition to Practice**

<table>
<thead>
<tr>
<th>Rotation</th>
<th>EPAs</th>
<th>Foundations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>1 to 3</td>
<td>C15, C19, C29, C30</td>
</tr>
<tr>
<td>Cardiac</td>
<td>2</td>
<td>C32, C42, P9</td>
</tr>
<tr>
<td>Elective</td>
<td>2</td>
<td>C11-19, C29, C30, C32-37</td>
</tr>
<tr>
<td>Scholarly***</td>
<td>6</td>
<td>C40, C41, C42, C44</td>
</tr>
<tr>
<td>Transfusion / PAC*</td>
<td>1</td>
<td>C1, C2, C3, C8, C9, C10, C11-19</td>
</tr>
<tr>
<td>ICU</td>
<td>1</td>
<td>C14, C15, C16, C17</td>
</tr>
<tr>
<td>Thoracics*</td>
<td>1</td>
<td>C20, C21, C22, C23</td>
</tr>
<tr>
<td>Peds</td>
<td>1</td>
<td>C14, C15, C16, C17</td>
</tr>
</tbody>
</table>

**Notes:**

- ICU includes SICU, MICU, MSICU
- F8 may occur outside OR setting if supervised by an attending anesthesiologist
F2: Using the anesthetic assessment to generate the anesthetic considerations and the management plan, including postoperative disposition, for ASA 1, 2 or 3 patients.

F3: Diagnosing and managing common (non-life-threatening) complications in the post-anesthesia care unit (PACU) or the surgical ward.

F4: Diagnosing and initiating management of life-threatening conditions, in a variety of environments, in a time-appropriate manner (elective).

F5: Managing patients admitted to acute care settings with common medical or surgical problems, and advancing their care plans.

F6: Assessing, diagnosing, and initiating management for patients with common acute medical or surgical presentations in acute care settings.

F7: Assessing patients with stable traumatic injury and establishing an initial management plan (elective).

F8: Identifying patients presenting with an anticipated difficult airway and preparing for initial management options.

F9: Providing perioperative anesthetic management for adult ASA 1 or 2 patients undergoing scheduled, uncomplicated surgery.

F10: Providing perioperative anesthetic management for adult ASA 1E or 2E patients undergoing urgent/emergent, low or moderate risk surgical procedures.

F11: Anticipating, preventing and managing common or expected intraoperative events and physiologic changes during low or moderate risk surgical procedures.

F12: Establishing appropriate invasive blood pressure monitoring (i.e. arterial lines) (elective).

F13: Establishing appropriate venous access including central venous lines (elective).

F14: Managing side effects and complications related to fluid management, electrolyte disturbances and assessing the need for, ordering and managing transfusion of blood products during the perioperative period.

F15: Providing neuraxial anesthesia for ASA 1 and 2 patients undergoing scheduled or emergency non-obstetrical surgery.

F16: Obtaining informed consent for the provision of anesthesia care.

F17: Preventing and recognizing complications related to patient positioning during anesthesia care.

F18: Assessing the pregnant patient, identifying common problems in pregnancy and suggesting initial management strategy.

F19: Assessing and providing labor analgesia for healthy parturients with an uncomplicated pregnancy.

F20: Managing common complications of labour analgesia.

F21: Providing anesthesia for ASA 1 and 2 patients undergoing scheduled Cesarean section.

F22: Assessing, diagnosing and providing initial medical management for pregnant patients with acute/emergent medical, surgical or obstetric conditions (elective).

F23: Performing preoperative assessments for ASA 1 or 2 pediatric patients.

F24: Providing perioperative anesthetic management for pediatric ASA 1 or 2 patients (over five years of age) undergoing scheduled routine surgery.

F25: Managing pediatric patients with common postoperative complications in the post anesthetic care unit or ward.

F26: Assessing and managing pediatric patients with common medical conditions.

F27: Managing uncomplicated patients with acute pain, either postoperative or traumatic, and managing common complications of acute pain management modalities in the post anesthetic care unit or in the surgical ward.
Core
C1: Assessing, investigating, optimizing, and formulating anesthetic management plans for patients with complex medical issues
C2: Managing postoperative patients in collaboration with the surgical team with the goal of improving patient outcomes
C3: Assessing, diagnosing and managing acute or potentially life-threatening conditions outside of the perioperative period
C4: Providing comprehensive assessment and ongoing management of complex critically ill patients in an intensive care setting
C5: Managing the care of multiple patients with remote consultant support during afterhours coverage in intensive care unit
C6: Performing as an integral member of the patient care team on daily ICU rounds by recommending management decisions consistent with best practice standards and guidelines (elective)
C7: Providing care for patients whose goals of care are palliative, including comprehensive pain and perioperative management, and demonstration of appropriate communication skills (elective)
C8: Managing patients presenting with an anticipated difficult airway, including appropriate extubation plans
C9: Managing patients presenting with unanticipated difficult airway, including cannot intubate, cannot oxygenate situation
C10: Providing perioperative management for patients requiring airway diagnostic and therapeutic procedures
C11: Providing perioperative anesthetic management for adult patients with complex medical issues undergoing scheduled or emergent surgical procedures
C12: Providing perioperative anesthetic management for geriatric patients undergoing scheduled or emergent surgical procedures
C13: Providing perioperative anesthetic management for patients with critical illness
C14: Managing serious and life-threatening perioperative complications in a time-appropriate manner
C15: Managing patients with perioperative anesthesia complications, including disclosure (elective)
C16: Managing patients with perioperative anesthesia complications, including disclosure (elective)
C17: Providing resuscitation and comprehensive management, including crisis resource management, for patients presenting with a life-threatening emergency, across the spectrum of age
C18: Providing perioperative management for patients with major polytraumatic injury
C19: Providing anesthetic management for patients undergoing procedures outside the usual environment of the operating room
C20: Providing labor analgesia and peripartum anesthetic management for high-risk parturients having a non-surgical delivery
C21: Providing perioperative anesthetic management for parturients (low and high risk), with or without significant comorbidities, for scheduled, urgent or emergent cesarean section
C22: Providing peripartum anesthetic management and resuscitation of parturients (including intra-uterine resuscitation) presenting with serious and life-threatening obstetrical complications
C23: Providing perioperative anesthetic management for pregnant patients undergoing non-obstetric surgery
C24: Performing neonatal resuscitation
C25: Assessing, investigating, optimizing and formulating anesthetic management plans for pediatric ASA 1-3 patients (above the age of one year) with coexisting conditions
C26: Providing perioperative anesthetic management of pediatric ASA 1-3 patients (above the age of one year) undergoing scheduled or urgent/emergent procedures of low to moderate complexity
C27: Providing resuscitation and comprehensive management for the pediatric patient (over the age of one year) presenting with a serious or life-threatening emergency(elective)
C28: Establishing and managing difficult intravenous access and invasive monitoring for pediatric patients (above the age of one year)
C29: Managing patients with common, serious or life-threatening complications of regional anesthesia (elective)
C30: Providing perioperative anesthetic management for adults with a peripheral nerve block regional anesthesia technique appropriate for the planned surgical procedure
C31: Participating in the provision of perioperative anesthetic management for patients with significant cardiac disease who are undergoing scheduled, common cardiac surgery
C32: Providing perioperative anesthetic management for patients undergoing scheduled, urgent/emergent major aortic surgery, carotid surgery, or peripheral vascular surgery
C33: Providing perioperative anesthetic management for patients with or without increased intracranial pressure undergoing scheduled, urgent or emergent intracranial procedures
C34: Providing perioperative anesthetic management for patients undergoing scheduled or emergent spinal procedures
C35: Providing perioperative anesthetic management for patients undergoing thoracic surgery via thoracotomy or thoracoscopy, including pulmonary resection surgery
C36: Providing perioperative anesthetic management for patients undergoing mediastinal and esophageal surgery, including management of mediastinal masses
C37: Providing perioperative anesthetic management for organ retrieval surgery including perioperative anesthetic management of the donor, and determination of neurologic death
C38: Providing comprehensive multi-modal management of acute and acute on chronic pain conditions
C39: Assessing, diagnosing and managing patients with common chronic pain disorders, including both medical and basic interventional treatments, using a collaborative, multidisciplinary approach
C40: Executing scholarly projects
C41: Recognizing and managing ethical dilemmas that arise in the course of patient care
C42: Formal teaching, and teaching junior learners in the clinical setting (elective)
C43: Developing a personal learning plan for the transition to practice stage
C44: Using ultrasound to assist in diagnosis and management of hemodynamically unstable or critically ill patients

Transition To Practice
P1: Managing all aspects of care for patients presenting to a preoperative clinic, including organizational aspects of the daily workload in terms of time management, advocacy and allocation of resources
P2: Managing all aspects of care for admitted patients referred for consultation to the Anesthesiology service
P3: Managing all aspects of patient care for a scheduled day list, including the organizational aspects related to the management of the operating room case load
P4: Managing all aspects of patient care for an afterhours list (overnight, weekend), including postanesthesia care unit management and the organizational aspects related to the management of the operating room case load
P5: Managing all aspects of anesthetic patient care for procedures outside the operating suite, including the organizational aspects related to the provision of anesthesia and patient safety issues
P6: Managing all aspects of anesthetic patient care for obstetrical patients, including the organizational aspects related to the management of the obstetric ward
P7: Managing all aspects of care for a scheduled routine pediatric list, including the organizational aspects related to the management of the operating room case load
P8: Managing and coordinating the workday delivery of anesthesia services at a hospital level, i.e. fulfilling the role of operating room manager (elective)
P9: Providing and coordinating the care of patients with simple and complex acute pain conditions referred to and managed by the pain service
P10: Developing an ongoing personal career and learning plan
P11: Leading initiatives to enhance the system of patient care
P12: Leading a post crisis debriefing and feedback session (elective)
Anesthesiology: Transition to Discipline EPA #1

Performing preoperative assessments for ASA 1 or 2 patients who will be undergoing a minor scheduled surgical procedure

Assessment plan
Part A: Direct observation
Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Type of surgical procedure: general surgery; gynecology; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; urology
- Age of patient

Collect 2 direct observations
- At least 2 assessors

Part B: Chart review
Supervisor does assessment based on indirect observation (chart review)

Use Form 1. Form collects information on:
- Type of surgical procedure: general surgery; gynecology; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; urology
- Age of patient

Collect 3 indirect observations based on chart review
- At least 2 assessors

Part C:
Submit logbook of patient assessment encounters

Relevant milestones
Part A:

1. TD ME 2.2 Elicit a history for a patient prior to their scheduled minor procedure, including but not limited to relevant past medical history, anesthetic history and functional review of systems

2. TD ME 2.2 Perform an appropriate pre-anesthetic physical examination of a patient prior to their scheduled minor procedure, including but not limited to an appropriate airway assessment
3. **TD ME 2.2** Identify relevant investigations required prior to the scheduled minor procedure.

4. **TD COM 1.1** Communicate using a patient-centered approach that facilitates patient trust and autonomy and is characterized by empathy, respect, and compassion.

5. **TD COM 1.4** Identify, verify and validate non-verbal cues on the part of patients and their families.

6. **TD COM 3.1** Communicate the plan of care in a clear, compassionate, respectful, and accurate manner to the patient and family.

7. **TD COM 3.1** Recognize when to seek help in providing clear explanations to the patient and family.

8. **TD COM 4.1** Conduct an interview, demonstrating cultural awareness.

9. **TD COM 4.3** Demonstrate steps to obtaining informed consent.

10. **TD COM 5.1** Communicate patient assessment to staff in an organized manner and organize information in appropriate sections within an electronic or written medical record.

11. **TD COL 2.1** Convey information thoughtfully. Respond to requests and feedback in a respectful and timely manner.

12. **TD S 1.1** Describe physicians’ obligations for lifelong learning and ongoing enhancement of competence.

13. **TD P 1.1** Consistently prioritize the needs of patients and others to ensure a patient’s legitimate needs are met.

14. **TD P 1.1** Demonstrate punctuality.

15. **TD P 1.1** Complete assigned responsibilities in a timely fashion.

---

**Part B:**

1. **TD ME 2.2** Elicit a history for a patient prior to their scheduled minor procedure, which should include relevant past medical history, anesthetic history and functional review of systems.

2. **TD ME 2.2** Perform an appropriate pre-anesthetic physical examination of a patient prior to their scheduled minor procedure, which should include an appropriate airway assessment.

3. **TD ME 2.2** Identify relevant investigations required prior to the scheduled minor procedure.

4. **TD COM 3.1** Recognize when to seek help in providing clear explanations to
the patient and family

5  TD COM 4.1 Conduct an interview, demonstrating cultural awareness

6  TD COM 4.3 Demonstrate steps to obtaining informed consent

7  TD COM 5.1 Present the patient assessment to staff in an organized manner and organize information in appropriate sections within an electronic or written medical record

8  TD COL 2.1 Convey information thoughtfully. Respond to requests and feedback in a respectful and timely manner

9  TD S 1.1 Describe physicians’ obligations for lifelong learning and ongoing enhancement of competence

10 TD P 1.1 Consistently prioritize the needs of patients and others to ensure a patient’s legitimate needs are met

11 TD P 1.1 Demonstrate punctuality

12 TD P 1.1 Complete assigned responsibilities in a timely fashion
Anesthesiology: Transition to Discipline EPA #2

Preparing the operating room (OR) for minor scheduled surgical procedures for ASA 1 or 2 patients (elective)

Key features
The achievement of this EPA is elective

Assessment plan:
Supervisor does assessment based on direct observation

Use Form 1. Form collects information on
- Type of anesthesia: general; regional; monitored anesthesia care (MAC)

Collect 1 observation

Relevant milestones

1. TD ME 1.3– Apply the CAS Guidelines to the Practice of Anesthesia in preparing an operating room for patient care, including preparation of the required monitoring equipment

2. TD ME 2.4 Ensure that the OR is adequately prepared and that all necessary equipment and medications are readily available for the patient and proposed procedure

3. TD ME 3.4 Demonstrate effective procedure preparation, including the use of pre-procedure time-out or safety checklist as appropriate

4. TD ME 5.2 Prepare medications and label syringes in a manner that optimizes patient safety and minimizes adverse events

5. TD ME 5.2 Understand and apply the principles of proper sharps disposal in an operating room environment

6. TD COL 1.1 Describe the role of respiratory therapists/anesthesia assistants in the preparation of an OR for patient care

7. TD COL 1.2 Negotiate overlapping and shared responsibilities of preparing an operating room with respiratory therapists/anesthesia assistants/RNs/RPNs

8. TD L 4.1 Demonstrate awareness of the organization of operating room preparation such that it efficiently uses the time available in the operating room for the patient and proposed procedure

9. TD HA 2.2 Understand the principles of universal precautions and importance of infection prevention and control in preparing an operating room for a patient and proposed procedure
10 TD P 1.2 Ensure that operating rooms are always prepared appropriately before engaging in patient care
Anesthesiology: Transition to Discipline EPA #3

Monitoring ASA 1 or 2 adult patients undergoing minor scheduled surgical procedures, under general or regional anesthesia

Key features:
- This EPA focuses on applying the procedures of safe patient monitoring, and recognizing and initiating management for critical changes in patient status
- At this stage of training, this task does not include managing all situations
- This EPA includes
  o Installing basic monitoring equipment appropriately
  o Recording physiologic values at appropriate intervals in the anesthetic chart
  o Identifying irregularities and abnormalities in vital signs and other anesthetic monitors such as ventilation parameters, neuromuscular blockade monitoring and depth of anesthesia
  o Initiating management of critical abnormalities and calling for help when needed (not expected to independently manage all situations)

Assessment plan:
Supervisor does assessment based on direct observation

Use Form 1. Form collects information on
- Type of anesthesia: general with neuromuscular blockade; general without neuromuscular blockade; regional
- Type of procedure: general surgery; gynecology; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; urology

Collect 2 observations of achievement
- At least one general with neuromuscular blockade
- At least 2 different assessors

Relevant milestones

1 TD ME 1.1 Demonstrate a commitment to high-quality care for their patients
2 TD ME 1.3 Apply the CAS Guidelines to the Practice of Anesthesia in preparing an operating room for patient care, including preparation of the required monitoring equipment
3 TD ME 1.3 Apply knowledge of the normal and abnormal physiologic values for an ASA 1 or 2 adult patient during general or regional anesthesia
4 TD ME 1.5 Demonstrate awareness of limitations and seek help efficiently and effectively
5 TD ME 3.1 Apply appropriate monitors correctly for the planned surgical procedure

© 2017 The Royal College of Physicians and Surgeons of Canada. All rights reserved.
6  **TD COM 5.1** Document anesthetic care and physiologic values at appropriate intervals during the continued monitoring under general or regional anesthesia

7  **TD COL 1.3** Actively contribute as a member of the team towards the continued safety of the patient by communicating abnormal physiologic values that require attention

8  **TD HA 1.3** Demonstrate a knowledge of appropriate setting of visual and auditory alarms in the continued monitoring of the adult ASA1 or 2 patient under general or regional anesthesia undergoing a minor elective surgical procedure

9  **TD P 1.1** Consistently prioritize the needs of patients and others to ensure the patient’s legitimate needs are met
Anesthesiology: Transition to Discipline EPA #4

Performing the postoperative transfer of care of ASA 1 or 2 adult patients following minor surgical procedures, including postoperative orders

Assessment plan:

Supervisor does assessment based on direct observation and review of order set

Use Form 1. Form collects information on
- Type of procedure: general surgery; gynecology; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; urology
- Type of anesthesia: general; regional; monitored anesthesia care (MAC)

Collect 3 observations
- At least 1 general anesthesia
- At least 2 different assessors

Relevant milestones

1  TD ME 5.1 Recognize the occurrence of a patient safety incident

2  TD ME 5.2 Describe and demonstrate the principles of situational awareness and their implications for medical practice, among other by ensuring that the patient is stable (including documentation) before leaving the post anesthetic care unit

3  TD ME 2.4 Describe the various levels of patient care available in their center (step down, remote oximetry, ICU, etc)

4  TD COM 5.1 Organize information in appropriate sections within an electronic or written medical record, including documenting patient status on arrival to PACU

5  TD COM 5.1 Write orders clearly and legibly, using pre-printed order sets where appropriate

6  TD COL 2.1 Convey information thoughtfully. Respond to requests and feedback in a respectful and timely manner

7  TD COL 3.2 Provide information required for safe and effective handover during transitions in care, specifically, relating the necessary information to the receiving nurse, including procedure, relevant comorbidities, medications used, complications, blood loss, fluids administered, analgesics and antiemetics given, and post operative analgesia plan.

8  TD COL 3.2 Ensure receiving nurse is comfortable with the level of care required by the patient
9 TD HA 1.1 Analyze a given patient’s needs for health services or resources related to the scope of anesthesiology

10 TD P 1.1 Complete assigned responsibilities
Anesthesiology: Foundation EPA #1

Performing preoperative assessments for ASA 1, 2 or 3 patients

Key Features:
- This EPA includes ordering/reviewing relevant investigations and optimization
- This EPA may be observed in the preoperative clinic and/or immediately prior to routine scheduled procedures.

Assessment plan:

Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Type of surgical procedure: general surgery; gynecology; neurosurgery; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; thoracic surgery; urology; vascular surgery
- Age of patient

Collect 5 observations of achievement
- At least 3 different surgical procedures
- At least 3 assessors

Relevant milestones

1. **F ME 2.2** Perform a focused history, and physical exam (to include physical exam of regional areas where invasive procedures may be planned), review investigations, and interpret their results for the purpose of preoperative assessment and optimization of patient prior to surgery. This is to include a review of electronic medical records

2. **F ME 2.2** Select and interpret appropriate investigations based on patient medical history and planned surgery

3. **F ME 1.1** Demonstrate compassion for patients

4. **F ME 1.3** Apply clinical and biomedical sciences to manage core patient presentations in anesthesiology, internal medicine, and surgery

5. **F ME 3.2** Obtain and properly document informed consent for commonly performed anesthesia procedures and therapies

6. **F ME 4.1** Coordinate investigation, treatment, and follow-up plans to ensure optimization of patient’s condition for the planned surgery
7  F COM 2.2 Conduct a focused and efficient patient interview, managing the flow of the encounter while being attentive to the patient’s cues and responses

8  F COM 4.3 Answer questions from the patient and family about next steps

9  F COM 5.1 Document information about patients and their medical conditions in a manner that enhances intra- and interprofessional care

10 F COL 2.2 Identify communication barriers between health care professionals

11 F COL 2.2 Communicate clearly and directly to promote understanding, manage differences, and resolve conflicts

12 F HA 1.3 Work with the patient and family to identify opportunities for disease prevention, health promotion, and health protection

13 F S 1.2 Identify, record, prioritize and answer learning needs that arise in daily work, scanning the literature or attending formal or informal education sessions

14 F S 3.1 Recognize gaps in competencies and seek corrective solutions. Accept feedback readily and incorporate suggestions for improvement. Engage in self-reflection and self-assessment to improve performance

15 F P 2.2 Demonstrate a commitment to patient safety

16 F P 4.1 Demonstrate an ability to regulate attention, emotions, thoughts, and behaviours while maintaining capacity to perform professional tasks
Anesthesiology: Foundation EPA #2

Using the anesthetic assessment to generate the anesthetic considerations and the management plan, including postoperative disposition, for ASA 1, 2 or 3 patients.

Key Features:
- This EPA may be observed in the preoperative clinic and/or immediately prior to routine scheduled outpatient procedures
- The resident is required to list and prioritize anesthetic considerations related to the patient and surgical issues
- The resident is expected to present an anesthetic plan including anticipation of postoperative needs
- Legibility of the chart is mandatory!

Assessment plan:

Supervisor does assessment based on indirect observation (case and chart review)

Use Form 1. Form collects information on:
- Type of procedure: general surgery; gynecology; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; urology
- Age of patient

Collect 8 observations of achievement
- At least 5 different surgical procedures
- At least 3 assessors

Relevant milestones

1. F ME 1.1 Demonstrate compassion for patients
2. F ME 1.3 Apply clinical and biomedical sciences to manage core patient presentations in anesthesiology, internal medicine, and surgery.
3. F ME 1.5 On the basis of patient-centered priorities, seek assistance to prioritize multiple competing tasks that need to be addressed
4. F ME 2.2 Synthesize patient information into prioritized anesthetic considerations
5. F ME 2.4 Establish patient-centred anesthetic management plans
6. F ME 2.4 Ensure that the patient and family are informed about the risks and benefits of each treatment option in the context of best evidence and guidelines
7. F COM 4.3 Answer questions from the patient and family about next steps
8 F COM 5.1 Document information about patients and their medical conditions in a manner that enhances intra- and interprofessional care (legibility and organization of anesthetic chart)

9 F COL 2.2 Identify communication barriers between health care professionals

10 F COL 2.2 Communicate clearly and directly to promote understanding, manage differences, and resolve conflicts

11 F S 1.2 Identify, record, prioritize and answer learning needs that arise in daily work, scanning the literature or attending formal or informal education sessions

12 F S 3.1 Recognize gaps in competencies and seek corrective solutions. Accept feedback readily and incorporate suggestions for improvement. Engage in self-reflection and self-assessment to improve performance

13 F P 2.2 Demonstrate a commitment to patient safety

14 F P 4.1 Demonstrate an ability to regulate attention, emotions, thoughts, and behaviours while maintaining capacity to perform professional tasks
Anesthesiology: Foundation EPA #3

Diagnosing and managing common (non-life-threatening) complications in the post-anesthesia care unit (PACU) or the surgical ward

Key Features:
- For this EPA, complications may include: pain, nausea and/or vomiting, hypotension, hypertension, arrhythmias, cardiac ischemia, hypoxemia, respiratory depression, laryngospasm, bronchospasm, pulmonary edema, deep venous thrombosis, delirium, slow awakening, decreased urine output

Assessment plan:
Supervisor does assessment based on direct or indirect observation (case and/or chart review with debrief)

Use Form 1. Form collects information on:
- Type of complications: pain; nausea and/or vomiting; hypotension; hypertension; arrhythmias; cardiac ischemia; hypoxemia; respiratory depression; laryngospasm; bronchospasm; pulmonary edema; deep venous thrombosis; delirium; slow awakening; decreased urine output; other
- Location: PACU; surgical ward; ICU; other
- Type of observation: direct; indirect
- Type of surgical procedure: general surgery; gynecology; neurosurgery; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; thoracic surgery; urology; vascular surgery

Collect 7 observations of achievement
- At least 5 different complications
- At least 3 in PACU
- At least 4 on surgical ward
- At least 3 direct observations
- No more than 2 observations by the same assessor

Relevant milestones
1  F ME 1.6 Develop a plan that considers the current complexity, uncertainty, and ambiguity in a clinical situation
2  F ME 2.4 Develop and implement management plans for common postoperative problems diagnosed in the post-anesthesia care unit or the surgical ward
3  F ME 3.4 Seek assistance as needed when unanticipated findings or changing clinical circumstances are encountered
4 F ME 4.1 Ensure follow-up on results of investigation and response to treatment

5 F ME 5.1 Prioritize the initial medical response to adverse events to mitigate further injury

6 F ME 5.1 Elaborate and prioritize differential diagnosis, including as appropriate harm from health care delivery, and ensure a timely diagnosis of common complications in the post-anesthesia care unit or the surgical ward

7 F ME 5.2 Based on patient’s medical history, type of surgery and perioperative factors, anticipate which patients are at higher risk for postoperative surgical or medical complications, apply strategies and ensure optimal specific monitoring to prevent those complications

8 F COM 3.1 Communicate the diagnosis, prognosis and plan of care in a clear, compassionate, respectful, and accurate manner to the patient and family and use strategies to verify and validate their understanding

9 TD COM 3.2 Describe the steps in providing disclosure after a patient safety incident

10 F COM 5.1 Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions

11 F COL 1.1 Receive and appropriately respond to input from other health care professionals especially from the nurse responsible of the patient

12 F COL 3.2 Communicate with the attending physician or other appropriate member of the health care team about the patient’s condition and care

13 F COL 3.2 Summarize the patient’s issues in the transfer summary, including plans to deal with ongoing issues

14 F L 4.1 Organize work using strategies that address strengths and identify areas to improve in personal effectiveness

15 F S 1.2 Identify, record, prioritize and answer learning needs that arise in daily work, scanning the literature or attending formal or informal education sessions

16 F P 2.2 Demonstrate a commitment to patient safety and quality improvement through adherence to institutional policies and procedures
Anesthesiology: Foundation EPA #4

Diagnosing and initiating management of life-threatening conditions, in a variety of environments, in a time-appropriate manner

(elective)

Key Features
- The achievement of this EPA is elective
- This EPA includes identifying the urgency of the situation, generating relevant differential diagnoses and initiating focused management directed at the presumed etiology
- The resident is expected to ask for assistance in a time appropriate manner
- This EPA does not require development of a comprehensive long-term management strategy
- This EPA may be observed in PACU, surgical/medical wards, ICU, ER or OR.

Assessment plan:
Supervisor does assessment based on direct and/or indirect observation (case review and debrief)

Use Form 1. Form collects information on:
- Location : PACU; surgical ward; medical ward; ICU; ER; OR; other
- Type of condition: respiratory distress; cardiac event; shock; neurologic condition; cardiac arrest; other

Collect 3 observations of achievement
- At least 2 different locations
- No more than one in OR
- Three different assessors

Relevant milestones
1. **F ME 1.4** Recognize urgent problems that may need the involvement of more experienced colleagues and seek their assistance immediately
2. **F ME 1.5** On the basis of patient-centred priorities, seek assistance to prioritize multiple competing tasks that need to be addressed
3. **F ME 2.2** Synthesize patient information in a timely manner to determine diagnosis
4. **F ME 2.4** Develop and implement initial management plans for the situation, prioritizing issues to be addressed, in a time appropriate manner
5. **F ME 3.3** Consider urgency, and potential for deterioration, in advocating for the timely execution of a procedure or therapy
6  **F ME 4.1** Coordinate investigation, treatment, and follow-up plans when multiple physicians and healthcare professionals are involved

7  **F ME 5.1** Prioritize the initial medical response to adverse events to mitigate further injury

8  **F COM 3.1** Communicate the diagnosis, prognosis and plan of care in a clear, compassionate, respectful, and accurate manner to the patient and family and use strategies to verify and validate their understanding

9  **F COM 5.1** Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions

10  **F COL 1.1** Respect established rules of their team

11  **F COL 1.1** Contribute effectively in interprofessional teams (e.g. nurses, RTs)

12  **F COL 1.3** Communicate appropriately with supervising staff (supervising resident or attending physician) if significant concerns are identified during patient assessment

13  **F COL 1.2** Participate in debriefing, post critical incident

14  **F S 3.4** Incorporate evidence-based medicine into clinical practice

15  **F P 1.3** Report any concerns that may limit one’s ability to provide optimal patient care (medical/psychological/substance abuse issues/fatigue)

16  **F P 1.1** Accept feedback readily and incorporate suggestions for improvement

17  **F P 4.1** Demonstrate the ability to remain calm and professional in stressful situations

18  **F P 2.2** Pay close attention to the continuing care of the patient beyond the technical execution of resuscitation, reliably and conscientiously
Anesthesiology: Foundation EPA #5

Managing patients admitted to acute care settings with common medical or surgical problems, and advancing their care plans

Key Features
- This is a complex EPA with three components for observation: patient assessment and management; communication with patient/family; handover
- This EPA focuses on the care provided to patients throughout the course of a hospital stay. It includes ongoing reassessment of clinical status and management of the evolving clinical course including further investigations, possible complications, and response to treatment.
- This EPA includes regular communication with the patient and/or family regarding the results of testing and/or treatment as well as further management plans
- For the purposes of this EPA, ongoing care includes the transitions from one physician to another as may occur during day to night time transition and/or transfer to another care setting.
- This EPA may be observed in surgical/medical wards.

Assessment plan:

Part A: Patient assessment and management
Supervisor does assessment based on direct or indirect observation (chart review and case debrief)

Use Form 1. Form collects information on:
- Location: surgical ward; medical ward; other
- Type of condition: arrhythmia; coronary artery disease; other heart condition; neurologic; respiratory disease; gastro-intestinal condition; cirrhosis; bleeding; thrombosis; fever; wound infection; routine postoperative care
- Observer: staff; senior resident

Collect 3 observations of achievement
- At least 2 different locations
- At least 3 different conditions
- At least 2 observations by staff
- At least 3 assessors

Part B: Communication with patient/family
Supervisor does assessment based on direct observation of routine update to patient/family

Use Form 1. Form collects information on:
- Observer: staff; senior resident

Collect two observations of achievement
- At least one observation by staff
Part C: Handover
Supervisor does assessment based on direct observation of a handover event for a group of patients to another resident or discharge/transfer of care to another physician or health care professional.

Use Form 1. Form collects information on:
- Observer: staff; senior resident

Collect two observations of achievement
- At least one by staff

Relevant milestones (Part A)

1. **F ME 1.4** Perform focused clinical assessments with recommendations that are well-documented

2. **F ME 1.4** Recognize urgent problems that may need the involvement of more experienced colleagues and seek their assistance immediately

3. **F ME 2.4** Develop and implement initial management plans for common problems in surgery and/or medicine

4. **F ME 4.1** Coordinate investigation, treatment, and follow-up plans when multiple physicians and healthcare professionals are involved

5. **F ME 4.1** Ensure follow-up on results of investigation and response to treatment

6. **F COM 2.2** Conduct a focused and efficient patient interview, managing the flow of the encounter while being attentive to the patient’s cues and responses

7. **F COM 3.1** Communicate the diagnosis, prognosis and plan of care in a clear, compassionate, respectful, and accurate manner to the patient and family and use strategies to verify and validate their understanding

8. **F COM 5.1** Document information about patients and their medical conditions in a manner that enhances intra- and interprofessional care, including focused, clear, coherent, legible progress notes, handover notes, and if applicable, discharge summaries as per institutional standards

9. **F COL 1.1** Contribute effectively in interprofessional teams by respecting established rules of their team, eliciting, engaging and valuing input from all healthcare professionals

10. **F COL 3.2** Communicate with the receiving physicians or health care professionals during transitions in care, clarifying issues after transfer as needed

11. **F COL 3.2** Communicate with the patient’s primary health care professional about the patient’s care
12  F S 2.4 Demonstrate basic skills in teaching others, including peers

13  F S 3.4 Incorporate evidence-based medicine into clinical practice

14  F P 1.1.1 Independently manage specialty-specific issues surrounding confidentiality, intervening when confidentiality is breached

15  F P 2.2 Demonstrate a commitment to patient safety and quality improvement through adherence to institutional policies and procedures

Relevant milestones (Part B)

1  F COM 1.5 Recognize when personal feelings in an encounter are valuable clues to the patient’s emotional state

2  F COM 2.2 Conduct a focused and efficient patient interview, managing the flow of the encounter while being attentive to the patient’s cues and responses

3  TD COM 3.1 Communicate the diagnosis, prognosis and plan of care in a clear, compassionate, respectful, and accurate manner to the patient and family in a way that facilitates patient trust and autonomy and by using language free of medical jargon.

4  F COM 4.3 Answer questions from the patient and family about next steps

5  F COM 5.1 Document information about patients and their medical conditions in a manner that enhances intra- and interprofessional care, including focused, clear, coherent, legible progress notes, handover notes, and if applicable, discharge summaries as per institutional standards

6  F HA 1.3 Work with the patient and family to identify opportunities for disease prevention, health promotion, and health protection

Relevant milestones (Part C)

1  F ME 1.4 Recognize urgent problems that may need the involvement of more experienced colleagues and seek their assistance immediately

2  F ME 4.1 Ensure follow-up on results of investigation and response to treatment

3  F ME 5.2 Use cognitive aids such as procedural checklists, structured communication tools, or care paths, to enhance patient safety

4  F COM 5.1 Document information about patients and their medical conditions in a manner that enhances intra- and interprofessional care, including focused, clear, coherent, legible progress notes, handover notes, and if applicable, discharge summaries as per institutional standards
5  **F COL 1.1** Contribute effectively in multidisciplinary teams by respecting established rules of their team, eliciting, engaging and valuing input from all healthcare professionals.

6  **F COL 3.1** Identify patients requiring handover to other physicians or health care professionals

7  **F COL 3.2** Communicate with the receiving physicians or health care professionals during transitions in care, clarifying issues after transfer as needed

8  **F COL 3.2** Summarize the patient’s issues in the transfer summary, including plans to deal with the ongoing issues

9  **F COL 3.2** Recognize and act on patient safety issues in the transfer of care

10  **F S 3.4** Incorporate evidence-based medicine into clinical practice

11  **F S 2.4** Demonstrate basic skills in teaching others, including peers

12  **F P 1.1** Independently manage specialty-specific issues surrounding confidentiality, intervening when confidentiality is breached

13  **F P 2.2** Demonstrate a commitment to patient safety and quality improvement through adherence to institutional policies and procedures
Anesthesiology: Foundation EPA #6

Assessing, diagnosing, and initiating management for patients with common acute medical or surgical presentations in acute care settings

Key Features
- This EPA focuses on assessment and management of acute conditions in settings other than perioperative care, including the process of admitting a patient to hospital
- This EPA may include a variety of conditions: chest pain, gastrointestinal bleeding, shortness of breath, acute kidney injury, weakness, nausea and vomiting, fever, altered mental status, toxidromes, delirium, overdose, pain, acute abdominal pain, hemodynamic instability of any cause

Assessment plan:

Supervisor (staff or supervising resident) does assessment based on direct and/or indirect observation (case review and debrief)

Use Form 1. Form collects information on:
- Location: surgical ward; medical ward; ER; other
- Type of condition: surgical condition; chest pain; shortness of breath; altered LOC; fever; hemodynamic instability; other
- Observer: staff; senior resident

Collect 4 observations of achievement
- At least 2 surgical conditions
- At least 2 medical conditions
- At least two observations by staff

Relevant milestones

1  **F ME 1.3** Apply clinical and biomedical sciences to manage core patient presentations in internal medicine and surgery

2  **F ME 1.4** Perform focused clinical assessments with recommendations that are well-documented

3  **F ME 1.4** Recognize urgent problems that may need the involvement of more experienced colleagues and seek their assistance immediately

4  **F ME 1.3** Describe the pathophysiology and clinical presentations of common clinical conditions in medicine and surgery.

5  **F ME 2.2** Synthesize patient information to determine diagnosis

6  **F ME 2.4** Develop and implement initial management plans for common problems in internal medicine, and surgery.
7  **F ME 3.4** Seek assistance as needed when unanticipated findings or changing clinical circumstances are encountered

8  **F ME 4.1** Coordinate investigation, treatment, and follow-up plans when multiple physicians and healthcare professionals are involved

9  **F ME 4.1** Ensure follow-up on results of investigation and response to treatment

10 **TD COM 1.1** Communicate using a patient-centred approach that facilitates patient trust and autonomy and is characterized by empathy, respect, and compassion

11 **F COM 2.3** Seek and synthesize relevant information from other sources, including the patient’s family, with the patient’s consent

12 **F COM 5.1** Document information about patients and their medical conditions in a manner that enhances intra- and interprofessional care

13 **F COL 1.2** Describe the roles and scopes of practice of other health care providers related to the discipline: e.g. role of general surgeon when on general surgery rotation.

14 **F COL 2.1** Actively listen to and engage in interactions and find common ground with collaborators

15 **F COL 3.2** Provide a concise prioritized patient presentation to other team members.

16 **F HA 1.3** Work with the patient and family to identify opportunities for disease prevention, health promotion, and health protection
Anesthesiology: Foundation EPA #7

Assessing patients with stable traumatic injury and establishing an initial management plan
(elective)

Key Features:
- The achievement of this EPA is elective
- The resident is expected to integrate findings on history and physical exam, along with investigations to formulate an assessment and rational management plan, differentiating important clinical details from the less important for each clinical situation.

Assessment plan:

Supervisor does assessment based on direct or indirect observation (case review and supervision of initial management)

Use Form 1. Form collects information on:
- Setting: Emergency department; Operating room
- Multi-trauma: yes/no
- Intubated patient: yes/no
- Surgical procedure: yes/no

Collect 5 observations of achievement
- At least 2 multi-trauma
- At least 2 intubated patients
- At least 1 requiring surgical procedure

Relevant milestones

1. **F ME 1.3** Apply clinical and biomedical sciences to manage core patient presentations in surgery

2. **F ME 1.4** Perform focused clinical assessments with recommendations that are well-documented

3. **F ME 1.4** Recognize urgent problems that may need the involvement of more experienced colleagues and seek their assistance immediately

4. **F ME 1.5** On the basis of patient-centered priorities, seek assistance to prioritize multiple competing tasks that need to be addressed

5. **F ME 1.6** Develop a plan that considers the current complexity, uncertainty, and ambiguity in a clinical situation
6  F ME 2.2 Elicit a history, perform a physical exam, and select appropriate investigations and interpret their results for the purpose of diagnosis and management

7  F ME 2.4 Develop and implement management plans that consider all of the patient’s health problems and context in collaboration with the interprofessional team when appropriate

8  F ME 3.3 Consider urgency, and potential for deterioration, in advocating for the timely execution of a procedure or therapy

9  F COM 2.3 Gather relevant information from different sources when the patient is unable to provide an interview.

10 F COM 4.3 Answer questions from the patient and family about next steps

11 F COM 5.1 Document information about patients and their medical conditions in a manner that enhances intra- and interprofessional care

12 F COL 2.2 Communicate clearly and directly to promote understanding, manage differences, and resolve conflicts while respecting professional roles of team members

13 F P 1.1 Demonstrate accountability to patients, society, and the profession by responding to societal expectations of physicians

14 F P 2.1 Manage tensions between societal and physician’s expectations. Describe the tension between the physician’s role as advocate for individual patients and the need to manage scarce resources

15 F P 2.2 Demonstrate a commitment to patient safety and quality improvement through adherence to institutional policies and procedures

16 F P 2.2 Deliver patient care with an emphasis on patient safety over efficiency, recognizing one’s limitations in experience and knowledge, seeking help appropriately
Anesthesiology: Foundation EPA #8

Identifying patients presenting with an anticipated difficult airway and preparing for initial management options

Key Features
- This EPA includes adults and children over age 5
- This EPA includes:
  • Discussing risks with patient
  • Informed consent
  • OR/equipment preparation for initial plan and at least 2 alternative plans if initially unsuccessful.

Assessment plan:
Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Age
- Type of airway management technique: fiberoptic; direct laryngoscopy; video laryngoscopy; adjunct airway use
- Airway foreign body: yes/no

Collect 5 observations of achievement
- At least 3 assessors

Relevant milestones

1  F ME 1.3 Apply basic physiology, pharmacology and anatomy to develop and implement an initial management plan with appropriate options for an anticipated difficult airway

2  F ME 1.4 Perform focused clinical assessments and identify potential difficult airway

3  F ME 1.4 Recognize urgent problems that may need the involvement of more experienced colleagues and seek their assistance immediately

4  F ME 1.3 Identify criteria for safe extubation

5  F ME 1.3 Integrate and apply knowledge of difficult airway algorithms and cognitive aids to prepare equipment and supplies for airway management

6  F ME 2.4 Ensure that the patient and family are informed about the risks and benefits of each treatment option in the context of best evidence and guidelines
7 F ME 3.1 Describe the indications, contraindications, risks, and alternatives for different airway management tools.

8 F ME 3.1 Describe the differences between adult and pediatric difficult airway management

9 F ME 3.1 Describe indications, contraindications, basic pharmacology and risks of sedation during airway management.

10 F ME 3.2 Obtain and properly document informed consent for commonly performed anesthesia procedures and therapies

11 F ME 3.3 Consider urgency, and potential for deterioration, in advocating for the timely execution of a procedure or therapy

12 F ME 3.4 Perform intubation in a patient with an anticipated difficult airway in a skilful, fluid, and safe manner with minimal assistance

13 F COM 1.2 Optimize the physical environment for patient comfort, privacy, engagement, and safety

14 F COM 5.1 Document information about the airway difficulty in a manner that enhances intra- and inter-professional care

15 F COL 1.1 Respect established rules of their team

16 F COL 2.1 Actively listen to and engage in interactions with collaborators

17 F L 2.2 Apply evidence and guidelines with respect to resource utilization in common clinical scenarios

18 F S 1.2 Identify, record, prioritize and answer learning needs that arise in daily work, scanning the literature or attending formal or informal education sessions

19 F P 2.2 Demonstrate a commitment to patient safety and quality improvement through adherence to institutional policies and procedures
Anesthesiology: Foundation EPA #9

Providing perioperative anesthetic management for ASA 1 or 2 adult patients undergoing scheduled, uncomplicated surgery

Key features
- This EPA is a critical task of the discipline: accordingly, the assessment plan is complex and includes: direct observation, longitudinal observation (optional), multisource feedback and review of the breadth of clinical experience as documented in the resident logbook.
- This EPA includes preoperative assessment, investigation/optimization if needed, informed consent, anesthetic management, postoperative management and determination of postoperative disposition.
- This EPA involves a variety of procedures of minimal to moderate complexity in various surgical specialties. They can be ambulatory in nature or require hospital admission postoperatively.
- This EPA should be observed each block of time a resident is participating in an anesthesia training experience, to gather longitudinal information on the resident’s performance both before and after achievement of entrustment.

Assessment plan:

Part A: Direct observation
Supervisor does assessment based on direct observation

Use Form 2. Form collects information on:
- Type of surgical procedure: general surgery; gynecology; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; urology; laparoscopic procedure; other
- Type of anesthesia: general; regional; monitored anesthesia care (MAC)

Collect 10 observations of achievement
- At least 5 different surgical procedures
- At least one laparoscopic procedure
- At least 7 under general anesthesia
- No more than 2 observations from the same assessor

Part B: Longitudinal observation (optional)
Supervisor does assessment based on direct observation

Use Form 2. Form collects information on:
- Type of surgical procedure: general surgery; gynecology; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; urology; laparoscopic procedure; other
- Type of anesthesia: general; regional; monitored anesthesia care (MAC)

Collect at least 2 observations per block while on an anesthesia training experience

Part C: Multisource feedback
Multiple observers provide feedback individually, which is then collated to one report.
Use Form 3. Form collects information on:
- Observer role: OR nurse; PACU nurse; respiratory therapist or anesthesia assistant; surgeon

Collect feedback on 1 occasion from at least 10 observers.
- Observers should include:
  o OR and PACU nurses
  o Respiratory therapists/anesthesia assistant
  o Surgeons

Part D:
Submit resident logbook

Relevant milestones: Part A and Part B

1. **F ME 2.2** Perform a focused history, and physical exam (to include physical exam of regional areas where invasive procedures may be planned), review investigations, and interpret their results for the purpose of preoperative assessment and optimization of patient prior to surgery. This is to include a review of electronic medical records

2. **F ME 2.2** Synthesize patient information into prioritized anesthetic considerations

3. **TP ME 2.4** Establish patient-centred anesthetic management plans

4. **F ME 3.1** Determine and perform the most appropriate anesthetic management plan for the planned surgery

5. **F ME 3.2** Obtain and properly document informed consent for commonly performed anesthesia procedures and therapies.

6. **F ME 4.3** Perform all case management skills with appropriate proficiency including adapting to unanticipated findings or changing clinical circumstances, anticipation and management of issues around induction, maintenance, emergence of anesthesia, and pain management.

7. **F ME 5.2** Demonstrate appropriate situational awareness.

8. **F ME 5.2** Demonstrate an understanding of the anesthetic guidelines of practice and their appropriate application.

9. **F COM 1.1** Communicate using a patient-centred approach that encourages patient trust and autonomy and is characterized by empathy, respect, and compassion

10. **F COM 5.2** Communicate effectively using a written health record, electronic medical record, or other digital technology and completion of a complete, comprehensive and accurate anesthetic record.
11  **F COL 1.1** Establish and maintain positive relationships with physicians and other colleagues in the health care professions to support relationship-centered collaborative care.

12  **F COL 3.2** Provide appropriate handover of anesthetic care to the recovery unit and communicate with the receiving physicians or health care professionals during transitions in care, clarifying issues after transfer as needed.

13  **F L 1.1** Demonstrate appropriate leadership skills in the peri-operative environment including participation in “time-out” sessions.

14  **F S 1.2** Identify, record, prioritize and answer learning needs that arise in daily work, scanning the literature or attending formal or informal education sessions.

15  **F S 1.2** Identify opportunities for learning and improvement by regularly reflecting on and assessing their performance using various internal and external data sources including post-operative patient follow-up.

16  **F P 1.1** Exhibit appropriate professional behaviours and relationships in all aspects of practice, demonstrating honesty, integrity, humility, commitment, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality.

17  **F P 4.1** Manage the impact of physical and environmental factors on performance and on patient well-being during anesthetic management.

**Relevant milestones:** Part C

1  **F ME 5.2** Demonstrate appropriate situational awareness.

2  **F COM 1.1** Communicate with patient in a way that encourages patient trust and autonomy and is characterized by empathy, respect, and compassion.

3  **F COM 5.2** Communicate effectively using a written health record, electronic medical record, or other digital technology and completion of a complete, comprehensive and accurate anesthetic record.

4  **F COM 5.2** Write orders clearly and legibly.

5  **F COL 1.1** Establish and maintain positive relationships with physicians and other colleagues in the health care professions to support relationship-centered collaborative care.

6  **F COL 2.1** Actively listen to and engage in interactions with collaborators.

7  **F COL 2.2** Listen to understand and find common ground with collaborators.
8  F COL 3.2 Provide appropriate handover of anesthetic care to the recovery unit and communicate with the receiving physicians or health care professionals during transitions in care, clarifying issues after transfer as needed

9  F L 1.1.4 Demonstrate appropriate leadership skills in the peri-operative environment including participation in “time-out” sessions

10 F P 1.1.4 Exhibit appropriate professional behaviours and relationships in all aspects of practice, demonstrating honesty, integrity, humility, commitment, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality
Anesthesiology: Foundation EPA #10

Providing perioperative anesthetic management for adult ASA 1E or 2E patients undergoing urgent/ emergent, low or moderate risk surgical procedures

Key features:
- This EPA includes preoperative assessment, investigation/optimization if needed, informed consent, anesthetic management, postoperative management and determination of postoperative disposition.
- This EPA can be observed with a variety of procedures of minimal to moderate complexity in various surgical subspecialties.
- This EPA should be observed each block of time a resident is participating in an anesthesia training experience, to gather longitudinal information on the resident’s performance both before and after achievement of entrustment

Assessment plan:
Supervisor does assessment based on direct observation

Use Form 2. Form collects information on:
- Type of surgical procedure: general surgery; gynecology; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; urology; laparoscopic procedure; other
- Type of anesthesia: general; regional; monitored anesthesia care (MAC)

Collect 5 observations of achievement
- At least 3 different surgical procedures
- No more than 2 observations from the same assessor

Relevant milestones

1. **F ME 1.4** Recognize urgent problems that may need the involvement of more experienced colleagues and seek their assistance immediately

2. **F ME 1.6** On the basis of patient-centered priorities seek assistance to prioritize multiple competing tasks that need to be addressed

3. **F ME 1.6** Develop a plan that considers the current complexity, uncertainty, and ambiguity in a clinical situation including but not limited to preoperative preparation and optimization, intraoperative management, and management of the postoperative period, including PACU care, decisions about what unit is most suitable postoperatively, and pain management strategies

4. **F ME 2.2** Synthesize patient information into prioritized anesthetic considerations

5. **F ME 3.1** Describe the indications, contraindications, risks, and alternatives for the anesthetic management of the patient
6  **F ME 3.1** Perform the most appropriate anesthetic management plan

7  **F ME 3.2** Obtain and properly document informed consent for commonly performed anesthesia procedures and therapies.

8  **F ME 3.3** Demonstrate appropriate judgement in determining the urgency of the procedure, assessment of the readiness for surgery and appropriate optimization of the emergency patient

9  **F ME 3.4** Perform in a skillful, fluid, and safe manner with minimal assistance those procedures involved in the conduct of general and/or regional anesthesia in the ASA 1E and ASA 2E patient for emergency low to moderate complexity surgery

10 **F ME 5.2** Use cognitive aids such as procedural checklists, structured communication tools, or care paths, to enhance patient safety

11 **F ME 5.2** Demonstrate appropriate situational awareness

12 **F COM 1.1** Communicate using a patient-centred approach that encourages patient trust and autonomy and is characterized by empathy, respect, and compassion

13 **F COM 1.2** Optimize the physical environment for patient comfort, privacy, engagement, and safety

14 **F COL 3.2** Provide appropriate handover of anesthetic care to the recovery unit and communicate with the receiving physicians or health care professionals during transitions in care, clarifying issues after transfer as needed

15 **F P 1.1** Exhibit appropriate professional behaviours and relationships in all aspects of practice, demonstrating honesty, integrity, humility, commitment, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality
Anesthesiology: Foundation EPA #11

Anticipating, preventing and managing common or expected intraoperative events and physiologic changes during low or moderate risk surgical procedures

Key Features:
- This EPA focuses on recognition and independent management of common or expected intraoperative events such as hypo/hypertension, tachycardia, bradycardia, bronchospasm, hypoxemia, ischemia, circuit disconnection, patient awareness and effects of medications.

Assessment plan:

Part A: Patient care
Supervisor does assessment based on direct observation, with or without case debriefing

Use Form 1. Form collects information on:
- Type of surgical procedure: general surgery; gynecology; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; urology; other
- Type of event: hypo/hypertension; tachycardia; bradycardia; bronchospasm; hypoxemia; ischemia; circuit disconnection; patient awareness; effects of medications; other
- Category of event: anticipation/prevention; management; no anticipation with management

Collect 5 observations of achievement
- At least 3 different types of surgical procedure
- At least 2 each of anticipation/prevention and management
- At least 1 no anticipation with management
- No more than 2 observations by the same assessor

Part B: Reflection on patient safety
Submission of one short reflective narrative (less than a page) discussing an unsafe clinical situation involving learners

Relevant milestones:

Part A

1  F ME 1.4 Recognize urgent problems that may need the involvement of more experienced colleagues and seek their assistance immediately

2  F ME 2.4 Develop and implement management plans and appropriate follow up for common intraoperative problems

3  F ME 2.4 Anticipate most likely intraoperative events and physiologic changes based on patient’s medical history and type of surgery and apply strategies including optimal monitoring to favor prevention and early diagnosis of those events
4  F ME 3.3 Consider urgency, and potential for deterioration, in advocating for the timely execution of a procedure or therapy

5  F ME 3.4 Perform common procedures in a skillful, fluid, and safe manner with minimal assistance

6  TD ME 5.1 Differentiate outcomes of medical conditions and diseases from complications related to the inherent risks of treatments and from patient safety incidents

7  F ME 5.2 Demonstrate appropriate situational awareness

8  TD COM 5.1 Organize information in appropriate sections and ensure complete recording of intraoperative event within an electronic or written anesthetic record

9  F COM 5.1 Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions

10 F COL 2.2 Communicate clearly and directly in a timely manner to all or specific members of the operating room team to promote understanding of perioperative event and manage differences and resolve conflicts if necessary

11 F COL 3.2 Summarize the patient’s issues in the transfer summary, including plans to deal with the ongoing issues

12 TD P 1.1 Complete assigned responsibilities

Part B

1  F S 2.3 Identify unsafe clinical situations involving learners and manage them appropriately
Anesthesiology: Foundation EPA #12

Establishing appropriate invasive blood pressure monitoring (i.e. arterial lines)  
(elective)

Key Features
- The achievement of this EPA is elective

Assessment plan:

Supervisor does assessment based on direct observation

Use Form 2. Form collects information on:
- Location: OR; ICU; ER; other

Collect 5 observations of achievement
- At least 2 in a location other than OR

Relevant milestones

1. F ME 1.3 Apply clinical and biomedical physiology to manage patient arterial blood gas results
2. F ME 3.1 Describe the indications, contraindications, risks, and identify alternative sites for arterial line placement
3. F ME 3.2 Obtain and properly document informed consent for commonly performed anesthesia procedures and therapies.
4. TD ME 3.4 Demonstrate effective procedure preparation, including gathering required equipment and optimal positioning of the patient
5. F ME 3.4 Perform arterial line placement in a skillful, fluid, timely and safe manner with no assistance
6. F ME 3.4 Seek assistance as needed when unanticipated or changing clinical circumstances are encountered
7. F COM 1.2 Optimize the physical environment for patient comfort, privacy, engagement, and safety
8. F S 2.4 Demonstrate basic skills in teaching others, including peers
9. F S 2.5 Provide written or verbal feedback to other learners
10. F P 2.2 Demonstrate a commitment to patient safety and quality improvement through adherence to institutional policies and procedures (eg. Infection control and sterility procedures)
Anesthesiology: Foundation EPA #13

Establishing appropriate venous access including central venous lines (elective)

Key Features
- The achievement of this EPA is elective
- The observation of this EPA must be started in Foundations, but may be completed in Core

Assessment plan:
Supervisor does assessment based on direct observation

Use Form 2. Form collects information on:
- Anatomical site: jugular; subclavian; femoral; PICC
- Location: OR; ICU; other
- Use of Ultrasound: yes; no

Collect 10 observations of achievement
- At least 3 different anatomical sites
- At least 3 assessors

Relevant milestones
1. F ME 3.1 Describe the indications, contraindications, risks, and alternatives for venous access including central venous lines
2. F ME 3.1 Describe venous access procedures to patients
3. F ME 3.2 Obtain informed consent for venous access including central venous lines
4. F ME 3.3 Consider urgency, and potential for deterioration, in advocating for the timely execution of a procedure or therapy
5. F ME 3.4 Seek assistance as needed when unanticipated findings or changing clinical circumstances are encountered
6. TD ME 3.4 Demonstrate effective procedure preparation, including gathering required equipment and optimal positioning of the patient
7. F ME 3.4 Perform venous access procedures in a skillful, fluid, and safe manner with no assistance
8. F ME 3.4 Document procedures accurately
9. F ME 5.1 Prioritize the initial medical response to adverse events to mitigate further injury
10. F ME 5.2 Use cognitive aids such as procedural checklists, structured communication tools, or care paths, to enhance patient safety
11 **F COM 1.6** Assess patients’ capacity to understand and appreciate the issues and risks, participate in decision-making and their capacity to give informed consent

12 **F COM 4.1** Explore the perspective of the patient when performing clinical procedures

13 **F L 1.1** Seek data to inform practice and engage in an iterative process of improvement

14 **F L 2.1** Consider costs when choosing care options

15 **F L 4.1** Organize work using strategies that address strengths and identify areas to improve in personal effectiveness

16 **F S 2.3** Identify unsafe clinical situations involving learners and manage them appropriately

17 **F P 2.2** Demonstrate a commitment to patient safety and quality improvement through adherence to institutional policies and procedures (e.g. Infection control and sterility procedures)

18 **F P 4.1** Demonstrate an ability to regulate attention, emotions, thoughts, and behaviours while maintaining capacity to perform professional tasks
Anesthesiology: Foundation EPA #14

Managing side effects and complications related to fluid management, electrolyte disturbances and assessing the need for, ordering and managing transfusion of blood products during the perioperative period

Key Features
- The observation of this EPA must be started in Foundations, but may be completed in Core

Assessment plan:
Supervisor does assessment based on direct and indirect observation (case review and debrief)

Use Form 1. Form collects information on:
- Type of issue: fluid administration; electrolyte disturbance; blood product management
- Location: OR; PACU; ICU; ward; other

Collect 8 observations of achievement
- At least 2 each type of issue

Relevant milestones
1  F ME 1.3 Apply clinical sciences to predict acute blood loss, describe signs of acute blood loss, and perioperative management strategies to minimize blood loss

2  F ME 2.4 Demonstrate an understanding of transfusion therapy as it applies to the critically ill patient in the context of best evidence and guidelines.

3  F ME 3.1 Develop and implement initial management plans for common fluid and electrolyte disturbances encountered in clinical care

4  F ME 3.1 Describe and contrast the different IV fluid solutions prescribed for fluid maintenance and resuscitation

5  F ME 3.2 Obtain and properly document informed consent for commonly performed anesthesia procedures and therapies

6  F ME 3.2 Describe the indications, contraindications and risks for crystalloid and/or colloid fluid administration and the replacement of blood products such as: RBC, Frozen Plasma (FP), Prothrombin Complex Concentration (PCC), Platelets, Cryoprecipitate.

7  F ME 4.1 Ensure appropriate follow-up on the results of electrolyte abnormalities and determine whether there is response to treatment
8 F ME 5.1 Prioritize the initial medical management of a massive transfusion to mitigate further injury and its inherent complications.

9 F COM 4.1 Explore the perspectives of the patient preferences and cultural practices when developing care plans

10 F COM 5.1 Accurately document information about fluid and blood products administered and response in a manner that enhances intra- and interprofessional care

11 F COL 1.1 Seeks out and appropriately respond to input from the surgical team when fluid resuscitating a critically ill patient

12 F L 2.1 Allocate health care resources for optimal patient care. Considers the varying costs of blood products when choosing care options

13 F HA 2.2 Improve clinical practice by applying a process of continuous quality improvement to the perioperative optimization of anemia.

14 F S 3.4 Integrate evidence and best practice guidelines into decision-making in their individual practice and at the hospital level.

15 F P 2.2 Demonstrate a commitment to patient safety and quality improvement through adherence to institutional policies and procedures

16 F P 4.3 Use strategies to mitigate the impact of patient safety incidents by adhering to ABO blood compatibility and blood product administration guidelines
Anesthesiology: Foundation EPA #15

Providing neuraxial anesthesia for ASA 1 and 2 patients undergoing scheduled or emergency non-obstetrical surgery

Key Features
- This EPA includes the technical skill of administering a spinal or epidural anesthetic, as well as the decision-making regarding proper patient selection, ensuring procedure appropriateness, full discussion with patient of risks/benefits/complications, and postoperative disposition including addressing postoperative VTE prophylaxis and resumption of other anticoagulant/antiplatelet medications.

Assessment plan:

Part A: Patient management
Supervisor does assessment based on direct observation and/or case review and debrief

Use Form 1. Form collects information on:
- Type of surgical procedure: general surgery; gynecology; orthopedic surgery; plastic surgery; urology

Collect 5 observations of achievement
- At least three assessors

Part B: Procedure
Supervisor does assessment based on direct observation

Use Form 2. Form collects information on:
- Procedure: spinal/epidural

Collect 6 observations of achievement
- No more than 2 observations by the same assessor

Relevant milestones

Part A

1  F ME 1.4 Perform focused clinical assessments with recommendations that are well-documented (key points; history, physical examination of spine, review investigations including coagulation profile; awareness of latest guidelines from professional bodies like ASRA)

2  TP ME 2.4 Establish and perform patient-centred perioperative anesthetic management plan for neuraxial anesthesia
3 F ME 2.4 Ensure that the patient and family are informed about the risks and benefits of each treatment option in the context of best evidence and guidelines

4 F ME 3.1 Determine the most appropriate anesthetic management in relation to patient’s condition and surgical procedure

5 F ME 3.3 Describe the indications, absolute and relative contraindications, risks and alternatives for neuraxial blocks

6 F COM 1.6 Assess a patient’s capacity to understand and appreciate the issues and risks, participate in decision-making and their capacity to give informed consent

7 F COM 5.1 Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions to offer neuraxial blocks (over GA)

8 F COL 2.2 Identify communication barriers between anesthesiologists and surgeons

9 F COL 2.2 Communicate clearly and directly to promote understanding, manage differences and resolve conflicts

10 F S 2.3 Identify unsafe clinical situations involving learners and manage them appropriately

11 F P 2.2 Monitor institutional and clinical environments and respond to issues that can harm patients or the delivery of health care

Part B

1 F ME 1.3 Apply knowledge of the anatomy of the spine and spinal cord, including surface anatomy and deeper structures

2 TD ME 3.1 Apply appropriate monitors correctly for the planned procedure

3 TD ME 3.4 Demonstrate effective procedure preparation, including gathering required equipment and optimal positioning of the patient

4 F ME 3.4 Seek assistance as needed when unanticipated findings, difficulties, or changing clinical circumstances are encountered – limiting the number of attempts for technical procedures in relation with level of training (do NOT subject patient to random needle pokes in an effort to place the block; limit to a reasonable number of attempts and ask for help early)

5 F ME 3.4 Perform neuraxial anesthesia in a skillful, fluid, and safe manner

6 F COM 1.2 Optimize the physical environment for patient comfort, privacy, engagement, and safety

7 F COM 5.2 Appropriately document anesthetic care and technique in an accurate, complete, timely, and accessible manner
8  **F S 1.1** Use technology to develop, record, monitor, revise, and report on learning

9  **F S 1.1** Demonstrate a structured approach to monitoring progress of learning in the clinical setting

10 **F S 2.3** Identify unsafe clinical situations involving learners and manage them appropriately

11 **F P 2.2** Demonstrate a commitment to patient safety and quality improvement through adherence to institutional policies and procedures (e.g. infection control and sterility procedures)

12 **F P 2.2** Monitor institutional and clinical environments and respond to issues that can harm patients or the delivery of health care
Anesthesiology: Foundation EPA #16

Obtaining informed consent for the provision of anesthesia care

Key Features:
- This EPA focuses on patient communication; informed consent will be observed and assessed as part of many other EPAs.
- This EPA applies to multiple scenarios requiring patient consent including procedures, blood administration and anesthesia

Assessment plan:

Supervisor does assessment based on direct observation

Use Form 2. Form collects information on:
- Specific consent: central line; neuraxial anesthesia, regional anesthesia; general anesthesia, blood product administration
- Communication challenge: none; language barrier; cognitive impairment barrier
- Substitute decision maker: yes; no
- Consent for patient under age of assent: yes; no

Collect 10 observations of achievement
- At least one for each specific consent issue
- At least 2 cases with a communication challenge
- At least 2 cases with a substitute decision maker
- At least two patients under age of assent

Relevant milestones

1. F ME 2.4 Ensure that the patient and family are informed about and understand the risks and benefits of each treatment option in the context of best evidence and guidelines

2. F ME 3.1 Identification of the appropriate procedure or intervention and demonstrate a thorough understanding of the potential risks and benefits inherent in the procedure and specific risks to the patient involved

3. F ME 3.2 Obtain and appropriately document informed consent for commonly performed anesthesia procedures and therapies

4. F COM 1.1 Communicate using a patient-centred approach that encourages patient trust and autonomy and is characterized by empathy, respect, and compassion

5. F COM 1.2 Optimize the physical environment for patient comfort, privacy, engagement, and safety
6 F COM 1.6 Assess patients’ capacity to understand and appreciate the issues and risks, participate in decision-making and their capacity to give informed consent

7 F COL 1.3 Integrate the patient’s perspective and context into the collaborative care plan

8 F HA 1.1 Work with the patient and their family to foster an understanding of the issues, options, risks and benefits to the procedure(s) in a way that is patient centered

9 F S 3.4 Integrate best practice guidelines into patient care and appreciate how various sources of information, including studies, expert opinion, and practice audits, contribute to the evidence base of medical practice

10 F P 1.1 Exhibit appropriate professional behaviours and relationships in all aspects of practice, demonstrating honesty, integrity, humility, commitment, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality

11 F P 3.1 Fulfill and adhere to the professional and ethical codes, standards of practice, and laws governing practice.
Anesthesiology: Foundation EPA #17

Preventing and recognizing complications related to patient positioning during anesthesia care

Assessment plan:

Part A: Patient management
Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Type of surgical procedure: general surgery; gynecology; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; urology
- Positioning of patient: supine; supine with laparoscopic surgery; gynecologic positioning/lithotomy; lateral decubitus; prone; sitting/semi-sitting

Collect 8 observations
- At least one of each position
- No more than 2 observations by one assessor

Part B: Complications and disclosure
Supervisor does assessment based on direct observation with chart review and debrief

Use Form 2

Collect one observation of disclosing a complication related to patient positioning with communication to patient, documentation in chart and institutional patient safety tracking system

Relevant milestones

Part A

1. **F ME 1.3** Apply clinical and biomedical sciences to manage patient positioning and related complications during surgery

2. **F ME 2.4** Develop and implement management plans for common problems or issues related to patient positioning during surgery

3. **F ME 3.1** Describe the indications, contraindications, risks, and alternatives for a given positioning during surgery

4. **F ME 3.4** Perform common procedures (patient positioning) in a skilful, fluid, and safe manner

5. **F ME 4.1** Coordinate investigation, treatment, and follow-up plans related to positioning injury considering potential involvement of multiple physicians and healthcare professionals
6 F ME 5.1 Recognize near-misses in real time and respond to correct them, preventing them from reaching the patient

7 F ME 5.1 Incorporate, as appropriate, into a differential diagnoses, postoperative complications related to patient positioning

8 F COM 3.1 Use strategies to verify and validate the understanding of the patient and family with regard to the diagnosis, prognosis, and management plan

9 F COL 1.1 Receive and appropriately respond to input from other health care professionals regarding patient positioning.

10 F COL 1.2 Coordinate and lead the work of all team members involved in patient positioning for surgery

11 F COL 2.2 Communicate clearly and directly to promote understanding, manage differences, and resolve conflicts

12 F P 2.2 Demonstrate a commitment to patient safety and quality improvement through adherence to institutional policies and procedures

Part B

1 F ME 5.1 Report patient safety incidents to appropriate institutional representatives

2 F ME 5.1 Incorporate, as appropriate, into a differential diagnoses, postoperative complications related to patient positioning

3 F ME 5.1 Identify potential improvement opportunities arising from harmful patient safety incidents and near misses

4 F COM 2.2 Manage the flow of challenging patient encounters, including those with angry, distressed, or excessively talkative individuals

5 F COM 3.1 Use strategies to verify and validate the understanding of the patient and family with regard to the diagnosis, prognosis, and management plan

6 TD COM 3.2 Describe the steps in providing disclosure after a patient safety incident

7 F COM 3.2 Apologize appropriately for a harmful patient safety incident

8 F COM 5.1 Document clinical encounters in an accurate, complete, timely and accessible manner, and in compliance with legal and privacy requirements

9 F COL 1.1 Receive and appropriately respond to input from other health care professionals regarding patient positioning
10 **F COL 2.2** Communicate clearly and directly to promote understanding, manage differences, and resolve conflicts

11 **F L 1.1** Seek data to inform practice and engage in an iterative process of improvement

12 **F S 3.4** Describe how various sources of information, including studies, expert opinion, and practice audits, contribute to the evidence base of medical practice

13 **F P 2.2** Demonstrate a commitment to patient safety and quality improvement through adherence to institutional policies and procedures

14 **F P 2.2** Monitor institutional and clinical environments and respond to issues that can harm patients or the delivery of health care
Anesthesiology: Foundation EPA #18

Assessing the pregnant patient, identifying common problems in pregnancy and suggesting initial management strategy

Key Features:
- This EPA includes routine prenatal assessments and/or initial assessments during labour, or any other assessment during pregnancy
- The resident is expected to suggest initial management strategies but is not expected to manage these independently.

Assessment plan:

Supervisor does assessment based on direct or indirect observation
Use Form 1. Form collects information on:
- Problem: none; minor; major
- Setting: prenatal clinic; labour and delivery; other

Collect 3 observations of achievement
- At least two of a patient with a minor or major problem

Relevant milestones

1  F ME 1.3 Apply clinical and biomedical sciences to manage core patient presentations in the pregnant patient

2  F ME 1.4 Perform focused clinical assessments with recommendations that are well-documented

3  F ME 1.4 Recognize urgent problems that may need the involvement of more experienced colleagues and seek their assistance immediately

4  F ME 2.4 Develop and implement initial management plans for common problems in the pregnant patient

5  F ME 3.3 Consider urgency, and potential for deterioration, in advocating for the timely execution of a procedure or therapy

6  F COM 2.1 Conduct a patient-centred interview, gathering all relevant biomedical and psychosocial information for any clinical presentation

7  F COM 5.1 Document information about patients and their medical conditions in a manner that enhances intra- and interprofessional care

8  F COL 1.3 Communicate the clinical situation clearly and succinctly to supervising residents or consultants
9  **F COL 2.2** Effectively approach conflict to be successful at resolution (prevention of conflict and dealing with conflicts when they arise) that respects the professional roles of various team members

10  **F COL 1.1** Receive and appropriately respond to input from other health care professionals

11  **F S 3.1** Identify gaps in knowledge and experience and seek to remedy utilizing the resources available

12  **F S 3.4** Incorporate evidence-based medicine into clinical practice

13  **F P 1.1** *Demonstrate reliability and conscientiousness in comprehensive patient centered care*
Anesthesiology: Foundation EPA # 19

Assessing and providing labour analgesia for healthy parturients with an uncomplicated pregnancy

Assessment plan:

Part A: Assessment and provision of labour analgesia
Supervisor does assessment based on direct or indirect observation (i.e. chart review)

Use Form 1.

Collect 4 observations of achievement
- At least 2 different assessors

Part B: Procedure
Supervisor does assessment based on direct observation

Use Form 2. Form collects information on:
- Patient weight
- Patient BMI
- Type of analgesia: epidural; other

Collect 6 observations of achievement
- Suggest at least one type of analgesia other than epidural

Relevant milestones:

Part A

1 **F ME 1.3** Apply clinical and biomedical sciences to manage core patient presentations in the pregnant patient

2 **F ME 1.4** Perform focused clinical assessments of a parturient during labor, acknowledge limitations of the assessment in this specific context and demonstrate strategies to overcome those limitations

3 **F ME 1.5** On the basis of patient-centered priorities, seek assistance when appropriate and prioritize appropriately multiple competing tasks that need to be addressed in a timely manner

4 **F ME 3.1** Describe the indications, contraindications, risks, and alternatives for a given procedure or therapy to provide optimal labour analgesia

5 **F ME 3.1** Integrate all sources of information to develop a labour analgesia management plan that is safe, patient-centred, and considers the risks and benefits of all approaches
6  F ME 3.1 Analyze fetal heart rate monitor before and after provision of labour analgesia. Describe potential fetal effects of labour analgesia and basic principles of fetal heart rate monitoring.

7  F ME 4.1 Ensure adequate follow up of the parturient receiving labour analgesia

8  F ME 3.4 Seek assistance as needed when unanticipated findings or changing clinical circumstances are encountered

10  F COM 4.1 Communicate with cultural awareness and sensitivity

11  F COL 1.1 Receive and appropriately respond to input from other health care professionals

12  F L 4.1 Organize work using strategies that address strengths and identify areas to improve in personal effectiveness

13  F HA 1.2 Select patient education resources related to obstetrical analgesia and anesthesia

14  F S 3.3 Interpret study findings, including a critique of their relevance to their practice

15  F P 2.2 Demonstrate a commitment to patient safety and quality improvement through adherence to institutional policies and procedures

Part B

1  TD ME 3.1 Apply appropriate monitors correctly for the planned procedure

2  TD ME 3.4 Demonstrate effective procedure preparation, including gathering required equipment and optimal positioning of the patient

3  F ME 3.2 Obtain and properly document informed consent for commonly performed anesthesia procedures and therapies

4  F ME 3.4 Perform labour epidural analgesia or other common procedures to provide labour analgesia in a skilful, fluid, and safe manner including appropriate sterile technique

5  F ME 3.4 Seek assistance as needed when unanticipated findings, difficulties or changing clinical circumstances are encountered

9  F COM 1.2 Optimize the physical environment for patient comfort, privacy, engagement, and safety

10  F COM 4.1 Communicate with cultural awareness and sensitivity
11  **F COM 5.1** Appropriately document anesthetic care and technique in an accurate, complete, timely, and accessible manner

12  **F COL 1.1** Receive and appropriately respond to input from other health care professionals

13  **F L 4.1** Organize work using strategies that address strengths and identify areas to improve in personal effectiveness

14  **F P 2.2** Demonstrate a commitment to patient safety and quality improvement through adherence to institutional policies and procedures (eg. Infection control and sterility procedures)
Anesthesiology: Foundation EPA #20
Managing common complications of labour analgesia

Key Features:
- This EPA may include any of the following complications: inadequate control of pain, hypotension, bradycardia, fetal bradycardia and decelerations, respiratory depression, unilateral block, high block and/or inadvertent subarachnoid block.

Assessment plan:

Part A: Patient management
Supervisor does assessment based on indirect observation (chart review and/or case discussion)

Use Form 1. Form collects information on:
- Patient’s weight
- Patient BMI
- Type of complication: inadequate control of pain; hypotension; bradycardia; fetal bradycardia and decelerations; respiratory depression; unilateral block; high block; inadvertent subarachnoid block; inadvertent dural puncture

Collect 6 observations
- at least 4 different complications

Part B: Multisource feedback
Multiple observers provide feedback individually, which is then collated to one report

Use Form 3. Form collects information on:
- observer role: labour and delivery nurse; obstetrical nurse

Collect feedback on one occasion from at least 6 observers

Relevant milestones

Part A

1 F ME 1.3 Apply clinical and biomedical sciences to manage core patient presentations in anesthesiology

2 F ME 1.4 Perform focused clinical assessments with recommendations that are well-documented

3 F ME 1.4 Recognize urgent problems that may need the involvement of more experienced colleagues and seek their assistance immediately

4 F ME 1.6 Develop a plan that considers the current complexity, uncertainty, and ambiguity in a clinical situation
F ME 2.1 Iteratively establish priorities, considering the perspective of the patient and family (including values and preferences) as the patient’s situation evolves

F ME 2.4 Develop and implement management plans for common problems in labour analgesia

F ME 3.3 Consider urgency, and potential for deterioration, in advocating for the timely execution of a procedure or therapy

F ME 3.4 Seek assistance as needed when unanticipated findings or changing clinical circumstances are encountered

F ME 5.1 Prioritize the initial medical response to adverse events to mitigate further injury

F COM 5.1 Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions

F COL 1.1 Receive and appropriately respond to input from other health care professionals

F COL 1.3 Integrate the patient’s perspective and context into the collaborative care plan

F COL 2.1 Actively listen to and engage in interactions with collaborators

F COL 2.2 Communicate clearly and directly to promote understanding, manage differences, and resolve conflicts

F S 2.3 Identify unsafe clinical situations involving learners and manage them appropriately

Part B

F ME 1.4 Recognize urgent problems that may need the involvement of more experienced colleagues and seek their assistance immediately

F COM 4.1 Communicate with cultural awareness and sensitivity

F COL 1.1 Receive and appropriately respond to input from other health care professionals

F COL 2.1 Actively listen to and engage in interactions with collaborators

F COL 2.1 Delegate tasks and responsibilities in an appropriate and respectful manner

F COL 2.2 Communicate clearly and directly to promote understanding, manage differences, and resolve conflicts
F COL 3.2 Summarize the patient’s issues in the transfer summary, including plans to deal with the ongoing issues

F P 1.1 Exhibit appropriate professional behaviours and relationships in all aspects of practice, reflecting honesty, integrity, humility, dedication, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality

F P 1.5 Exhibit professional behaviours in the use of technology-enabled communication
Anesthesiology: Foundation EPA #21

Providing anesthesia for ASA 1 and 2 patients undergoing scheduled cesarean section

Assessment plan:
Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Patient weight
- Patient BMI
- Type of anesthesia: spinal; other

Collect 5 observations of achievement
- At least 3 different assessors

Relevant milestones

1. **F ME 1.1** Demonstrate compassion for patients
2. **F ME 1.3** Apply basic physiology, pharmacology and anatomy to the management of the pregnant patient
3. **F ME 1.4** Perform focused clinical assessment with recommendations that are well documented
4. **F ME 2.4** Develop and implement management plan for scheduled cesarean section
5. **F ME 3.2** Obtain informed consent for commonly performed procedures and therapies
6. **F ME 3.4** Perform common procedures in a skillful, fluid, and safe manner with minimal assistance including appropriate infection control measures and using protective equipment
7. **F ME 3.4** Seek assistance as needed when unanticipated findings or changing clinical circumstances are encountered
8. **F ME 4.1** Diagnose and initiate management of common neuraxial anesthesia complications such as inadequate anesthesia, high spinals and hypotension
9. **F ME 5.2** Use cognitive aids such as procedural checklists, structured communication tools, or care paths, to enhance patient safety
10. **F COM 1.2** Optimize the physical environment for patient comfort, privacy, engagement, and safety
11  **F COM 2.1** Conduct a patient-centered interview, gathering all relevant biomedical and psychosocial information for any clinical presentation

12  **F COM 4.1** Communicate with cultural awareness and sensitivity

13  **F COM 5.1** Document all aspects of an anesthesia encounter in an accurate, complete, legible, timely, and accessible manner, in compliance with regulatory and legal requirements

14  **F COL 1.1** Respect established rules of their team and able to deal effectively and constructively with differences in opinion and conflict situations arising in the interdisciplinary team

15  **F COL 3.2** Communicate with the receiving physicians or health care professionals during transitions in care, clarifying issues after transfer as needed

16  **F S 1.1** Demonstrate a structured approach to monitoring progress of learning in the clinical setting

17  **F P 2.2** Demonstrate a commitment to patient safety and quality improvement through adherence to institutional policies and procedures
Anesthesiology: Foundation EPA #22

Assessing, diagnosing and providing initial medical management for pregnant patients with acute/emergent medical, surgical or obstetric conditions (elective)

Key Features:
- The achievement of this EPA is elective
- In Foundations, the resident is not expected to provide definitive management or long-term prognosis

Assessment plan:

Supervisor does assessment based on direct or indirect observation (chart review and/or case discussion)

Use Form 1. Form collects information on:
- Condition: medical; surgical; obstetrical
- Type of condition: (write in name of condition)
- Gestational age:

Collect 5 observations of achievement

Relevant milestones

1  **F ME 1.3** Apply basic physiology, pharmacology and anatomy to the management of pregnant patients

2  **F ME 1.4** Perform focused clinical assessment with prioritized recommendations that are well documented

3  **F ME 1.4** Recognize urgent problems that may need the involvement of more experienced colleagues and seek their assistance immediately.

4  **F ME 2.4** Ensure that the patient and family are informed about the risks and benefits of each treatment option in the context of best evidence and guidelines

5  **F ME 3.1** Describe the indications, contraindications, risks, and alternatives for fluid therapy and for transfusion of blood products in the perioperative or periobstetrical context and initiate management

6  **F ME 3.1** Describe the indications, contraindications, risks, and alternatives for common invasive hemodynamic monitoring procedures

7  **F ME 2.4** Integrate basic fetal physiology, potential fetal effects of medical and obstetrical acute conditions, and basic principles of fetal heart rate monitoring into management plan
8  **F ME 3.3** Apply Advanced Cardiac Life Support (ACLS) knowledge and skills to the pregnant patient

9  **F ME 4.1** Ensure follow-up on results of investigation and response to treatment

10 **F ME 4.1** Diagnose and initiate management of common obstetric emergencies such as antepartum haemorrhage, post-partum haemorrhage, placental abruption and placenta previa

11 **F ME 4.1** Diagnose and initiate management of common medical and surgical conditions during pregnancy such as diabetes, hypertension, sepsis, appendicitis or kidney stones

12 **F COM 5.1** Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions

13 **F COL 1.1** Respect established rules of their team and able to deal effectively and constructively with differences in opinion and conflict situations arising in the interdisciplinary team
Anesthesiology: Foundation EPA #23
Performing preoperative assessments for ASA 1 or 2 pediatric patients

Key Features:
- This EPA includes ordering and/or reviewing relevant investigations as well as risk optimization, recognition of common challenges in preoperative assessment (e.g. upper respiratory tract infection, behavioral and developmental stage challenges) need for premedication or parental presence at induction of anesthesia and NPO guidelines and violations
- This EPA may be observed in the preoperative clinic and/or immediately prior to routine scheduled procedures

Assessment plan:
Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Type of surgical procedure: general surgery; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; urology
- Age of patient

Collect 4 observations of achievement
- At least two different procedures
- At least two patients under the age of 10
- At least 3 different assessors

Relevant milestones
1. **F ME 1.1** Demonstrate compassion for patients
2. **F ME 1.5** On the basis of patient-centered priorities, seek assistance to prioritize multiple competing tasks that need to be addressed
3. **F ME 2.2** Perform a focused history and physical exam (to include physical exam of regional areas where invasive procedures may be planned), review investigations, and interpret their results for the purpose of preoperative assessment and optimization of patient prior to surgery. This is to include a review of electronic medical records
4. **F ME 3.2** Obtain and document informed consent for common anesthetic procedures using language that is clear and avoids medical jargon
5. **F ME 4.1** Coordinate investigation, treatment, and follow-up plans to ensure optimization of patient’s condition for the planned surgery
6. **F COM 1.1** Communicate using a patient-centred approach that encourages patient trust and autonomy and is characterized by empathy, respect, and compassion
F COM 2.1 Conduct a patient-centred interview, gathering all relevant biomedical and psychosocial information for any clinical presentation

F COM 2.2 Conduct a focused and efficient patient interview, managing the flow of the encounter while being attentive to the patient’s cues and responses

F COM 2.3 Seek and synthesize relevant information from other sources, including the patient’s family, with the patient’s consent if appropriate

F COM 4.1 Communicate with patients and families with compassion, cultural awareness and sensitivity, taking into account patient age and developmental stage

F COM 5.1 Document information about patients and their medical conditions in a manner that enhances intra- and interprofessional care

F COM 5.2 Demonstrate reflective listening, open-ended inquiry, empathy, and effective eye contact while using a written or electronic medical record

F S 1.2 Identify, record, prioritize and answer learning needs that arise in daily work, scanning the literature or attending formal or informal education sessions

F S 3.1 Recognize uncertainty and knowledge gaps in clinical and other professional encounters relevant to pediatric anesthesia

F P 1.1 Exhibit appropriate professional behaviours and relationships in all aspects of practice, demonstrating honesty, integrity, humility, commitment, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality

F P 4.1 Demonstrate an ability to regulate attention, emotions, thoughts, and behaviours while maintaining capacity to perform professional tasks
Anesthesiology: Foundation EPA #24

Providing perioperative anesthetic management for pediatric ASA 1 or 2 patients (over five years of age) undergoing scheduled routine surgery

Key Features:
- This EPA includes preoperative assessment, investigation and optimization if needed as well as informed consent from parents/caregivers, anesthetic management and determination of postoperative disposition
- This EPA may be observed with a variety of procedures of minimal to moderate complexity in various surgical disciplines; done on an ambulatory basis or requiring hospital admission

Assessment plan:

Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Type of surgical procedure: general surgery; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; urology
- Type of anesthesia: general; neuraxial; regional
- Age of patient:

Collect 6 observations of achievement
- At least 3 types of surgical procedures
- At least two patients under the age of 10
- At least 3 assessors

Relevant milestones

1. **F ME 1.4 Recognize urgent problems that may need the involvement of more experienced colleagues and seek their assistance immediately**

2. **F ME 2.2 Elicit an appropriate anesthetic history, perform a directed physical exam, identify appropriate investigations, and interpret their results for the purpose of anesthetic management with a focus on identifying the relevant anesthetic issues and formation of a sound anesthetic management plan**

3. **F ME 2.2 Synthesize patient information to determine anesthetic considerations and anesthetic management plan**

4. **F ME 2.4 Develop and implement management plans for common intraoperative problems in pediatric anesthesia**

5. **F ME 3.1 Determine and perform the most appropriate anesthetic management plan for the planned surgery**
6 F ME 3.2 Obtain and document informed consent for common anesthetic procedures using language that is clear and avoids medical jargon

7 F ME 3.4 Perform in a skillful, fluid, and safe manner with minimal assistance those procedures required for the conduct of general anesthesia in the pediatric patient over 5 years of age, taking into account the unique pediatric milestones as well as the unique physical, psychological and pharmacological characteristics of this age group

8 F ME 5.1 Incorporate, as appropriate, into a differential diagnoses, harm from health care delivery

9 F ME 5.2 Use cognitive aids such as procedural checklists, structured communication tools, or care paths, to enhance patient safety

10 F COM 1.1 Communicate using a patient-centred approach that encourages patient trust and autonomy and is characterized by empathy, respect, and compassion

11 F COM 1.2 Optimize the physical environment for patient comfort, privacy, engagement, and safety

12 F COL 3.2 Communicate with the receiving physicians or health care professionals during transitions in care, clarifying issues after transfer as needed (in particular transfer of care to nurses in the Post Anesthetic Care Unit (PACU))

13 F P 1.1 Exhibit appropriate professional behaviours and relationships in all aspects of practice, demonstrating honesty, integrity, humility, commitment, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality
Anesthesiology: Foundation EPA #25

Managing pediatric patients with common postoperative complications in the post anesthetic care unit or ward

Key Features:
- This EPA may include the following complications: pain, nausea, vomiting, tachycardia, bradycardia, hypotension, hypoxemia, respiratory depression, laryngospasm, post op stridor, postoperative bleeding and delirium

Assessment plan:

Supervisor does assessment based on direct or indirect observation (chart review and debriefing of case)

Use Form 1. Form collects information on:
- Type of observation: direct; indirect
- Type of complication: pain; nausea; vomiting; tachycardia; bradycardia; hypotension; hypoxemia; respiratory depression; laryngospasm; post op stridor; postoperative bleeding; delirium; other
- Age of patient
- Setting: PACU; surgical ward

Collect 5 observations of achievement
- At least two different complications
- At least one with airway or respiratory complication
- At least two patients under the age of 10
- At least two different settings
- At least two different assessors

Relevant milestones

1. **F ME 1.3** Apply clinical and biomedical sciences to manage core patient presentations in pediatric anesthesiology or pediatric surgery

2. **F ME 1.4** Perform focused clinical assessments with recommendations that are well-documented

3. **F ME 1.4** Recognize urgent problems that may need the involvement of more experienced colleagues and seek their assistance immediately

4. **F ME 2.4** Develop and implement initial management plans for common postoperative problems in pediatric anesthesiology or pediatric surgery.

5. **F ME 3.4** Seek assistance as needed when unanticipated findings or changing clinical circumstances are encountered

6. **F ME 4.1** Ensure follow-up on results of investigation and response to treatment
7  TD COM 3.1 Communicate the diagnosis, prognosis and plan of care in a clear, compassionate, respectful, and accurate manner to the patient and family and use strategies to verify and validate their understanding

8  F COM 3.2 Disclose harmful patient safety incidents to patients and their families accurately and appropriately

9  F COM 5.1 Document information about patients and their medical conditions in a manner that enhances intra- and interprofessional care

10 F COM 5.1 Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions

11 F COL 1.1 Receive and appropriately respond to input from other health care professionals

12 F COL 2.2 Communicate clearly and directly to promote understanding, manage differences, and resolve conflicts

13 F COL 3.2 Communicate with the attending physician or other appropriate member of the health care team about the patient’s condition and care

14 F S 1.2 Identify, record, prioritize and answer learning needs that arise in daily work, scanning the literature or attending formal or informal education sessions

15 F P 2.2 Demonstrate a commitment to patient safety
Anesthesiology: Foundation EPA #26

Assessing and managing pediatric patients with common medical conditions

Key Features:
- This EPA may be observed in the inpatient setting, ambulatory clinic or emergency room
- This EPA includes the following common medical conditions: upper/lower respiratory tract infections, urinary tract infections, minor injuries and febrile illness
- In Foundations, the resident is expected to manage these patients under the supervision of senior pediatric residents or staff.

Assessment plan:
Supervisor does assessment based on indirect observation (chart review and/or case debriefing)

Use Form 1. Form collects information on:
- Condition: upper/lower respiratory tract infections; urinary tract infections; minor injuries; febrile illness; other
- Age of patient

Collect 6 observations of achievement
- At least 3 patients under the age of 10
- At least 2 different assessors

Relevant milestones

1. **F ME 1.1** Demonstrate compassion for patients
2. **F ME 1.3** Apply clinical and biomedical sciences to manage core patient presentations in undifferentiated general pediatric patients
3. **F ME 2.1** Iteratively establish priorities, considering the perspective of the patient and family (including values and preferences) as the patient’s situation evolves
4. **F ME 2.2** Elicit a history, perform a physical exam, select appropriate investigations, and interpret their results for the purpose of developing a differential diagnosis and an initial management plan
5. **F ME 2.4** Discuss with the patient and family the degree of uncertainty inherent in all clinical situations
6. **F ME 3.1** Integrate all sources of information to develop and initiate a therapeutic plan that is safe, patient-centred, and considers the risks and benefits of all approaches
7. **F ME 3.4** Seek assistance as needed when unanticipated findings or changing clinical circumstances are encountered
8  **F COM 1.6** Assess patients’ decision-making capacity taking into account patient age and developmental stage. Include parents and other care-givers in discussion.

9  **F COM 2.2** Conduct a focused and efficient patient interview, managing the flow of the encounter while being attentive to the patient’s cues and responses.

10 **F COM 2.3** Seek and synthesize relevant information from other sources, including the patient’s family, with the patient’s consent.

11 **F COL 1.1** Differentiate between task and relationship issues among health care professionals.

12 **F COL 3.1** Identify patients requiring handover to other physicians or health care professionals.

13 **F COL 3.2** Communicate with the receiving physicians or health care professionals during transitions in care, clarifying issues after transfer as needed.

14 **F S 1.2** Identify, record, prioritize and answer learning needs that arise in daily work, scanning the literature or attending formal or informal education sessions.

15 **F P 1.1** Exhibit appropriate professional behaviours and relationships in all aspects of practice, demonstrating honesty, integrity, humility, commitment, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality.

16 **F P 1.3** Recognize and respond to ethical issues encountered in practice particularly as they relate to pediatric patients. Including competence, consent, confidentiality.
Anesthesiology: Foundation EPA #27

Managing uncomplicated patients with acute pain, either postoperative or traumatic, and managing common complications of acute pain management modalities in the post anesthetic care unit or in the surgical ward

Assessment plan:

Supervisor does assessment based on direct or indirect observation

Use Form 1. Form collects information on:
- Type of issue: initial management; follow-up care; complication
- Type of observation: direct; indirect

Collect 6 observations of achievement
- 3 initial management
- 2 follow-up care
- 1 complication
- At least 3 direct observations

Relevant milestones

1  F ME 1.3 Apply clinical and biomedical sciences to demonstrate knowledge of the anatomy and physiology of acute pain.

2  F ME 1.4 Perform focused clinical assessment of acute pain with recommendations that are well-documented.

3  F ME 1.4 Recognize difficult scenarios or urgent problems that may require the involvement of more experienced colleagues and seek their assistance immediately

4  F ME 2.4 Develop and implement management plans for acute pain including IV PCA, multimodal analgesia, and recognize the potential role of regional anesthesia when possible

5  F ME 2.4 Develop and implement management plans for common complications of acute pain management modalities

6  F ME 3.1 Describe the indications, contraindications, risks, advantages and disadvantages of the various groups of analgesics available for management of acute pain and use the most appropriate

7  F ME 3.3 Prioritize and advocate for the timely execution of a procedure or therapy, taking into account clinical urgency and available resources

8  F ME 4.1 Ensure follow-up on response to treatment
9 F COM 1.5 Manage disagreements and emotionally charged conversations by recognizing when personal feelings in an encounter are valuable clues to the patient’s emotional state

10 F COM 2.2 Conduct a focused and efficient acute pain service (APS) follow-up assessment, managing the flow of the encounter while being attentive to the patient’s cues and responses

11 F COM 4.1 Explore the perspectives of the patient and others when developing care plans

12 F COL 1.2 Negotiate overlapping and shared responsibilities with physicians and other colleagues in the health care professions in episodic and ongoing care.

13 F L 1.1 Seek data to inform practice and engage in an iterative process of improvement.

14 F HA 2.2 Improve clinical practice by identifying patients or populations that are not being optimally treated for pain.

15 F S 1.2 Identify, record, prioritize and answer learning needs that arise in daily work, scanning the literature or attending formal or informal education sessions.

16 F P 2.2 Monitor institutional and clinical environments and respond to issues that can harm patients or the impact the delivery of health care.
Anesthesiology: Core EPA #1

Assessing, investigating, optimizing, and formulating anesthetic management plans for patients with complex medical issues

Key Features:
- This EPA focuses on the preoperative assessment and its purpose to identify and prioritize anesthetic considerations
- Complex medical issues include but are not limited to cancer, cardiovascular disease, connective tissue disease, diabetes mellitus, end organ disease, endocrine disorders, frailty, significant hematological disorders, infectious diseases, morbid obesity, neurological diseases, neuromuscular and musculoskeletal disease, obstructive sleep apnea (OSA), organ transplantation and advanced significant respiratory disease
- This EPA may be observed in the inpatient or preoperative clinic setting

Assessment plan:

Supervisor does assessment based on direct and indirect observation

Use Form 1. Form collects information on:
- Level of complexity: moderate, high
- Type of issue: cancer, cardiovascular disease, connective tissue disease, diabetes mellitus, end organ disease, endocrine disorders, frailty, significant hematological disorders, infectious diseases, morbid obesity, neurological diseases, neuromuscular and musculoskeletal disease, obstructive sleep apnea (OSA), organ transplantation and advanced significant respiratory disease
- Type of surgery: cardiac surgery; general surgery; gynecology; neurosurgery; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; thoracic surgery; urology; vascular surgery
- Type of observation: direct; indirect
- Location: preop clinic; ward, OR

Collect 10 observations of achievement
- At least 10 with high level of complexity
- At least 3 with cardiovascular disease
- At least 2 with respiratory disease
- At least 3 other different issues
- At least 2 direct observations
- At least 3 assessors
Relevant milestones:

1. **C ME 1.3** Apply clinical and biomedical sciences to manage perioperative assessment in complex patients, in the breadth of conditions listed in the national curriculum

2. **C ME 1.4** Perform clinical assessments that address the breadth of issues in each case

3. **C ME 1.6** Seek assistance in situations that are complex or new

4. **C ME 2.1** Consider clinical urgency, feasibility, availability of resources, and comorbidities in determining priorities to be addressed

5. **C ME 2.1** Identify and resolve conflicting anesthetic priorities for complex patients for any surgical procedure

6. **C ME 2.2** Select and interpret relevant perioperative investigations/imaging techniques and integrate the results to assess risk and to appropriately modify perioperative management plan

7. **C ME 2.2** Synthesize patient information to determine the most appropriate anesthetic management plan

8. **C ME 2.2** Focus the clinical encounter, performing it in a time-effective manner, without excluding key elements

9. **C ME 2.3** Address the impact of the medical condition on the patient’s ability to pursue life goals and purposes

10. **C ME 2.3** Share concerns, in a constructive and respectful manner, with patients and families about goals of care that are not felt to be achievable

11. **C ME 2.4** Formulate and implement anesthetic management plans that consider all of the patient’s health problems and context in collaboration with patients and their families and, when appropriate, the interprofessional team

12. **C ME 2.4** Assess perioperative risk and apply risk reduction strategies

13. **C ME 3.1** Integrate all sources of information to develop an anesthetic plan that is safe, patient-centred, and considers the risks and benefits of all approaches

14. **C ME 3.2** Use shared decision-making in the consent process, taking risk and uncertainty into consideration

15. **C COM 1.5** Recognize when strong emotions (such as, anger, fear, anxiety, or sadness) are affecting an interaction and respond appropriately

16. **C COM 1.6** Tailor approaches to decision-making to patient capacity, values, and preferences
17 **F COM 5.1** Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions

18 **C COL 1.2** Consult as needed with other health care professionals, including other physicians

19 **C COL 1.3** Communicate effectively with physicians and other colleagues in the health care professions

20 **C COL 1.3** Provide timely and necessary written information to colleagues to enable effective relationship-centered care

21 **C L 2.1** Use clinical judgment to minimize wasteful practices

22 **C HA 1.2** Apply the principles of behaviour change during conversations with patients about adopting healthy behaviours including smoking cessation

23 **C S 1.2** Seek and interpret multiple sources of performance data and feedback, with guidance, to continually improve performance

24 **C P 2.1** Demonstrate a commitment to maintaining and enhancing competence
Anesthesiology: Core EPA #2

Managing postoperative patients in collaboration with the surgical team with the goal of improving patient outcomes (elective)

Key Features:
- The achievement of this EPA is elective
- The observation of this EPA is divided into two parts: patient assessment and management, and the application of a quality improvement approach to patient care
- This EPA can be observed on any clinical experience where postoperative patients are encountered.
- The patient assessment and management aspects of this EPA focus on postoperative patient followup in the days following a surgical procedure and working collaboratively with the surgical team
- The quality improvement aspects of this EPA are applied to individual patient care/follow-up in the context of quality improvement at the systems level to improve relevant patient outcomes. Examples could be pain management, VTE prophylaxis, complications of surgical positioning, nausea and vomiting, etc. Chart reviews, QI projects and case reports may be part of this task.

Assessment plan:

Part A: Patient assessment and management
Supervisor does assessment based on direct and indirect observation

Use Form 1. Form collects information on:
- Location: ICU; stepdown; surgical ward
- Case complexity: low; medium; high

Collect 5 observations of achievement
- At least 3 moderate or high complexity

Part B: Quality improvement
Supervisor does assessment based on review of submission

Use Form 1

Submission may include any of the following:
- Chart review/chart audit
- Case report
- Presentation at morbidity and mortality rounds
- Quality improvement project

Relevant milestones (Part A):

1. **C ME 1.1** Demonstrate commitment and accountability for patients in their care
2 C ME 1.3 Apply knowledge of the interaction of patient co-morbidity and surgical interventions in producing adverse patient outcomes

3 C ME 2.2 Elicit a history, perform a physical exam, select appropriate investigations, and interpret their results for the purpose of diagnosis and management

4 C ME 4.1 Establish plans for ongoing care, taking into consideration the patient’s clinical state, circumstances, preferences and actions, as well as available resources, best practices and research evidence

5 C COM 3.1 Provide information on diagnosis and prognosis in a clear, compassionate, respectful, and objective manner

6 C COM 3.2 Communicate the reasons for unanticipated clinical outcomes to patients and disclose patient safety incidents

7 C COL 2.2 Gain consensus among colleagues in resolving conflicts

8 C S 2.5 Educate surgical colleagues regarding preoperative optimization and its impact on postoperative outcomes

Relevant Milestones (Part B):

1 C ME 1.3 Apply knowledge of the interaction of patient co-morbidity and surgical interventions in producing adverse patient outcomes

2 C ME 5.1 Recognize near-misses in real time and respond to correct them, preventing them from reaching the patient

3 C ME 5.1 Identify potential improvement opportunities arising from harmful patient safety incidents and near misses

4 C ME 5.1 Participate in an analysis of patient safety incidents

5 C L 1.1 Analyze and provide feedback on processes seen in one’s own practice, team, organization or system

6 C L 1.1 Participate in a patient safety and/or quality improvement initiative

7 C L 1.2 Engage patients and their families in the continuous improvement of patient safety

8 C L 1.4 Map the flow of information in the care of their patients and suggest changes for quality improvement and patient safety

9 C L 1.4 Use data on measures of clinical performance during team discussions and to support team decision-making

10 C HA 2.2 Report epidemics or clusters of unusual cases seen in practice, balancing
patient confidentiality with the duty to protect the public’s health

11  **C S 2.5** Educate surgical colleagues regarding preoperative optimization and its impact on postoperative outcomes

12  **C S 3.1** Generate focused questions that address practice uncertainty and knowledge gaps

13  **C S 4.4** Apply statistical tools to accurately interpret treatment effects in improving patient outcome

14  **C P 1.2** Analyze how the system of care supports or jeopardizes excellence
Anesthesiology: Core EPA #3

Assessing, diagnosing and managing acute or potentially life-threatening conditions outside of the perioperative period

Key Features:
- This EPA focuses on the diagnosis, investigation and management of all aspects of a patient’s care including discussions of prognosis and other required medical interventions, as well as communication with other consultants and thorough documentation.
- Conditions may include but are not limited to respiratory distress, congestive heart failure, shock from any cause, overwhelming sepsis, devastating neurological events, cardiac ischemia and cardiac arrhythmias.
- This EPA is usually observed in the intensive care setting, but may be initially encountered in the ER or on the ward prior to transfer to the ICU.

Assessment plan:

Supervisor does assessment based on indirect observation (chart review and debrief)

Use Form 1. Form collects information on:
- Type of condition: cardiac event; neurologic event; respiratory failure; sepsis; shock
- Location: ICU, ward

Collect 7 observations of achievement
- at least one cardiac event
- at least one respiratory failure
- at least one shock of any type except cardiac
- at least 1 on ward
- at least 3 assessors

 Relevant Milestones:

1. **C ME 1.6 Adapt care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves**

2. **C ME 2.1 Consider clinical urgency, feasibility, availability of resources, and comorbidities in determining priorities to be addressed**

3. **C ME 2.2 Focus the clinical encounter, performing it in a time-effective manner, without excluding key elements**

4. **C ME 2.3 Address the impact of the medical condition on the patient’s ability to pursue life goals and purposes**
5  C ME 2.4 Develop, in collaboration with a patient and his or her family, a plan to deal with clinical uncertainty

6  C ME 3.1 Integrate planned procedures or therapies into global assessment and management plans

7  C ME 3.2 Use shared decision-making in the consent process, taking risk and uncertainty into consideration

8  C ME 3.4 Competently perform a resuscitation protocol

9  C ME 4.1 Establish plans for ongoing care, taking into consideration the patient’s clinical state, circumstances, preferences, and actions, as well as available resources, best practices, and research evidence

10  C ME 5.2 Apply the principles of situational awareness to clinical practice

11  C COM 3.1 Convey information related to the patient’s health status, care, and needs in a timely, honest, and transparent manner

12  C COL 1.3 Communicate effectively with physicians and other colleagues in the health care professions

13  C COL 3.2 Organize the handover of care to the most appropriate physician or health care professional

14  C L 3.2 Develop a strategy for implementing change in health care resuscitation with physicians and other health care professionals to enhance outcomes

15  C L 4.2 Apply the principles of crisis resource management including but not limited to leadership, resource allocation, situational awareness and communication/collaboration

16  C L 4.3 Improve personal practice by evaluating a problem, setting priorities, executing a plan, and analyzing the results

17  C S 1.2 Seek and interpret multiple sources of performance data and feedback, with guidance, to continually improve performance

18  C S 2.3 Balance clinical supervision and graduated responsibility, ensuring the safety of patients and learners
Anesthesiology: Core EPA #4

Providing comprehensive assessment and ongoing management of complex critically ill patients in an intensive care setting

Key Features:
- This EPA focuses on all aspects of ongoing patient care in a critically ill patient, including ongoing reassessment and management of the clinical course, organizing and following up investigations, and performing required invasive procedures
- This also includes thorough documentation, leading family discussions regarding prognosis and treatment decisions, collaborating with required specialists, and demonstrating professional behavior with the entire care team.

Assessment plan:
Supervisor does assessment based on direct and/or indirect observation

Use Form 1. Form collects information on:
- Category: cardiac disease; neurologic disease; respiratory disease; sepsis; trauma; shock

Collect 8 observations of achievement
- At least one from each category
- At least 3 assessors

Relevant milestones:

1  C ME 1.4 Perform clinical assessments that address the breadth of issues in each case

2  C ME 1.6 Adapt care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves

3  C ME 2.2 Select and interpret appropriate investigations based on a differential diagnosis

4  C ME 2.2 Synthesize patient information to determine diagnosis

5  C ME 2.3 Address the impact of the medical condition on the patient’s ability to pursue life goals and purposes

6  C ME 2.3 Share concerns, in a constructive and respectful manner, with patients and their families about their goals of care when they are not felt to be achievable

7  C ME 2.4 Select appropriate life-sustaining therapies (e.g. NIPPV, IPPV, dialysis, hemodynamic supports) and implement them in an organized, prioritized and efficient manner
8  C ME 3.1 Integrate planned procedures or therapies into global assessment and management plans

9  C ME 3.3 Triage a procedure or therapy, taking into account clinical urgency, potential for deterioration, and available resources

10 C ME 3.4 Competently perform discipline-specific procedures

11 C ME 4.1 Establish plans for ongoing care, taking into consideration the patient’s clinical state, circumstances, preferences, and actions, as well as available resources, best practices, and research evidence

12 C ME 4.1 Determine the necessity and appropriate timing of consultation

13 C ME 5.2 Apply the principles of situational awareness to clinical practice

14 F COM 5.1 Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions

15 C COL 3.2 Organize the handover of care to the most appropriate physician or health care professional
**Anesthesiology: Core EPA #5**

Managing the care of multiple patients with remote consultant support during afterhours coverage in intensive care unit

**Key Features:**
- The observation of this EPA is divided into two parts: patient care and handover
- The patient care aspects of this EPA focuses on managing a critical care unit overnight without direct supervision, provided the consultant is available if needed. This includes prioritizing patient management decisions, demonstrating insight into one’s limitations and recognizing when to call for assistance. It is expected however that the Core resident can independently manage emergent situations that may arise until further help is available.
- The handover aspect of this EPA is to be observed as the resident transfers care to the incoming physician/team (i.e. morning after coverage)

**Assessment plan:**

**Part A: Patient care**
Supervisor does assessment based on indirect observation (chart review, debrief, phone consultation)

Use Form 1. Form collects information on:
- Level of activity on shift: low; medium; high
- Number of patient under resident’s care

Collect one observation per call event
- At least 3 assessors

**Part B: Handover**
Supervisor does assessment based on direct observation of a handover event

Use Form 1

Collect 3 observations of achievement

**Relevant milestones (Part A):**

1  **C ME 1.5** Maintain a duty of care and patient safety while balancing multiple competing responsibilities

2  **C ME 1.5** Prioritize patients on the basis of acuity of illness

3  **C ME 1.5** Prioritize issues in each patient on the basis of clinical presentation

4  **C ME 1.6** Adapt care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves
5  **C ME 1.6** Seek assistance in situations that are complex and new

6  **C ME 2.2** Synthesize patient information to determine diagnosis

7  **C ME 2.4** Formulate and implement management plans that consider all of the patient’s health problems and context

8  **C ME 3.1** Integrate planned procedures or therapies into global assessment and management plans

9  **C ME 3.3** Prioritize a procedure or therapy, taking into account clinical urgency, potential for deterioration, and available resources

10 **C ME 3.4** Competently perform discipline-specific procedures

11 **C ME 4.1** Determine the necessity and appropriate timing of consultation

12 **C ME 5.2** Apply the principles of situational awareness to clinical practice

13 **C COM 1.3** Recognize when the values, biases, or perspectives of patients, physicians, or other health care professionals may have an impact on the quality of critical or end of life care, and modify the approach to the patient accordingly

14 **C COM 1.6** Tailor approaches to decision-making to patient capacity, values, and preferences within the familial, societal, and legal obligations of the profession

15 **C COM 3.1** Provide information on diagnosis, risks and benefits of diagnostic and therapeutic options, and prognosis in a clear, compassionate, respectful, and objective manner.

16 **C COM 3.1** Convey information related to the patient’s health status, care, and needs in a timely, honest, and transparent manner.

17 **F COM 5.1** Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions

18 **F COL 1.1** Establish and maintain healthy relationships with physicians and other colleagues in the health care professions to support relationship-centered collaborative care

19 **C L 4.2** Apply the principles of crisis resource management including but not limited to leadership, resource allocation, situational awareness and communication/collaboration

20 **C HA 1.1** Facilitate timely patient access to intensive care resources

21 **F P 4.1** Demonstrate an ability to regulate attention, emotions, thoughts, and behaviours, mitigating the impact of physical and environmental factors, to ensure the capacity to perform professional tasks on call
Relevant milestones (Part B):

1. **C ME 2.2** Synthesize patient information to reflect current clinical condition

2. **C ME 4.1** Establish plans for ongoing care, taking into consideration the patient’s clinical state, circumstances, preferences, and actions, as well as available resources, best practices, and research evidence

3. **F COM 5.1** Document information about patients and their medical conditions in a manner that enhances intra-and interprofessional care

4. **F COL 3.2** Communicate with the receiving physicians or health care professionals during transitions in care, clarifying issues after transfer as needed

5. **C COL 3.2** Analyze gaps in communication between health care professionals during transitions in care

6. **F COL 3.2** Summarize the patient’s issues in the transfer summary, including plans to deal with the ongoing issues

7. **F COL 3.2** Recognize and act on patient safety issues in the transfer of care

8. **C COL 3.2** Demonstrate safe handover of care, using both verbal and written communication, during a patient transition to a different healthcare professional or setting
Anesthesiology: Core EPA #6

Performing as an integral member of the patient care team on daily ICU rounds by recommending management decisions consistent with best practice standards and guidelines (elective)

Key Features:
- The achievement of this EPA is elective
- This EPA focuses on summarizing the patient’s active issues and suggesting best medical management and followup, as well as working effectively with other health care professionals, using their expertise appropriately

Assessment plan:

Part A: Daily rounds
Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Setting: ICU; NICU; PICU; coronary unit
- Assessor: staff; peer

Collect 5 observations of achievement
- At least 2 settings
- At least 2 staff
- At least 1 peer

Part B: Multisource feedback
Multiple observers provide feedback individually, which is then collated to one report.

Use Form 3. Form collects information on
- Observer role: ICU nurses; respiratory therapist; pharmacists; other

Collect feedback on one occasion at the end of a clinical experience of at least 4 weeks in an intensive care unit
- At least one of each observer role
- At least 8 observers

Relevant milestones (Part A):
1 C ME 1.5 Prioritize issues in each patient on the basis of clinical presentation
2 C ME 1.6 Adapt care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves
3 C ME 2.1 Consider clinical urgency, feasibility, availability of resources, and comorbidities in determining priorities to be addressed
4 C ME 2.2 Synthesize patient information to reflect current clinical condition
5  C ME 4.1 Implement a patient-centred care plan that supports ongoing care, follow-up on investigations, response to treatment, and further consultation

6  C COM 1.3 Recognize when the values, biases, or perspectives of patients, physicians, or other health care professionals may have an impact on the quality of care, and modify the approach to the patient accordingly

7  C COL 1.2 Consult as needed with other health care professionals, including other physicians

8  C COL 1.3 Engage in respectful shared decision-making with physicians and other colleagues in the health care professions

9  C COL 2.2 Gain consensus among colleagues in resolving conflicts

10 C L 2.1 Use clinical judgment to minimize wasteful practices

11 C HA 1.1 Facilitate timely patient access to services and resources

12 C S 2.1 Use strategies for deliberate, positive role-modeling

13 C S 2.3 Supervise learners to ensure they work within limitations, seeking guidance and supervision when needed

14 C S 2.6 Appropriately assess junior learners

Relevant Milestones (Part B):

1  C COM 1.1 Communicate with patient and family in a manner that encourages trust and autonomy, and is characterized by empathy, respect, and compassion

2  F COM 5.2 Write orders clearly and legibly

3  F COL 1.1 Establish and maintain healthy relationships with physicians and other colleagues in the health care professions to support relationship-centered collaborative care

4  C COL 1.2 Consult as needed with other health care professionals, including other physicians

5  C COL 1.3 Communicate effectively with physicians and other colleagues in the health care professions

6  C COL 1.3 Provide timely and necessary written information to colleagues to enable effective relationship-centered care

7  F COL 2.1 Delegate tasks and responsibilities in an appropriate and respectful manner

8  C COL 2.1 Show respect toward collaborators

9  C L 1.2 Actively encourage all involved in health care, regardless of their role, to report and respond to unsafe situations

10 C L 4.2 Demonstrate appropriate leadership skills in the intensive care environment including during crisis

11 F P 1.1 Exhibit appropriate professional behaviours and relationships in all aspects of practice, demonstrating honesty, integrity, humility,
commitment, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality

12 F P 1.5 Exhibit professional behaviours in the use of technology-enabled communication
**Anesthesiology: Core EPA #7**

**Providing care for patients whose goals of care are palliative, including comprehensive pain and perioperative management, and demonstration of appropriate communication skills (elective)**

**Key Features:**
- The achievement of this EPA is elective
- The observation of this EPAs is divided into two parts:
  - communication around end of life decisions as well as DNR status during surgery
  - pain and anesthetic considerations in patients whose care goals are palliative
- This EPA may be observed in the perioperative or ICU setting

**Assessment plan:**

**Part A: Communication**
Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Type of setting: preoperative; ICU; postoperative
- Type of discussion: do not resuscitate discussion (DNR); plans for palliative care; other (please specify)

Collect 3 observations of achievement
- At least one from preoperative setting
- At least one from ICU

**Part B: Pain and anesthetic considerations**
Supervisor does assessment based on direct observation, or chart review and/or case discussion

Use Form 1. Form collects information on:
- Focus of care: pain management; anesthetic management

Collect 3 observations of achievement
- At least one pain management
- At least one anesthetic management

**Relevant milestones (Part A):**

1. **C ME 2.3** Share concerns, in a constructive and respectful manner, with patients and their families, about their goals of care when they are not felt to be achievable
2 C ME 2.4 Formulate and implement management plans that consider all of the patient’s health problems and context, in a timely manner, in collaboration with patients and their families and, when appropriate, the interprofessional team.

3 C ME 2.4 Develop, in collaboration with a patient and his or her family, a plan to deal with clinical uncertainty.

4 C ME 3.2 Use shared decision-making in the consent process, taking risk and uncertainty into consideration.

5 C ME 4.1 Establish plans for ongoing care, taking into consideration the patient’s clinical state, circumstances, preferences and actions, as well as available resources, best practices and research evidence.

6 C COM 1.1 Communicate with patient and family in a manner that encourages trust and autonomy, and is characterized by empathy, respect, and compassion.

7 C COM 1.3 Recognize when the values, biases, or perspectives of patients, physicians, or other health care professionals may have an impact on the quality of care, and modify the approach to the patient accordingly.

8 C COM 1.5 Recognize when strong emotions (such as anger, fear, anxiety, or sadness) are impacting an interaction and respond appropriately.

9 C COM 1.6 Tailor approaches to decision-making to patient capacity, values, and preferences.

10 C COM 2.1 Actively listen and respond to patient cues.

11 C COM 2.2 Manage the flow of challenging patient encounters, including those with angry, distressed, or excessively talkative individuals.

12 C COM 3.1 Provide information on diagnosis, risks and benefits of diagnostic and therapeutic options and prognosis in a clear, compassionate, respectful, and objective manner.

13 F COM 4.3 Answer questions from the patient and family about next steps.

14 F COM 5.1 Document clinical encounters and care plans (such as DNR forms and discussions) to adequately convey clinical reasoning and the rationale for decisions.

15 C COL 3.2 Organize the handover of care to the most appropriate physician or health care professional trained in the care of the complex palliative patient.

16 C HA 1.1 Recognize the role the Anesthesiologist might play in the context of Medical Assistance in Dying.

17 C P 1.3 Manage ethical issues encountered with patients/families of varied cultural and religious backgrounds during sensitive end-of-life discussions.
Relevant Milestones (Part B):

1. **C ME 1.4** Perform clinical assessments that address the breadth of issues in each case

2. **C ME 2.1** Consider appropriateness of clinical intervention in the setting of a palliative patient

3. **C ME 2.3** Address the impact of the medical condition on the patient’s comfort and quality of life and whether it will be impacted by a given medical intervention (e.g. surgery, diagnostic test, etc.)

4. **C ME 2.4** Formulate and implement management plans that consider all of the patient’s health problems and context, in a timely manner, in collaboration with patients and their families and, when appropriate, the interprofessional team

5. **C ME 2.4** Develop, in collaboration with a patient and his or her family, a plan to deal with clinical uncertainty

6. **C ME 3.2** Use shared decision-making in the consent process, taking risk and uncertainty into consideration

7. **C ME 4.1** Establish plans for ongoing care, taking into consideration the patient’s clinical state, circumstances, preferences and actions, as well as available resources, best practices and research evidence

8. **C COM 1.3** Recognize when the values, biases, or perspectives of patients, physicians, or other health care professionals may have an impact on the quality of care, and modify the approach to the patient accordingly

9. **C COM 1.5** Recognize when strong emotions (such as anger, fear, anxiety, or sadness) are impacting an interaction and respond appropriately

10. **F COM 5.1** Document clinical encounters and care plans (such as DNR forms and discussions) to adequately convey clinical reasoning and the rationale for decisions

11. **C COL 3.2** Organize the handover of care to the most appropriate physician or health care professional trained in the care of the complex palliative patient

12. **C P 1.3** Manage ethical issues encountered with patients/families of varied cultural and religious backgrounds during sensitive end of life discussions
Anesthesiology: Core EPA #8

Managing patients presenting with an anticipated difficult airway, including appropriate extubation plans

Key Features:
- The resident has been entrusted with discussing plans for anticipated difficult airway in foundations. At Core the task focuses on preparation of full OR equipment and medication including at least 2 additional management options if the initial plan is unsuccessful, consideration of potential side effects and complications, execution of the management plan and thorough documentation.
- The extubation plan must include anticipation of and management strategies to minimize risk of failure, and a postoperative disposition appropriate for the level of care required.

Assessment plan:
Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Location: OR; ICU; ward; ER
- Age
- Type of airway management technique: fiberoptic; direct laryngoscopy; video laryngoscopy; adjunct airway use
- Airway foreign body: yes; no
- Extubation plans: yes; no

Collect 6 observations of achievement
- At least 3 assessors

Relevant milestones

1 C ME 1.4 Perform an appropriate history and physical assessment to identify patients with the potential for a difficult airway, including the predictors for difficult mask ventilation

2 C ME 2.2 Synthesize patient information to diagnose a potential difficult airway

3 C ME 2.2 Identify those patients and disease states which are at higher risk of a difficult airway

4 C ME 2.4 Formulate and implement management plans that consider all of the patient’s health problems and context, in a timely manner, in collaboration with patients and their families and, when appropriate, the interprofessional team

5 C ME 3.1 Integrate all sources of information to develop a clear plan to safely manage the patient with an anticipated difficult airway
6 C ME 3.4 Competently and safely provide airway management for patients with an anticipated difficult airway

7 C ME 3.4 Document procedures accurately

8 C ME 3.4 Establish and implement a plan for extubation, post-extubation and post-operative care

9 C COM 3.1 Convey information, management plans and rationale accurately and respectfully to the patient in an honest and transparent manner

10 F COM 5.1 Document information about the patient with a difficult airway in a manner that enhances patient safety and intra- and inter-professional care

11 C COL 1.3 Communicate effectively with physicians and other colleagues in the health professions

12 C S 1.2 Keep a log of difficult airway cases and include techniques and airway adjuncts to guide future required learning experiences

13 C P 2.1 Demonstrate a commitment to maintaining and enhancing competence
Anesthesiology: Core EPA #9

Managing patients presenting with unanticipated difficult airway, including cannot intubate, cannot oxygenate situation

Key Features:
- This EPA requires the demonstration of medical expertise to manage the clinical situation as well as the leadership skills to facilitate teamwork and crisis resource management
- The observation of this EPA should be documented with every encounter of a patient with an unanticipated difficult airway

Assessment plan:

Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Age
- Setting: OR; ICU; ER
- Procedure: fiberoptic; direct laryngoscopy; video laryngoscopy; adjunct airway use; tracheostomy; cricothyroidotomy

Collect observations of every unanticipated difficult airway encountered throughout Core

Relevant milestones

1. **C ME 1.4** Perform appropriate history and physical assessment to identify patients with potential for a difficult airway, including the predictors for difficult mask ventilation

2. **C ME 1.6** Seek assistance in situations that are complex or new

3. **C ME 1.6** Promptly recognize a complex situation in which the patient is not responding as usual to the management plan

4. **C ME 2.2** Promptly synthesize patient information to reassess the airway and diagnose a difficult airway with or without difficult mask ventilation

5. **C ME 2.2** Identify those patients and disease states which are at higher risk of a difficult airway

6. **C ME 3.1** Select appropriate airway management techniques under a crisis situation

7. **C ME 3.4** Establish and implement a plan for extubation, post-extubation and post-operative care

8. **C ME 3.4** Document procedures accurately
9  C ME 3.4 Competently and safely provide airway management under a crisis situation

10  C ME 3.4 Appropriately apply techniques of cricothyroidotomy or tracheotomy

11  C ME 4.1 Establish plans for ongoing care, taking into consideration the patient’s clinical state, circumstances, preferences, and actions, as well as available resources, best practices, and research evidence

12  C ME 5.2 Apply the principles of situational awareness to clinical practice

13  C ME 5.2 Adopt strategies that promote patient safety and address human and system factors safety

14  C COM 3.2 Communicate the reasons for unanticipated clinical outcomes to patients and disclose patient safety incidents

15  C COM 3.2 Apologize appropriately for a harmful patient safety incident

16  C COL 1.3 Provide timely and necessary written information to colleagues to enable effective relationship-centered care

17  C COL 1.3 Apply closed loop communication in urgent or crisis situations to work effectively with physicians and other colleagues in the health care professions

18  F COL 2.1 Delegate tasks and responsibilities in an appropriate and respectful manner during a crisis

19  L 4.2 Assume a leadership role during a crisis

20  C P 2.1 Demonstrate a commitment to maintaining and enhancing competence

21  C P 4.1 Demonstrate the ability to stay calm during a challenging situation
Anesthesiology: Core EPA #10

Providing perioperative management for patients requiring airway diagnostic and therapeutic procedures

Key Features:
- This EPA may be observed in any of the following situations: fiberoptic and rigid bronchoscopy, laser surgery, foreign body removal, airway stents or tracheal resection

Assessment plan:

Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Location: clinical; simulation
- Type of airway and/or ventilation management: spontaneously breathing patient; spontaneously breathing with airway adjunct; use of rigid laryngoscopy or bronchoscopy; use of endotracheal tube; use of jet ventilation; other

Collect 5 observations of achievement
- At least one jet ventilation (may be simulated)

Relevant milestones

1. **C ME 1.4** Perform clinical assessments that address the breadth of issues in each case
2. **C ME 1.6** Seek assistance in situation that are complex or new
3. **C ME 2.1** Consider clinical urgency, feasibility, availability of resources, and comorbidities in determining priorities to be addressed
4. **C ME 2.2** Synthesize information from the preoperative workup to prepare for a patient with a complicated airway
5. **C ME 2.4** Assess risk for, anticipate, and prepare for loss of airway
6. **C ME 3.1** Integrate all sources of information to develop an anesthetic management plan that is safe, patient-centred, and considers the risks and benefits of all approaches
7. **C ME 3.4** Provide anesthesia for invasive airway procedures
8. **C COL 1.1** Anticipate, identify, and respond to patient safety issues related to the function of a team

© 2017 The Royal College of Physicians and Surgeons of Canada. All rights reserved.
9  C COL 1.3 Demonstrate efficiency in giving feedback on the patient status to the surgical team during the procedure

10  F COL 2.1 Delegate tasks and responsibilities and communicate a clear plan of action to an assistant before a procedure

11  C COL 3.2 Demonstrate safe handover of care
Anesthesiology: Core EPA #11

Providing perioperative anesthetic management for adult patients with complex medical issues undergoing scheduled or emergent surgical procedures

Key Features:
- The observation of this EPA is divided into three parts: perioperative management of individual cases, breadth of experience and collaboration with the interprofessional team
- The perioperative management aspects of this EPA focus on all aspects of care for an individual patient including preoperative assessment, investigation/optimization if needed, informed consent, anesthetic management and determination of postoperative disposition
- This EPA should be observed across a variety of procedures of moderate to high complexity in various surgical subspecialties
- Complex medical issues may include but are not limited to cancer, cardiovascular disease, connective tissue disease, diabetes mellitus, end organ disease, endocrine disorders, frailty, significant hematological disorders, infectious diseases, morbid obesity, neurological diseases, neuromuscular and musculoskeletal disease, obstructive sleep apnea (OSA), organ transplantation, and advanced significant respiratory disease

Assessment plan:

Part A: Perioperative management
Supervisor does assessment based on direct observation and review of clinical documentation

Use Form 1. Form must collect information on
- Timing: emergency; elective
- Type of surgery: cardiac surgery; general surgery; gynecology; neurosurgery; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; thoracic surgery; urology; vascular surgery
- Type of anesthesia: general; neuraxial; regional, monitored anesthesia care (MAC)
- Case complexity: low; medium; high
- Patient comorbidities: cancer; cardiovascular disease; connective tissue disease; diabetes mellitus; end organ disease; endocrine disorders; frailty; significant hematological disorders; infectious diseases; morbid obesity; neurological diseases; neuromuscular and musculoskeletal disease; obstructive sleep apnea (OSA); organ transplantation; advanced significant respiratory disease

Collect seventy (70) observations of achievement
- At least 50 observations in elective patients
- At least 20 observations in emergency patients
- Must include broad range of surgeries, patient complexity ratings and co-morbidities
- Observations must be collected across the breadth of the duration of Core stage
Part B: Logbook
Submit resident logbook demonstrating breadth of technical procedures and anesthetic management

Part C: Multisource feedback
Multiple observers provide feedback individually, which is then collated to one report.

Use Form 3. Form collects information on:
- Observer role: OR nurse; PACU nurse; respiratory therapist or anesthesia assistant; surgeon

Collect feedback on 2 occasions at least 12 months apart
- At least one from each observer role
- At least 10 observers at each time point

Relevant milestones (Part A):

1. **C ME 1.1** Demonstrate commitment and accountability for patients in their care

2. **C ME 1.3** Apply knowledge of the clinical and biomedical sciences relevant to Anesthesiology

3. **C ME 1.4** Perform appropriately-timed preoperative clinical assessments with recommendations that are well-organized and properly documented in written and/or oral form

4. **C ME 1.6** Adapt care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves

5. **C ME 1.6** Seek assistance in situations that are complex or new

6. **C ME 2.1** Consider clinical urgency, feasibility, availability of resources, and comorbidities in determining priorities to be addressed during preoperative evaluation and determination of timing of surgery

7. **C ME 2.2** Elicit a history, perform a physical exam and select appropriate investigations, and interpret their results for the purpose of determining prioritized anesthetic considerations and perioperative management plan

8. **C ME 2.4** Establish a comprehensive patient-centred perioperative anesthetic management plan, taking into consideration the wishes of the patients and their families, the impact of the patient’s co-morbidities, available resources, and the needs and urgency of the surgical or diagnostic procedure

9. **C ME 3.2** Use shared decision-making in the consent process, taking risk and uncertainty into consideration

10. **C ME 3.4** Establish and implement a plan for post-anesthesia care
11 C ME 3.4 Perform the anesthetic management and all related technical procedures in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances

12 C ME 5.2 Apply the principles of situational awareness to clinical practice

13 C COM 4.3 Obtain and document informed consent for the planned anesthetic management in a manner that engages the patients and their families using established principles of effective communication

14 C COM 5.1 Maintain an anesthetic record and document postoperative orders in a manner consistent with effective written communication

15 C COL 1.2 Negotiate overlapping and shared responsibilities with physicians and other colleagues in the health care professions

16 C COL 1.3 Engage in respectful shared decision-making with physicians and other colleagues in the health care professions

17 C COL 2.2 Implement strategies to promote understanding, manage differences, and resolve conflict in a manner that supports a collaborative culture

18 C COL 3.2 Demonstrate safe handover of care, using both verbal and written communication, during a patient transition to a PACU RN, an anesthesiologist, or to a different health care professional

19 C L 2.1 Allocate health care resources for optimal patient care

20 C L 4.2 Assume a leadership role in managing complex cases in the OR

20 C HA 1.2 Work with patients and their families to increase opportunities to adopt healthy behaviours

21 C S 3.3 Critically evaluate the integrity, reliability, and applicability of health-related research and literature

22 F P 1.1 Exhibit appropriate professional behaviours and relationships in all aspects of practice, demonstrating honesty, integrity, humility, commitment, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality

23 C P 2.1 Demonstrate accountability to patients, society, and the profession by responding to societal expectations of physicians.

Relevant Milestones (Part C):

1 C COM 1.1 Communicate with patient and family in a manner that encourages trust and autonomy and is characterized by empathy, respect, and compassion

2 C COM 5.2 Write orders clearly and legibly
3 C COL 1.1 Establish and maintain healthy relationships with physicians and other colleagues in the health care professions to support relationship-centered collaborative care

4 F COL 2.1 Delegate tasks and responsibilities in an appropriate and respectful manner

5 C COL 2.1 Show respect toward collaborators

6 C COL 3.2 Demonstrate safe handover of care, using both verbal and written communication, during a patient transition to a PACU RN, an anesthesiologist, or to a different health care professional.

7 C L 4.2 Demonstrate appropriate leadership skills

8 C L 1.2 Actively encourage all involved in health care, regardless of their role, to report and respond to unsafe situations

9 F P 1.1 Exhibit appropriate professional behaviours and relationships in all aspects of practice, demonstrating honesty, integrity, humility, commitment, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality

10 F P 1.5 Exhibit professional behaviours in the use of technology-enabled communication
Anesthesiology: Core EPA #12

Providing perioperative anesthetic management for geriatric patients undergoing scheduled or emergent surgical procedures

Key Features:
- This EPA focuses on the specific risks associated with surgery in the frail elderly patient with special considerations related to risk of surgery, and unique postoperative complications such as delirium and post-operative cognitive dysfunction

Assessment plan:

Supervisor does assessment based on direct observation and review of clinical documentation

Use Form 1. Form collects information on:
- Complexity of case: low; moderate; high
- Type of anesthesia: general; neuraxial; regional; monitored anesthesia care (MAC)

Collect 3 observations of achievement
- At least one under general anesthesia
- At least 2 assessors

Relevant milestones

1. **C ME 1.4** Perform appropriately-timed preoperative clinical assessments with recommendations that are well-organized and properly documented in written and/or verbal form

2. **C ME 2.3** Identify the patient’s beliefs, values and goals and counsel them appropriately regarding anesthetic choices, treatment options and overall prognosis as part of a preoperative assessment

3. **C ME 2.4** Establish a comprehensive patient-centred perioperative anesthetic management plan, taking into consideration the wishes of the patients and their families, the impact of the patient’s co-morbidities, available resources, and the needs and urgency of the surgical or diagnostic procedure

4. **C ME 3.1** Integrate all sources of information to develop the most appropriate anesthesia management plan for the patient considering anatomic, physiologic and pharmacologic changes related to the geriatric population, and risks and benefits of all approaches

5. **C ME 3.2** Use shared decision-making in the consent process, taking risk and uncertainty into consideration
6 C ME 3.4 Establish and implement a plan for post-anesthesia care including anticipation and management of postoperative complications specific to the geriatric population

7 C ME 3.4 Perform the anesthetic management and all related technical procedures in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances

8 C COM 1.6 Tailor approaches to decision-making to patient capacity, values, and preferences

9 C COL 1.2 Consult as needed with other health care professionals, including other physicians

10 C COL 3.2 Demonstrate safe handover of care, using both verbal and written communication, during a patient transition to a PACU RN, an anesthesiologist, or to a different health care professional
Anesthesiology: Core EPA #13

Providing perioperative anesthetic management for patients with critical illness

Key Features:
- This EPA focuses on the specific risks associated with surgery in the patient who is critically ill, adapting anesthetic plan to the patient’s ongoing medical management as well as the type of surgery

Assessment plan:

Supervisor does assessment based on direct observation and review of clinical documentation

Use Form 1. Form collects information on:
- Complexity of case: low; medium; high
- Type of critical life support: circulatory; respiratory; renal; other

Collect 5 observations of achievement
- At least 3 with high complexity
- At least 3 assessors

Relevant milestones:

1. **C ME 1.1** Demonstrate commitment and accountability for patients in their care
2. **C ME 1.3** Apply knowledge of advanced life support to optimize and prepare the patient and operating room for surgical intervention in the critically ill patient
3. **C ME 2.2** Elicit a history, perform a physical exam and select appropriate investigations, and interpret their results for the purpose of determining prioritized anesthetic considerations and perioperative management plan of a patient with critical illness
4. **C ME 3.1** Integrate all sources of information to develop an anesthetic management plan that is safe, patient-centred, and considers the risks and benefits of all approaches
5. **C ME 3.4** Establish and implement a plan for post-anesthesia care
6. **C ME 3.4** Perform the anesthetic management and all related technical procedures in a skillful and safe manner, adapting to unanticipated findings or changing clinical circumstances
7. **C ME 5.1** Recognize and respond to harm from health care delivery, including patient safety incidents
8. **C ME 5.2** Apply the principles of situational awareness to clinical practice
9 **C COM 4.3** Obtain and document informed consent for the planned anesthetic management in a manner that engages the patients and their families using established principles of effective communication

10 **C COM 3.2** Disclose harmful patient safety incidents to patients and their families accurately and appropriately

11 **C COL 1.3** Engage in respectful shared decision-making with physicians and other colleagues in the health care professions.

12 **C COL 2.2** Implement strategies to promote understanding, manage differences, and resolve conflicts in a manner that supports a collaborative culture

13 **C COL 3.2** Demonstrate safe handover of care, using both verbal and written communication, during a patient transition to a PACU RN, an anesthesiologist, or to a different health care professional.

14 **C L 1.2** Contribute to a culture that promotes patient safety

15 **C L 2.1** Engage in stewardship of health care resources

16 **C L 4.3** Implement processes to ensure personal practice improvement

17 **C HA 1.1** Respond to an individual patient’s health needs by advocating with the patient within and beyond the clinical environment

18 **C P 1.1** Demonstrate a commitment to patients by applying best practices and adhering to high ethical standards
Anesthesiology: Core EPA #14

Managing serious and life-threatening perioperative complications in a time-appropriate manner

**Key Features:**
- This EPA focuses on the management of the full range of serious and life-threatening complications in a time-appropriate manner, as they factor in complex medical issues inherent in the patient presentation.
- This EPA includes identification of risk factors, strategies to prevent/minimize potential complications, anticipation of further complications, as well as assessing, diagnosing and managing the complication. Leadership, communication and patient advocacy skills must be demonstrated to facilitate a fully functional care team. This may involve additional specialist involvement and consultation.

**Assessment plan:**

Supervisor does assessment based on direct or indirect observation (case review and debrief)

Use Form 1. Form collects information on:
- Type of surgery: cardiac surgery; general surgery; gynecology; neurosurgery; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; thoracic surgery; urology; vascular surgery
- Category of illness: cardiac; respiratory; neurologic; other
- Timing: intraoperative; postoperative
- Type of anesthesia: general; neuraxial; regional, monitored anesthesia care (MAC)

Collect 7 observations of achievement
- At least 3 different surgical procedures
- At least 2 different categories of illness
- At least 3 intraoperative
- At least 1 postoperative

**Relevant milestones**

1. **C ME 1.5** Maintain a duty of care and patient safety while balancing multiple responsibilities
2. **C ME 1.6** Adapt care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves
3. **C ME 2.1** Consider clinical urgency, feasibility, availability of resources, and comorbidities in determining priorities to be addressed
4. **C ME 2.1** Initiate management of urgent situations in a timely manner
5. **C ME 2.2** Elicit a history, perform a physical exam, use appropriate information from ongoing monitoring, select appropriate investigations and interpret their results for the purpose of diagnosis and management of an unexpected perioperative event.

6. **C ME 2.4** Formulate and implement management plans that consider all of the patient’s health problems and context, in a timely manner, in collaboration with patients and their families and, when appropriate, the interprofessional team.

7. **C ME 3.1** Determine and implement the most appropriate procedures or therapies for the purpose of management of perioperative unexpected events.

8. **C ME 4.1** Implement a patient-centred care plan that supports ongoing care, follow-up on investigations, response to treatment, and further consultation.

9. **C COM 3.1** Share information and explanations that are clear, accurate and timely while checking for patient and family understanding.

10. **C COM 5.1** Document and share written and electronic information about the medical encounter to optimize clinical decision-making, patient safety, confidentiality and privacy.

11. **C COL 1.2** Negotiate overlapping and shared responsibilities with physicians and other colleagues in the health care professions.

12. **C COL 3.2** Demonstrate safe handover of care, using both verbal and written communication, during a patient transition to a different health care professional or setting.

13. **C L 1.2** Actively encourage all involved in health care, regardless of their role, to report and respond to unsafe situations.

14. **C P 2.2** Demonstrate a commitment to patient safety and quality improvement.
Anesthesiology: Core EPA #15

Managing patients with perioperative anesthesia complications, including disclosure (elective)

Key Features:
- The achievement of this EPA is elective
- This EPA includes diagnosis, further investigations if indicated and management
- Full disclosure to the patient and family is included in this EPA, as well as debriefing and reporting to appropriate authorities if indicated

Assessment plan:

Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Event type: common; serious; other

Collect 5 observations of achievement
- At least 2 serious events

Relevant milestones:

1. C ME 1.3 Apply knowledge of anesthesia complications encountered during the perioperative period to provide peri-operative care
2. C ME 1.6 Adapt care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves
3. C ME 1.6 Seek assistance in situations that are complex or new
4. C ME 2.2 Synthesize patient information to determine diagnosis
5. C ME 2.4 Establish a patient-centered management plan
6. C ME 5.1 Report patient safety incidents to appropriate institutional representatives
7. C ME 5.1 Participate in an analysis of patient safety incidents
8. C ME 5.1 Recognize and respond to harm from health care delivery, including patient safety incidents
9. F ME 5.1 Prioritize the initial medical response to adverse events to mitigate further injury
10. C COM 2.2 Manage the flow of challenging patient encounters, including those with angry, distressed, or excessively talkative individuals
11 **C COM 3.1** Provide information on diagnosis and prognosis in a clear, compassionate, respectful, and objective manner

12 **C COM 3.1** Convey information related to the patient’s health status, care and needs in a timely, honest and transparent manner

13 **C COM 3.2** Communicate the reasons for unanticipated clinical outcomes to patients and disclose patient safety incidents

14 **C COM 3.2** Apologize appropriately for a harmful patient safety incident

15 **C COM 3.2** Disclose patient safety incidents to the patient and family accurately and appropriately

16 **C COM 3.2** Plan and document follow-up to harmful patient safety incident

17 **F COM 5.1** Document clinical encounters in an accurate, complete, timely and accessible manner, and in compliance with legal and privacy requirements

18 **C COL 1.3** Engage in respectful shared decision-making with physician and other colleagues in the health care professions

19 **C L 1.1** Participate in a patient safety and/or quality improvement initiative

20 **C HA 2.2** Improve individual and discipline clinical practice by applying a process of continuous quality improvement to prevent complications

21 **C S 2.3** Balance clinical supervision and graduated responsibility, ensuring the safety of patients and learners

22 **C P 2.2** Demonstrate a commitment to patient safety and quality improvement

23 **C P 3.3** Prepare a morbidity and mortality report or chart review
Anesthesiology: Core EPA #16

Determining indications for, establishing, and managing invasive and non-invasive monitoring for patients perioperatively and for those who are critically ill

Key Features:
- This EPA focuses on the appropriate indications for monitoring as well as using monitoring information to adapt patient management

Assessment plan:
Supervisor does assessment based on direct observation and review of clinical documentation

Use Form 1. Form collects information on:
- Setting: OR; ICU
- Type of monitor used: CVP monitoring; non-invasive cardiac output monitors; invasive cardiac output monitors; depth of anesthesia monitors; evoked potential monitors; cerebral oximetry; ICP monitoring; electromyographic monitoring; other

Collect 8 observations of achievement
- At least two in each setting
- At least five different monitors
- At least three assessors

Relevant milestones

1. C ME 1.6 Adapt care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves
2. C ME 2.2 Synthesize patient information to determine indications for invasive and non-invasive monitoring
3. C ME 2.2 Interpret patient information provided by invasive and non-invasive monitors, for the purposes of diagnosis and management
4. C ME 2.2 Identify and respond appropriately when invasive or non-invasive monitors provide erroneous information
5. C ME 2.4 Adapt management plans as the clinical situation evolves
6. C ME 3.1 Integrate all sources of information to develop a procedural or therapeutic plan that is safe, patient-centred, and considers the risks and benefits of all approaches
7. C ME 3.2 Obtain and document informed consent, explaining the risks and benefits of, and the rationale for, a proposed procedure or therapy
<table>
<thead>
<tr>
<th>No.</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>C ME 3.3</td>
<td>Triage a procedure or therapy, taking into account clinical urgency, potential for deterioration, and available resources</td>
</tr>
<tr>
<td>9</td>
<td>C ME 3.4</td>
<td>Perform a procedure in a skillful and safe manner, adapting to unanticipated findings or changing clinical circumstances</td>
</tr>
<tr>
<td>10</td>
<td>C ME 5.1</td>
<td>Recognize and respond to harm from health care delivery, including patient safety incidents</td>
</tr>
<tr>
<td>11</td>
<td>C COM 3.1</td>
<td>Share health care information and plans with patients and their families</td>
</tr>
<tr>
<td>12</td>
<td>C COM 5.1</td>
<td>Document clinical encounters in an accurate, complete, timely, and accessible manner, in compliance with regulatory and legal requirements</td>
</tr>
<tr>
<td>13</td>
<td>C L 2.1</td>
<td>Engage in stewardship of health care resources</td>
</tr>
</tbody>
</table>
Anesthesiology: Core EPA #17

Providing resuscitation and comprehensive management, including crisis resource management, for patients presenting with a life-threatening emergency, across the spectrum of age

Key Features:
- This EPA may be observed in a variety of clinical situations (cardiac arrest, malignant arrhythmias, trauma, massive transfusion, burns, drowning, intoxication) in various populations (adult, pediatric, obstetrical)

Assessment plan:

Supervisor does assessment based on direct or indirect observation (case review and debrief)

Use Form 1. Form collects information on:
- Type of patient: adult; pediatric; obstetrical
- Setting: OR; ER; ICU; ward; PACU
- Type of event: burns; cardiac arrest; drowning; intoxication; malignant arrhythmia; massive hemorrhage; shock; trauma; other

Collect 6 observations of achievement
- At least 2 different settings
- At least 3 different types of events

Relevant milestones

1. **C ME 1.5** Maintain a duty of care and patient safety while balancing multiple responsibilities

2. **C ME 1.6** Seek assistance in situations that are complex or new

3. **C ME 1.6** Concurrently diagnose and manage life threatening emergencies by adapting care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves

4. **C ME 2.1** Identify the patient in need of resuscitation and initiate appropriate resuscitative measures in an evidence-based, patient-centred manner

5. **C ME 2.2** Focus the clinical encounter, performing it in a time-effective manner in the appropriate clinical setting by utilizing recognized clinical guidelines (i.e. ACLS, ATLS, etc.)

6. **C ME 2.3** Recognize when ongoing resuscitation efforts are no longer effective and should be discontinued

7. **C ME 3.4** Competently perform resuscitation protocols
8  **C ME 5.2** Apply the principles of situational awareness to clinical practice

9  **C COM 3.1** Convey information related to resuscitative efforts in a clear, compassionate, honest and transparent manner

10  **F COM 5.1** Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions

11  **C COL 1.3** Apply closed loop communication in urgent or crisis situations to work effectively with physicians and other colleagues in the health care professions

12  **F COL 2.1** Delegate tasks and responsibilities in an appropriate and respectful manner

13  **C COL 3.2** Organize the handover of care to the most appropriate physician or health care professional

14  **C L 4.2** Establish clear leadership, either by recognizing the team leader or assuming the leadership role as appropriate

15  **C S 3.4** Identify new evidence appropriate to their scope of professional practice through quality-appraised evidence-alerting services

16  **C P 4.1** Integrate skills that support adaption and recovery in challenging situations

17  **F P 4.1** Demonstrate an ability to regulate attention, emotions, thoughts, and behaviours while maintaining capacity to perform professional tasks
Anesthesiology: Core EPA #18

Providing perioperative management for patients with major polytraumatic injury

Key Features:
- This EPA focuses on intraoperative resuscitation, urgent procedures and anesthetic management and may also include assessment of patient in the initial setting

Assessment plan:

Supervisor does assessment based on direct observation and review of clinical documentation

Use Form 1. Form collects information on:
- Hemodynamic stability: yes/no
- Massive transfusion protocol: yes/no
- Site of trauma: brain; thoracic; abdominal; orthopedic; multiple
- Type of trauma: blunt; penetrating

Collect 5 observations of achievement
- At least 2 with hemodynamic instability
- At least one massive transfusion protocol
- At least 3 assessors

Relevant milestones

1. C ME 1.4 Perform a structured clinical assessment in a time-effective manner that address the breadth of issues in each case without excluding key elements

2. C ME 1.5 Maintain a duty of care and patient safety while balancing multiple responsibilities

3. C ME 1.6 Adapt care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves

4. C ME 1.6 Seek assistance in situations that are complex or new

5. C ME 2.2 Select and interpret appropriate investigations based on differential diagnosis, urgency of the situation and resource availability

6. C ME 2.2 Synthesize patient information to determine diagnosis

7. C ME 2.4 Formulate and implement management plans that consider all of the patient’s health problems and context, in a timely manner, in collaboration with patients and their families and, when appropriate, the interprofessional team
8  C ME 2.4 Adapt management plans as the clinical situation evolves

9  C ME 3.3 Triage a procedure or therapy, taking into account clinical urgency, potential for deterioration, and available resources

10 C ME 3.4 Competently perform discipline-specific procedures

11 C ME 4.1 Establish plans for ongoing and postoperative care if relevant, taking into consideration the patient’s clinical state, circumstances, preferences, and actions, as well as available resources, best practices, and research evidence

12 C ME 5.2 Apply the principles of situational awareness to clinical practice

13 F COM 5.1 Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions

14 F COL 2.1 Delegate tasks and responsibilities in an appropriate and respectful manner

15 C COL 3.2 Organize the handover of care to the most appropriate physician or health care professional

16 C L 4.2 Establish clear leadership, either by recognizing the team leader or assuming the leadership role as appropriate

17 C S 1.2 Seek and interpret multiple sources of performance data and feedback, with guidance, to continually improve performance
Anesthesiology: Core EPA #19

Providing anesthetic management for patients undergoing procedures outside the usual environment of the operating room

Key Features:
- This EPA includes pre procedural assessment and post procedural disposition
- This EPA may be observed in MRI, interventional cardiology, interventional radiology, brachytherapy, electroconvulsive therapy (ECT) and invasive pediatric procedures such as intrathecal chemotherapy or bone marrow aspiration

Assessment plan:
Supervisor does assessment based on direct observation and review of clinical documentation

Use Form 1. Form collects information on:
- Location: MRI; interventional cardiology; interventional radiology; brachytherapy; ECT; invasive procedures
- Complexity of case: low; moderate; high
- Type of anesthesia: general; regional; monitored anesthesia care (MAC); other

Collect 3 observations of achievement
- At least three with moderate or high complexity
- At least two different types of anesthesia
- At least 2 assessors

Relevant milestones

1  C ME 1.1 Demonstrate commitment and accountability for patients in their care

2  C ME 1.4 Perform appropriately-timed preoperative clinical assessments with recommendations that are well-organized and properly documented in written and/or oral form

3  C ME 1.6 Adapt care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves

4  C ME 2.4 Formulate and implement management plans that consider all of the patient’s health problems and context, in a timely manner, in collaboration with patients and their families and, when appropriate, the interprofessional team

5  C ME 2.4 Develop anesthetic management plans that acknowledge and mitigate the added risk of managing anesthetics in remote locations
6 C ME 3.1 Integrate all sources of information to develop a procedural or therapeutic plan that is safe, patient-centred, and considers the risks and benefits of all approaches

7 C ME 3.1 Ensure standard monitors are immediately available in the environment as outlined in the CAS guidelines

8 C ME 3.4 Competently perform discipline specific procedures

9 C ME 4.1 Establish plans for ongoing post procedure care, taking into consideration the patient’s clinical state, circumstances, preferences, and actions, as well as available resources, best practices, and research evidence

10 C COL 1.1 Anticipate, identify, and respond to patient safety issues related to the function of a team

11 C COL 1.3 Communicate effectively with physicians and other colleagues in the health care professions

12 C COL 2.2 Analyze team dynamics

13 C COL 2.2 Gain consensus among colleagues in resolving conflicts

14 C COL 3.2 Organize the handover of care to the most appropriate physician or health care professional

15 C COL 3.2 Recognize and act on patient safety issues in the transfer of care

16 C L 2.2 Optimize practice patterns for cost-effectiveness and cost control

17 C P 1.1 Intervene when behaviours toward colleagues and learners undermine a respectful environment
Anesthesiology: Core EPA #20

Providing labour analgesia and peripartum anesthetic management for high-risk parturients having a non-surgical delivery

Key Features:
- This EPA includes patient assessment, identification of contraindications to various modalities, discussion of risks and benefits, informed patient consent, required monitoring and full documentation. It includes a consideration of changes in patient status particularly during the second phase of labour.
- The observation of this EPA is divided into two parts: patient management and collaboration with the interprofessional team

Assessment plan:

Part A: Patient Management
Supervisor does assessment based on indirect observation (chart review and/or discussion)

Use Form 1. Form collects information on:
- Type of anesthesia: neuraxial; other
- Pre-existing comorbidity: none; cardiac; obesity; other
- Pregnancy related comorbidity: yes; no

Collect 6 observations of achievement
- At least one other type of anesthesia
- At least 2 with pre-existing comorbidity
- At least 2 with pregnancy related comorbidity

Part B: Multisource feedback
Multiple observers provide feedback individually, which is then collated to one report.

Use Form 3. Form collects information on:
- Observer role: OB nurse; obstetrician

Collect feedback on one occasion from at least 10 observers
- At least one of each observer role
- At least 10 observers

Relevant milestones (Part A):

1. **C ME 1.3** Apply knowledge of the physiological changes associated with pregnancy

2. **C ME 1.4** Perform clinical assessments of the high-risk parturient that address the breadth of issues in relation to pre-existing comorbidities, as well as pregnancy induced disease states

3. **C ME 3.1** Integrate all sources of information to develop a labour analgesic and peripartum anesthetic plan that is safe, patient-centred, and considers
the risks and benefits of all approaches, while also considering the well-being of the fetus

4 C ME 3.2 Obtain and document informed consent, explaining the risks and benefits of, and the rationale for, a proposed management plan

5 C ME 3.4 Provide obstetrical analgesia in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances

6 C ME 4.1 Establish plans for ongoing care, taking into consideration the patient’s clinical state, circumstances, preferences, and actions, as well as available resources, best practices, and research evidence

7 C COM 1.3 Recognize when the values, biases, or perspectives of patients, physicians, or other health care professionals may have an impact on the quality of care, and modify the approach to the patient accordingly

8 C COM 3.1 Share information and explanations that are clear, accurate, and timely while checking for patient and family understanding

9 F COM 5.1 Document clinical encounters in an accurate, complete, timely and accessible manner, and in compliance with legal and privacy requirements

10 C COL 1.1 Anticipate, identify, and respond to patient safety issues related to the function of a team

11 C COL 1.3 Communicate effectively with physicians and other colleagues in the health care professions

12 C L 4.3 Improve personal practice by evaluating a problem, setting priorities, executing a plan, and analyzing the results

13 C S 2.3 Balance clinical supervision and graduated responsibility, ensuring the safety of patients and learners

14 C P 2.1 Demonstrate a commitment to maintaining and enhancing competence

15 C P 4.1 Integrate skills that support adaption and recovery in challenging situations

Relevant Milestones (Part B):

1 C COM 1.2 Optimize the physical environment for patient comfort, dignity, privacy, engagement, and safety

2 C COM 4.1 Facilitate discussions with the patient and family in a way that is respectful, non-judgmental, and culturally safe

3 F COM 5.1 Document clinical encounters in an accurate, complete, timely and accessible manner, and in compliance with legal and privacy requirements
4 C COL 1.1 Establish and maintain healthy relationships with physician and other colleagues in the health care professions to support relationship-centered collaborative care

5 F COL 2.1 Delegate tasks and responsibilities in an appropriate and respectful manner

6 C COL 2.2 Implement strategies to promote understanding, manage differences, and resolve conflicts in a manner that supports a collaborative culture

7 C COL 3.2 Demonstrate safe handover of care, using both verbal and written communication, during patient transitions to a different healthcare professional or setting

8 C L 4.2 Demonstrate appropriate leadership skills

9 F P 1.1 Exhibit appropriate professional behaviours and relationships in all aspects of practice, reflecting honesty, integrity, humility, dedication, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality

10 F P 1.5 Exhibit professional behaviours in the use of technology-enabled communication
Anesthesiology: Core EPA #21

Providing perioperative anesthetic management for parturients (low and high risk), with or without significant comorbidities, for scheduled, urgent or emergent cesarean section

Assessment plan:

Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Pre-existing comorbidity: none; cardiac; obesity; other
- Pregnancy related comorbidity: hemorrhage; pre-eclampsia; pre-term; other
- Urgent: yes/no
- Type of anesthesia: spinal; epidural; combined spinal/epidural; general

Collect 6 observations of achievement
- At least three with pre-existing comorbidities or pregnancy related comorbidity
- At least one urgent with epidural previously inserted for labour
- At least one under general anesthesia

Relevant milestones

1  C ME 1.6 Adapt care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves

2  C ME 2.1 Consider clinical urgency, feasibility, availability of resources, comorbidities and the second patient (fetus) in determining priorities to be addressed

3  C ME 2.2 Elicit a history, perform a physical exam and select appropriate investigations, and interpret their results for the purpose of determining prioritized anesthetic considerations and perioperative management plan

4  C ME 2.4 Formulate and implement management plans that consider all of the patient’s health problems and context, in a timely manner, in collaboration with patients and their families and, when appropriate, the interprofessional team

5  C ME 3.1 Integrate all sources of information to develop an anesthetic management plan that is safe, patient-centred, and considers the risks and benefits of all approaches

6  C ME 3.4 Document procedures accurately

7  C ME 3.4 Perform the anesthetic management and all related technical procedures in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances
8 C ME 4.1 Establish plans for ongoing care, taking into consideration the patient’s clinical state, circumstances, preferences, and actions, as well as available resources, best practices, and research evidence

9 C ME 5.2 Apply the principles of situational awareness to clinical practice

10 C COM 1.4 Respond to patients’ non-verbal communication and use appropriate non-verbal behaviours to enhance communication with patients

11 C COM 1.5 Recognize when strong emotions (such as anger, fear, anxiety, or sadness) are impacting an interaction and respond appropriately

12 C COL 1.3 Communicate effectively with physicians and other colleagues in the health care professions

13 C COL 2.2 Establish consensus among colleagues in resolving conflicts, while maintaining patient wellbeing as the primary objective
Anesthesiology: Core EPA #22

Providing peripartum anesthetic management and resuscitation of parturients (including intra-uterine resuscitation) presenting with serious and life-threatening obstetrical complications

Key Features:
- This EPA focuses on managing serious and life-threatening complications
- This includes but is not limited to patients presenting with prepartum hemorrhage; postpartum hemorrhage, embolic event, ruptured uterus, pre-eclampsia and HELLP syndrome.

Assessment plan:

Supervisor does assessment based on direct or indirect observation

Use Form 1. Form collects information on:
- Type of complications: prepartum hemorrhage; postpartum hemorrhage, embolic event, ruptured uterus, pre-eclampsia; HELLP syndrome.

Collect 6 observations of achievement
- At least two hemorrhage
- At least one severe pre-eclampsia
- At least 3 assessors

Relevant milestones

1. **C ME 1.6** Adapt care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves

2. **C ME 2.1** Consider clinical urgency, feasibility, availability of resources, comorbidities and the second patient (fetus) in determining priorities to be addressed

3. **C ME 2.1** Initiate management of urgent situations in a timely manner

4. **C ME 2.2** Focus the clinical encounter, performing the clinical assessment in a time-effective manner, without excluding key elements

5. **C ME 2.4** Formulate and implement management plans that consider all of the patient’s health problems and context, in a timely manner, in collaboration with patients and their families and, when appropriate, the interprofessional team

6. **C ME 3.1** Integrate appropriate monitoring including monitoring of the fetus into global assessment and management plans
7 C ME 3.4 Competently perform resuscitation protocol including intra-uterine resuscitation

8 C ME 3.4 Establish and implement a plan for post-procedure care

9 C ME 3.4 Perform the anesthetic management and all related technical procedures in a skillful and safe manner, adapting to unanticipated findings or changing clinical circumstances

10 C ME 4.1 Establish plans for ongoing care, taking into consideration the patient’s clinical state, circumstances, preferences, and actions, as well as available resources, best practices, and research evidence

11 C ME 5.2 Apply the principles of situational awareness to clinical practice

12 C COM 3.1 Share information and explanations that are clear, accurate and timely while checking for patient and family understanding

13 C COL 1.1 Anticipate, identify, and respond to patient safety issues related to the function of a team

14 C COL 1.3 Communicate effectively with physicians and other colleagues in the health care professions

15 F COL 2.1 Delegate tasks and responsibilities in an appropriate and respectful manner

16 C COL 3.2 Demonstrate safe handover of care, using both verbal and written communication, during a patient transition to a PACU RN, an anesthesiologist, or to a different health care professional

17 C L 4.2 Apply the principles of crisis resource management including, but not limited to, leadership, resource allocation, situational awareness, and communication/collaboration

18 F P 4.1 Demonstrate an ability to regulate attention, emotions, thoughts, and behaviours while maintaining capacity to perform professional tasks
Anesthesiology: Core EPA #23

Providing perioperative anesthetic management for pregnant patients undergoing non-obstetric surgery

Assessment plan:

Supervisor does assessment based on direct observation and review of clinical documentation

Use Form 1. Form collects information on:
- Complexity of case: low; moderate; high
- Trimester: first; second; third
- Type of anesthesia: general; neuraxial; regional; monitored anesthesia care (MAC)

Collect 5 observations of achievement
- At least one in each trimester
- At least 2 under general anesthesia
- At least 2 assessors

Relevant milestones

1. **C ME 1.1** Demonstrate commitment and accountability for patients in their care

2. **C ME 1.4** Perform appropriately-timed preoperative clinical assessments with recommendations that are well-organized and properly documented in written and/or oral form

3. **C ME 1.6** Adapt care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves

4. **C ME 2.1** Consider clinical urgency, feasibility, availability of resources, comorbidities and the second patient (fetus) in determining priorities to be addressed

5. **C ME 2.3** Address the impact of the medical condition on the patient’s ability to pursue life goals and purposes including issues in relation with the fetus (including risk of teratogenicity of medications)

6. **C ME 3.1** Integrate all sources of information to develop an anesthetic management plan that is safe and patient-centred, use optimal monitoring tool including appropriate use of fetal monitoring, and considers the risks and benefits of all approaches

7. **C ME 3.1** Integrate all anesthetic considerations into global assessment and management plans for all type of surgical procedures including trauma and proceed in a timely manner

© 2017 The Royal College of Physicians and Surgeons of Canada. All rights reserved.
8  **C ME 3.2** Use shared decision-making in the consent process, taking risk and uncertainty into consideration

9  **C ME 3.4** Perform the anesthetic management and all related technical procedures in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances

10 **C COM 1.5** Recognize when strong emotions (such as anger, fear, anxiety, or sadness) are impacting an interaction and respond appropriately

11 **C COM 4.1** Facilitate discussions with the patient and family in a way that is respectful, non-judgmental, and culturally safe

12 **F COM 5.1** Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions

13 **C COL 1.2** Consult as needed with other health care professionals, including other physicians

14 **C L 4.3** Improve personal practice by evaluating a problem, setting priorities, executing a plan, and analyzing the results

15 **C P 1.2** Analyze how the system of care supports or jeopardizes excellence

16 **C P 1.3** Manage ethical issues encountered in the clinical setting including conflicts between maternal and fetal interests, and issues related to fetal development and current limits of viability
Anesthesiology: Core EPA #24

Performing neonatal resuscitation

Key Features:
- The observation of this EPA is divided into two parts: neonatal resuscitation and communication with the family
- This EPA will most likely be observed in the postpartum period in labour and delivery suite or OR, but may also be observed in the NICU

Assessment plan:

Part A: Neonatal resuscitation
Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Setting: labour and delivery; OR; NICU

Collect 5 observations of achievement

Part B: Communication with family
Supervisor does assessment based on direct observation

Use Form 2

Collect 2 observations of achievement

Relevant milestones (Part A):

1. **C ME 1.1** Demonstrate commitment and accountability for patients in their care
2. **C ME 1.6** Adapt care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves
3. **C ME 2.2** Synthesize patient information to determine diagnosis
4. **C ME 2.2** Focus the clinical encounter, performing the clinical assessment in a time-effective manner, without excluding key elements
5. **C ME 2.4** Formulate and implement management plans that consider all of the patient’s health problems and context, in a timely manner, in collaboration with patients and their families and, when appropriate, the interprofessional team
6. **C ME 3.1** Integrate all sources of information to develop a management plan that is safe, patient-centred, and considers the risks and benefits of all approaches
7 C ME 3.1 Integrate appropriate monitoring into global assessment and management plans
8 C ME 3.4 Competently perform neonatal resuscitation as per current guidelines
9 C ME 3.4 Establish and implement a plan for post-procedure care
10 C ME 4.1 Determine the necessity and appropriate timing of consultation
11 C COM 3.1 Provide information on diagnosis and prognosis in a clear, compassionate, respectful, and objective manner.
12 F COM 5.1 Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions
13 C COL 1.3 Communicate effectively with physicians and other colleagues in the health care professions
14 F COL 2.1 Delegate tasks and responsibilities in an appropriate and respectful manner
15 C COL 3.2 Demonstrate safe handover of care, using both verbal and written communication, during a patient transition to a different health care professional or setting
16 C L 4.2 Apply the principles of crisis resource management including, but not limited to, leadership, resource allocation, situational awareness, and communication/collaboration
17 F P 4.1 Demonstrate an ability to regulate attention, emotions, thoughts, and behaviours while maintaining capacity to perform professional tasks

Relevant Milestones (Part B)

1 C ME 2.4 Formulate and implement management plans that consider all of the patient’s health problems and context, in a timely manner, in collaboration with patients and their families and, when appropriate, the interprofessional team
2 C COM 1.1 Communicate with patient and family in a manner that that encourages trust and autonomy and is characterized by empathy, respect, and compassion
3 C COM 1.5 Recognize when strong emotions (such as anger, fear, anxiety, or sadness) are impacting an interaction and respond appropriately
4 C COM 1.5 Establish boundaries as needed in emotional situations
5 C COM 2.2 Manage the flow of challenging patient encounters, including those with angry, distressed, or excessively talkative individuals

© 2017 The Royal College of Physicians and Surgeons of Canada. All rights reserved.
6  C COM 3.1 Provide information on diagnosis and prognosis in a clear, compassionate, respectful, and objective manner

7  C COM 3.1 Convey information related to the patient’s health status, care, and needs in a timely, honest, and transparent manner

8  C COM 5.1 Document clinical encounters in an accurate, complete, timely, and accessible manner, in compliance with regulatory and legal requirements
Anesthesiology: Core EPA #25

Assessing, investigating, optimizing and formulating anesthetic management plans for pediatric ASA 1-3 patients (above the age of one year) with coexisting conditions

Key Features:
- This EPA focuses on preoperative assessment and its use in identifying and prioritizing anesthetic considerations, as well as the optimization and preparation of the patient for surgery
- This EPA includes comprehensive documentation in the medical record

Assessment plan:

Supervisor does assessment based on direct or indirect observation, and review of clinical documentation

Use Form 1. Form collects information on:
- Type of observation: direct; indirect
- Type of comorbidity: cardiovascular disease; endocrine disorder; hematological disorder; infectious disease; neurological disease; neuromuscular or musculoskeletal disease; obstructive sleep apnea (OSA); respiratory disease
- Type of surgery: dental surgery; general surgery; neurosurgery; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; urology; other
- Patient age
- Location: preop clinic; ward; OR

Collect 6 observations of achievement
- At least 4 different comorbidities
- At least 3 different type of surgeries
- At least three patients under the age of 3
- At least 1 in preop clinic

Relevant milestones

1 C ME 1.3 Apply clinical and biomedical sciences to manage perioperative assessment in complex patients in the breadth of conditions listed in the national curriculum

2 C ME 1.4 Perform clinical assessments that address the breadth of issues in each case.

3 C ME 2.1 Consider clinical urgency, feasibility, availability of resources, and comorbidities in determining priorities to be addressed

4 C ME 2.2 Select and interpret appropriate investigations based on a differential diagnosis
5 C ME 2.2 Synthesize patient information to determine the most appropriate anesthetic management plan

6 C ME 2.2 Focus the clinical encounter, performing it in a time-effective manner, without excluding key elements

7 C ME 2.2 Elicit a history, perform a physical exam and select appropriate investigations, and interpret their results for the purpose of determining prioritized anesthetic considerations and perioperative management plan

8 C ME 2.3 Share concerns, in a constructive and respectful manner, with patients and their families about their goals of care when they are not felt to be achievable

9 C ME 2.4 Develop, in collaboration with a patient and his or her family, a plan to deal with clinical uncertainty

10 C ME 2.4 Assess perioperative risk and apply risk reduction strategies

11 C ME 3.2 Obtain and document informed consent, explaining the risks and benefits of, and the rationale for, a proposed procedure or therapy

12 C ME 4.1 Determine the necessity and appropriate timing of preoperative consultation

13 C COM 1.1 Communicate with patient and family in a manner that encourages trust and autonomy and is characterized by empathy, respect, and compassion

14 C COM 1.4 Respond to patients’ non-verbal communication and use appropriate non-verbal behaviours to enhance communication with patients

15 C COM 1.5 Recognize when strong emotions (such as anger, fear, anxiety, or sadness) are impacting an interaction and respond appropriately

16 C COM 2.1 Actively listen and respond to patient cues

17 C COM 2.2 Manage the flow of challenging patient encounters, including those with angry, anxious, or distressed pediatric patients or parents

18 C COM 5.1 Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions

19 C COM 5.1 Adapt record keeping to the specific guidelines of anesthesiology and the clinical context

20 C COL 1.2 Consult as needed with other health care professionals, including other physicians

21 C L 2.1 Use clinical judgment to minimize wasteful practices
22 C HA 1.2 Apply the principles of behaviour change during conversations with patients about adopting healthy behaviours
Anesthesiology: Core EPA #26

Providing perioperative anesthetic management of pediatric ASA 1-3 patients (above the age of one year) undergoing scheduled or urgent/emergent procedures of low to moderate complexity

Key Features:
- This EPA focuses on the management of all aspects of care including preoperative assessment, investigation/optimization if needed, informed consent with patient and family, anesthetic management and determination of postoperative disposition
- This EPA may be observed in any of the following type of procedures of low to moderate complexity: general surgery, dental, ear nose and throat, ophthalmologic, orthopedic, plastic surgery, urologic, or procedures in remote locations

Assessment plan:

Part A: Perioperative management
Supervisor does assessment based on direct observation and review of clinical documentation

Use Form 1. Form collects information on:
- Timing: emergency; elective
- Type of surgery: dental surgery; general surgery; neurosurgery; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; urology; other
- Case complexity: low; medium; high
- Patient comorbidity: cardiovascular disease; endocrine disorder; hematological disorder; infectious disease; neurological disease; neuromuscular or musculoskeletal disease; obstructive sleep apnea (OSA); respiratory disease
- Type of anesthesia: general; neuraxial; regional; monitored anesthesia care (MAC)
- Patient age

Collect 10 observations of achievement
- At least 3 emergency surgery
- At least 5 different types of surgery
- At least 3 medium or high case complexity
- At least 4 patients under the age of three

Part B: Logbook
Submit resident logbook demonstrating breadth of technical procedures and anesthetic management

Relevant milestones
1  C ME 1.1 Demonstrate commitment and accountability for patients and families in their care.
2  C ME 1.3 Apply knowledge of the clinical and biomedical sciences relevant to pediatric Anesthesiology
3 C ME 1.6 Adapt care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves

4 C ME 1.6 Seek assistance in situations that are complex or new

5 C ME 2.2 Elicit a history, perform a physical exam and select appropriate investigations, and interpret their results for the purpose of determining prioritized anesthetic considerations and perioperative management plan

6 C ME 2.4 Establish a comprehensive patient-centered and family-centered perioperative anesthetic management plan, taking into consideration the wishes of the patients and their families, the impact of the patient’s co-morbidities, available resources, and the needs and urgency of the surgical or diagnostic procedure

7 C ME 3.2 Use shared decision-making in the consent process, taking risk and uncertainty into consideration

8 C ME 3.2 Obtain and document informed consent for the planned anesthetic management in a manner that engages the patients and their families using established principles of effective communication

9 C ME 3.4 Establish and implement a plan for post-anesthesia care

10 C ME 3.4 Perform the anesthetic management and all related technical procedures in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances

11 C ME 5.2 Apply the principles of situational awareness to clinical practice

12 C COM 5.1 Maintain an anesthetic record and document postoperative orders in a manner consistent with effective written communication

13 C COL 1.2 Negotiate overlapping and shared responsibilities with physicians and other colleagues in the health care professions

14 C COL 1.3 Engage in respectful shared decision-making with physicians and other colleagues in the health care professions.

15 C COL 2.2 Implement strategies to promote understanding, manage differences, and resolve conflict in a manner that supports a collaborative culture

16 C COL 3.2 Demonstrate safe handover of care, using both verbal and written communication, during a patient transition to a PACU RN, an anesthesiologist, or to a different health care professional

17 C L 2.1 Allocate health care resources for optimal patient care.

18 C HA 1.2 Work with patients and their families to increase opportunities to adopt healthy behaviours

19 C S 3.3 Critically evaluate the integrity, reliability, and applicability of health-related research and literature

20 F P 1.1 Exhibit appropriate professional behaviours and relationships in all aspects of practice, demonstrating honesty, integrity, humility, commitment, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality
21  **C P 2.1** Demonstrate accountability to patients, their families, society, and the profession by responding to societal expectations of physicians
Anesthesiology: Core EPA #27

Providing resuscitation and comprehensive management for the pediatric patient (over the age of one year) presenting with a serious or life-threatening emergency (elective)

Key Features:
- The achievement of this EPA is elective
- This EPA may be observed in a variety of clinical situations such as in the OR, perioperatively, ER trauma bay or other setting.
- Comprehensive management assumes being an integral member of a team, involving (in most cases) a trauma team leader, surgeon, pediatrician or intensivist.

Assessment plan:

Supervisor does assessment based on direct or indirect observation (case review and debrief)

Use Form 1. Form collects information on:
- Age of patient
- Setting: OR; ER; PICU; ward; PACU
- Type of event: cardiac arrest; serious respiratory event; shock; malignant arrhythmia; trauma; burns; drowning; intoxication; hemorrhage; other

Collect 3 observations of achievement
- At least 1 patient under the age of 5
- At least 2 different settings

Relevant milestones

1. **C ME 1.6** Adapt care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves

2. **C ME 2.1** Consider clinical urgency, feasibility, availability of resources, and comorbidities in determining priorities to be addressed

3. **C ME 2.1** Initiate management of urgent situations in a timely manner

4. **C ME 2.2** Select and interpret appropriate investigations based on a differential diagnosis

5. **C ME 2.2** Synthesize patient information to determine diagnosis

6. **C ME 2.2** Focus the clinical encounter, performing the clinical assessment in a time-effective manner, without excluding key element
7 C ME 3.1 Integrate all sources of information to develop a management plan that is safe, patient-centred, and considers the risks and benefits of all approaches

8 C ME 3.3 Triage a procedure or therapy, taking into account clinical urgency, potential for deterioration, and available resources

9 C ME 3.4 Establish and implement a plan for post-procedure care

10 C ME 3.4 Perform the management and all related technical procedures in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances

11 C COM 3.1 Provide information on diagnosis and prognosis to families in a clear, compassionate, respectful, and objective manner

12 C COL 1.3 Communicate effectively with physicians and other colleagues in the health care professions

13 F COL 2.1 Delegate tasks and responsibilities in an appropriate and respectful manner

14 C L 4.2 Apply the principles of crisis resource management including, but not limited to, leadership, resource allocation, situational awareness, and communication/collaboration

15 F P 4.1 Demonstrate an ability to regulate attention, emotions, thoughts, and behaviours while maintaining capacity to perform professional tasks
Anesthesiology: Core EPA #28

Establishing and managing difficult intravenous access and invasive monitoring for pediatric patients (above the age of one year)

Assessment plan:
Supervisor does assessment based on direct observation

Use Form 2. Form collects information on:
- Age of patient
- Procedure: peripheral intravenous access; central venous line; arterial line

Collect 6 observations of achievement
- At least one arterial line in patient under age 3
- At least two different procedures

Relevant milestones
1. C ME 1.6 Adapt care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves
2. C ME 3.3 Advocate for a patient’s procedure or therapy on the basis of urgency and available resources
3. C ME 3.4 Document procedures accurately
4. C ME 3.4 Perform a procedure in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances
5. C ME 3.4 Demonstrate effective procedure preparation, including gathering required equipment and optimal positioning of the patient
6. C COM 1.2 Optimize the physical environment for patient comfort, dignity, privacy, engagement, and safety
7. C COM 1.5 Recognize when strong emotions (such as anger, frustration, fear, anxiety, or sadness) are impacting an interaction and respond appropriately
8. C L 2.2 Optimize practice patterns for cost-effectiveness and cost control
9. F P 2.2 Demonstrate a commitment to patient safety and quality improvement through adherence to institutional policies and procedures (e.g. Infection control and sterility procedures)
10. F P 4.1 Demonstrate an ability to regulate attention, emotions, thoughts, and behaviours while maintaining capacity to perform professional tasks
Anesthesiology: Core EPA #29

Managing patients with common, serious or life-threatening complications of regional anesthesia (elective)

Key Features:
- The achievement of this EPA is elective
- This EPA focuses on diagnosis, treatment, disclosure to patients and families, follow up, referral, debriefing, and reporting to the appropriate authorities
- This includes the complications that are specific to regional anesthetic techniques; examples may be failed or partial regional block; block related hematoma or abscess; post-procedure neuropathy; local anesthetic toxicity

Assessment plan:

Supervisor does assessment based on direct or indirect observation (case review and debrief)

Use Form 1. Form collects information on:
- Type of regional anesthesia: neuraxial; upper limb nerve block; lower limb nerve block; Bier block
- Category of event: cardiac; respiratory; neurologic; other
- Timing of event: intraoperative; postoperative

Collect 3 observations of achievement
- at least one neuraxial
- at least one limb nerve block
- at least one neurologic events

Relevant milestones

1  C ME 1.1 Demonstrate commitment and accountability for patients in their care
2  C ME 1.6 Seek assistance in situations that are complex or new
3  C ME 2.2 Elicit a history, perform a physical exam, use appropriate information from ongoing monitoring, select appropriate investigations and interpret their results for the purpose of diagnosis and management of an unexpected perioperative event
4  C ME 2.2 Identify and diagnose anesthesia complications encountered during the perioperative period
5  C ME 2.4 Manage the encountered complications of regional anesthesia and consider the risk factors, presentation, diagnosis and treatment of, but not limited to, the following: failed block, intravascular injection of local anesthetic, local anesthetic toxicity, epidural hematoma/abscess, post dural puncture headache (PDPH), post-operative neuropathy
C ME 3.1 Determine and implement the most appropriate procedures or therapies for the purpose of management of unexpected perioperative events

C ME 3.4 Competently perform resuscitation protocols

C ME 3.4 Establish and implement a plan for post-anesthesia care following anesthesia complication

C ME 3.4 Perform the management and all related technical procedures in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances

C ME 4.1 Implement a patient-centred care plan that supports ongoing care, follow-up on investigations, response to treatment, and further consultation

C ME 5.1 Report patient safety incidents to appropriate institutional representatives

C ME 5.1 Recognize near-misses in real time and respond to correct them, preventing them from reaching the patient

C ME 5.1 Identify potential improvement opportunities arising from harmful patient safety incidents and near misses

C ME 5.1 Participate in an analysis of patient safety incidents

C ME 5.2 Apply the principles of situational awareness to clinical practice

C COM 3.1 Share information and explanations that are clear, accurate and timely while checking for patient and family understanding

C COM 3.2 Communicate the reasons for unanticipated clinical outcomes to patients and disclose patient safety incidents

C COM 3.2 Apologize appropriately for a harmful patient safety incident

C COM 5.1 Document clinical encounters in an accurate, complete, timely, and accessible manner, in compliance with regulatory and legal requirements

C COL 1.1 Anticipate, identify, and respond to patient safety issues related to the function of a team

C COL 1.3 Communicate effectively with physicians and other colleagues in the health care professions

C COL 1.3 Engage in respectful shared decision-making with physician and other colleagues in the health care professions
23 **F COL 2.1** Delegate tasks and responsibilities in an appropriate and respectful manner

24 **C L 1.2** Actively encourage all involved in health care, regardless of their role, to report and respond to unsafe situations

25 **C L 4.2** Apply the principles of crisis resource management including, but not limited to, leadership, resource allocation, situational awareness, and communication/collaboration

26 **C P 2.2** Demonstrate a commitment to patient safety and quality improvement

27 **C P 3.1** Describe how to respond to, cope with, and constructively learn from a complaint or legal action
Anesthesiology: Core EPA #30

Providing perioperative anesthetic management for adults with a peripheral nerve block regional anesthesia technique appropriate for the planned surgical procedure

Key Features:
- This EPA focuses on the management of all aspects of care including preoperative assessment, investigation/optimization if needed, appropriate patient selection, determination of surgical procedure compatibility, selection of anesthesia technique, discussion of risks and benefits (informed consent), performance of the regional anesthetic technique and monitoring of the patient throughout the procedure.
- This EPA includes postoperative disposition and ensuring adequate follow-up.
- The observation of this EPA is divided into two parts: patient management, including selection of appropriate technique, and performing a range of regional anesthesia techniques.
- The assessment of this EPA also includes review of the resident’s logbook.

Assessment plan:

Part A: Patient management
Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Location of block: upper limb; lower limb
- Regional anesthesia appropriate for case: yes; no

Collect 6 observations of achievement
- At least 2 upper limb
- At least 2 lower limb
- At least 1 patient assessment for whom regional anesthesia was appropriately identified as not indicated

Part B: Procedure
Supervisor does assessment based on direct observation

Use Form 2. Form collects information on:
- Location of block: upper limb; lower limb
- Type of block: interscalenic; supra-clavicular; infra-clavicular; axillary; peripheral block; transversus abdominis plane block; sciatic nerve; femoral nerve; popliteal sciatric; ankle block

Collect 12 observations of achievement
- At least 6 upper limb with at least three different types of block
- At least 6 lower limb with at least two different types of block
- At least 3 assessors
Part C: Logbook
Submit resident logbook demonstrating breadth of regional anesthesia experience

Relevant milestones (Part A):

1. C ME 1.3 Apply knowledge of the pharmacology of local anesthetics with respect to mechanism of action, toxicity, kinetics and adjuvants, to the selection of appropriate pharmacologic agents

2. C ME 2.2 Synthesize patient information to determine the most appropriate anesthetic management plan (e.g. general, neuraxial, peripheral nerve block, MAC)

3. C ME 2.2 Elicit a history, perform a physical exam and select appropriate investigations, and interpret their results for the purpose of determining prioritized anesthetic considerations and perioperative management plan

4. C ME 3.1 Select the most appropriate regional anesthesia technique in the context of local guidelines, the patient, the procedure and the surgeon

5. C ME 3.2 Obtain and document informed consent, explaining the risks and benefits of, and the rationale for the proposed procedure

6. C ME 3.4 Establish and implement a plan for post-anesthesia care

7. C ME 3.4 Perform the anesthetic management and all related technical procedures in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances

8. C COM 5.1 Maintain an anesthetic record and document postoperative orders in a manner consistent with effective written communication

9. C COL 1.3 Engage in respectful shared decision-making with the surgeon and other colleagues in the health care professions

10. C HA 1.2 Educate the patient with the use of information booklets, websites, and other communication technologies to improve their understanding of the planned regional technique and post procedure care

11. C S 1.1 Use technology or personal documentation to record, monitor, and report on your procedural log

12. C P 2.2 Demonstrate a commitment to patient safety and quality improvement through adherence to institutional policies, procedures and best practice guidelines (ASRA)
Relevant Milestones (Part B):

1. **C ME 1.3** Apply knowledge of anatomy to regional anesthesia technique
2. **TTD ME 3.1** Apply appropriate monitors correctly for the planned procedure
3. **C ME 3.2** Obtain and document informed consent, explaining the risks and benefits of, and the rationale for the proposed procedure
4. **C ME 3.4** Competently perform ultrasound guided peripheral nerve block
5. **TTD ME 3.4** Demonstrate effective procedure preparation, including gathering required equipment and optimal positioning of the patient
6. **C ME 3.4** Perform peripheral nerve block regional anesthesia and all related technical procedures in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances
7. **C COM 1.2** Optimize the physical environment for patient comfort, dignity, privacy, engagement, and safety
8. **F COM 5.2** Appropriately document anesthetic care and technique in an accurate, complete, timely, and accessible manner
9. **C S 1.1** Use technology or personal documentation to record, monitor, and report on your procedural log
10. **C P 2.2** Demonstrate a commitment to patient safety and quality improvement through adherence to institutional policies, procedures and best practice guidelines (ASRA)
Anesthesiology: Core EPA #31

Participating in the provision of perioperative anesthetic management for patients with significant cardiac disease who are undergoing scheduled, common cardiac surgery

Key Features:
- This EPA focuses on preoperative assessment, identification of anesthetic considerations, establishment of invasive monitoring and postoperative management
- It does not include management of anesthesia during cardiac surgery; this is expected to be done with assistance of the anesthesiologist.
- Training experiences that support the acquisition of competence related to this EPA would be done mainly in the OR; some can be attained in the intensive care unit (e.g. cardiac surgery complications etc.)
- The observation of this EPA is divided into two parts: anesthetic management as described above and central line insertion
- This EPA will be observed principally by the attending anesthesiologist in the OR

Assessment plan:

Part A: Anesthetic management
Supervisor does assessment based on direct observation

Use Form 1
Form collects information on:
- Type of surgery: procedures for coronary disease; procedures for valvular disease; other

Collect 6 observations of achievement
- At least one of each type of surgery
- At least 3 assessors

Part B: Central line insertion
Supervisor does assessment based on direct observation

Use Form 2
Form collects information on:
- Location of line: internal jugular; subclavian; femoral
- Ultrasound guided: yes/no

Collect 3 observations of achievement

Relevant Milestones (Part A):

1. C ME 1.3 Apply knowledge of the clinical and biomedical sciences relevant to anatomy, physiology, pharmacology and embryology of the cardiac system
2 C ME 1.3 Apply knowledge of blood transfusion and blood conservation strategies during cardiac surgery

3 C ME 2.2 Interpret the summary reports of advanced cardiac investigations and appropriately use the data in the anesthetic management

4 C ME 2.2 Synthesize patient information to determine indications for invasive and non-invasive monitoring

5 C ME 2.2 Elicit a history, perform a physical exam and select appropriate investigations, and interpret their results for the purpose of determining prioritized anesthetic considerations and perioperative management plan

6 C ME 3.1 Integrate all sources of information to develop an anesthetic induction plan that is safe with specific hemodynamic goals adapted to the pre-existing cardiac disease

7 C ME 3.4 Establish invasive monitoring in a skillful and safe manner, adapting to unanticipated findings or changing clinical circumstances

8 C ME 3.4 Competently manage complications after cardiac surgery including but not limited to: bleeding, graft occlusion, early and late arrhythmia, post CPB cardiogenic shock, stroke, tamponade and neuro-cognitive dysfunction

9 C ME 4.1 Establish plans for ongoing and postoperative care, if relevant, taking into consideration the patient’s clinical state, circumstances, preferences, and actions, as well as available resources, best practices, and research evidence

10 C ME 5.2 Apply the principles of situational awareness to clinical practice

11 C COM 5.1 Document clinical encounters in an accurate, complete, timely, and accessible manner, in compliance with regulatory and legal requirements

12 C COL 1.1 Establish and maintain positive relationships with physicians and other colleagues in the health care professions to support relationship-centered collaborative care

13 C COL 1.3 Convey the anesthetic plan to the interprofessional team

14 C COL 3.2 Demonstrate safe handover of care, using both verbal and written communication, during a patient transition to a different health care professional or setting

15 C L 2.1 Use clinical judgment to minimize wasteful practices

16 C P 1.2 Demonstrate a commitment to excellence in all aspects of practice and to active participation in collaborative care
Relevant Milestones (Part B):

1. **C ME 1.3** Apply knowledge of anatomy to central line insertion technique
2. **TTD ME 3.1** Apply appropriate monitors correctly for the planned procedure
3. **F ME 3.3** Consider urgency, and potential for deterioration, in advocating for the timely execution of a procedure or therapy
4. **TTD ME 3.4** Demonstrate effective procedure preparation, including gathering required equipment and optimal positioning of the patient
5. **C ME 3.4** Perform central line insertion in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances
6. **F ME 5.1** Prioritize the initial medical response to adverse events to mitigate further injury
7. **C COM 1.2** Optimize the physical environment for patient comfort, dignity, privacy, engagement, and safety
8. **F COM 5.2** Appropriately document anesthetic care and technique in an accurate, complete, timely, and accessible manner
9. **C S 1.1** Use technology or personal documentation to record, monitor, and report on your procedural log
10. **F P 2.2** Demonstrate a commitment to patient safety and quality improvement through adherence to institutional policies and procedures (e.g. infection control and sterility procedures)
11. **F P 4.1** Demonstrate an ability to regulate attention, emotions, thoughts, and behaviours while maintaining capacity to perform professional tasks
Anesthesiology: Core EPA #32

Providing perioperative anesthetic management for patients undergoing scheduled, urgent/emergent major aortic surgery, carotid surgery, or peripheral vascular surgery

Key Features:
- This EPA focuses on preoperative assessment, investigation/optimization if needed, informed consent, anesthetic management, invasive monitoring if required and determination of postoperative disposition.

Assessment plan:

Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Type of procedure: aortic surgery; carotid surgery; peripheral vascular surgery
- Timing: elective; emergency
- Type of anesthetic: general; regional

Collect 6 observations of achievement
- At least 1 of each type of procedure
- At least 2 emergency procedures

Relevant milestones

1. **C ME 1.3** Apply clinical knowledge of indications and specific surgical considerations for vascular surgery

2. **C ME 2.2** Use appropriate information from ongoing monitoring, and interpret their results for the purpose of diagnosis and management

3. **C ME 2.2** Synthesize patient information to determine indications for invasive and non-invasive monitoring

4. **C ME 2.2** Elicit a history, perform a physical exam and select appropriate investigations, and interpret their results for the purpose of determining prioritized anesthetic considerations and perioperative management plan

5. **C ME 2.4** Develop a plan to optimize the patient’s medical condition preoperatively

6. **C ME 3.1** Integrate all sources of information to develop an anesthetic management plan that is safe, patient-centred, and considers the risks and benefits of all approaches

7. **C ME 3.2** Obtain and document informed consent, explaining the risks and benefits of, and the rationale for the proposed anesthesia plan

© 2017 The Royal College of Physicians and Surgeons of Canada. All rights reserved.
8  **C ME 3.4** Perform the anesthetic management and all related technical procedures in a skillful and safe manner, adapting to unanticipated findings or changing clinical circumstances

9  **C ME 3.4** Establish and implement a plan for post-anesthesia care

10  **C ME 3.4** Competently manage hemodynamics and complications during aortic surgery depending on the level of clamping on the aorta including but not limited to hemodynamic instability, spinal ischemia, bleeding and renal dysfunction

11  **C COM 5.1** Document clinical encounter in an accurate, complete, timely, and accessible manner, in compliance with regulatory and legal requirements

12  **C COL 1.3** Convey the anesthetic plan to the interprofessional team

13  **C COL 3.2** Demonstrate safe handover of care, using both verbal and written communication, during a patient transition to a different health care professional or setting
Anesthesiology: Core EPA #33

Providing perioperative anesthetic management for patients with or without increased intracranial pressure undergoing scheduled, urgent or emergent intracranial procedures

Key Features:
- This EPA includes preoperative assessment, investigation/optimization if needed, informed consent, anesthetic management, invasive monitoring if required and determination of postoperative disposition

Assessment plan:

Supervisor does assessment based on direct observation

Use Form 1
Form collects information on:
- Type of neurosurgical procedure: tumour; pituitary tumour; vascular intracranial surgery; functional neurosurgery; other
- Increased intracranial pressure: yes; no
- Timing of surgery: elective; emergency

Collect 6 observations of achievement
- At least one tumour surgery
- At least one pituitary tumour surgery
- At least one vascular intracranial surgery
- At least two patient with increased intracranial pressure
- At least one emergency procedure

Relevant milestones

1. C ME 1.3 Apply knowledge of neurophysiology relevant to optimal anesthetic agents choice, management of increased intracranial pressure and basic principles of neuroprotection

2. C ME 2.1 Consider clinical urgency, feasibility, availability of resources, and comorbidities in determining priorities to be addressed during preoperative evaluation and determination of timing of surgery

3. C ME 2.2 Use appropriate information from ongoing monitoring, and interpret their results for the purpose of diagnosis and management

4. C ME 2.2 Synthesize patient information to determine indications for invasive and non-invasive monitoring

5. C ME 2.2 Elicit a history, perform a physical exam and select appropriate investigations, and interpret their results for the purpose of determining prioritized anesthetic considerations and perioperative management plan
6  C ME 3.1 Integrate all sources of information to develop an anesthetic management plan that is safe, patient-centred, and considers the risks and benefits of all approaches

7  C ME 3.4 Perform the anesthetic management and all related technical procedures in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances

8  C ME 3.4 Establish and implement a plan for post-anesthesia care including but not limited to early assessment of neurologic status, adequate management of hemodynamic parameters and optimal pain management

9  C ME 3.4 Optimize the patient and surgical conditions throughout the procedure, and anticipate, prevent and treat complications in relation with the specific procedure

10 C COM 1.5 Recognize when strong emotions (such as anger, fear, anxiety, or sadness) are impacting an interaction and respond appropriately

11 C COM 4.3 Obtain and document informed consent for the planned anesthetic management in a manner that engages the patients and their families using established principles of effective communication.

12 C COL 3.2 Organize the handover of care to the most appropriate physician or health care professional

13 C L 1.2 Actively encourage all involved in health care, regardless of their role, to report and respond to unsafe situations

14 C L 4.2 Assume a leadership role in managing complex cases in the OR
Anesthesiology: Core EPA #34

Providing perioperative anesthetic management for patients undergoing scheduled or emergent spinal procedures

Key Features:
- This EPA includes preoperative assessment, investigation/optimization if needed, informed consent, anesthetic management, invasive monitoring if required and determination of postoperative disposition

Assessment plan:

Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Type of surgery: scoliosis surgery; unstable cervical spine surgery; other
- Spinal cord injury: yes; no
- Neurologic monitoring: yes; no
- Timing: elective; emergency

Collect 6 observations of achievement
- At least one scoliosis surgery
- At least one unstable cervical spine surgery
- At least one with spinal cord injury
- At least one with neurologic monitoring
- At least 2 emergency

Relevant milestones

1 C ME 1.1 Apply knowledge of the clinical and biomedical sciences relevant but not limited to anesthesia for spinal diseases and injury, and neurological monitoring

2 C ME 2.1 Consider clinical urgency, feasibility, availability of resources, and comorbidities in determining priorities to be addressed during preoperative evaluation and determination of timing for surgery

3 C ME 2.2 Use appropriate information from ongoing monitoring, and interpret their results for the purpose of diagnosis and management

4 C ME 2.2 Elicit a history, perform a physical exam and select appropriate investigations, and interpret their results for the purpose of determining prioritized anesthetic considerations and perioperative management plan

5 C ME 3.1 Integrate all sources of information to develop an anesthetic management plan that is safe, patient-centred, and considers the risks and benefits of all approaches

6 C ME 3.2 Obtain and document informed consent, explaining the risks and benefits of, and the rationale for, a proposed procedure or therapy
7. C ME 3.4 Perform the anesthetic management and all related technical procedures in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances

8. C ME 3.4 Document procedures accurately

9. C ME 3.4 Establish and implement a plan for post-anesthesia care

10. C ME 3.4 Competently manage perioperative fluid delivery including blood replacement strategies

11. C ME 3.4 Competently manage the airway of a patient with an unstable cervical spine presenting for a surgical procedure

12. C ME 5.2 Apply the principles of situational awareness to clinical practice

13. C COM 5.1 Adapt record keeping to the specific guidelines of anesthesiology and the clinical context

14. C COL 1.1 Anticipate, identify, and respond to patient safety issues related to the function of a team particularly during prone positioning of a patient for spinal surgery

15. C COL 3.2 Organize the handover of care to the most appropriate physician or health care professional

16. C L 4.2 Assume a leadership role in managing complex cases in the OR

17. C S 3.1 Generate focused questions that address practice uncertainty and knowledge gaps
Anesthesiology: Core EPA #35

Providing perioperative anesthetic management for patients undergoing thoracic surgery via thoracotomy or thoracoscopy, including pulmonary resection surgery

Key Features:
- This EPA includes preoperative assessment, investigation/optimization if needed, informed consent, anesthetic management, invasive monitoring if required and determination of postoperative disposition
- The observation of this EPA is divided into two parts: perioperative management and management of lung isolation

Assessment plan:

Part A: Perioperative management
Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Type of surgery: thoracotomy; thoracoscopy
- Pneumonectomy: yes; no
- Timing: elective; emergency

Collect 6 observations of achievement
- At least one of each type of surgery
- At least one pneumonectomy
- At least one emergency

Part B: Management of lung isolation
Supervisor does assessment based on direct observation

Use Form 2. Form collects information on:
- Technique used: double lumen tube; bronchial block; other

Collect 6 observations of achievement
- At least 3 double lumen tube
- At least one bronchial block

Relevant milestones (Part A): Perioperative Management

1. **C ME 1.1** Demonstrate commitment and accountability for patients in their care

2. **C ME 1.4** Perform appropriately-timed preoperative clinical assessments with recommendations that are well-organized and properly documented in written and/or oral form

3. **C ME 2.1** Consider clinical urgency, feasibility, availability of resources, and comorbidities in determining priorities to be addressed
C ME 2.2 Select and interpret appropriate preoperative investigations based on the planned procedure and patient’s comorbidities

C ME 3.1 Integrate all sources of information to develop an anesthetic management plan that is safe, patient-centred, and considers the risks and benefits of all approaches

C ME 3.1 Integrate planned procedures or therapies into global assessment and management plans

C ME 3.4 Perform the anesthetic management and all related technical procedures in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances

C ME 3.4 Establish and implement a plan for post-anesthesia care

C ME 3.4 Optimize patient and surgical conditions throughout the procedure and anticipate, prevent and treat complications in relation with the specific procedure

C COM 1.5 Recognize when strong emotions (such as anger, fear, anxiety, or sadness) are impacting an interaction and respond appropriately

C COM 1.6 Obtain and document informed consent for the planned anesthetic management in a manner that engages the patients and their families using established principles of effective communication

C COM 5.1 Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions

C COM 5.1 Adapt record keeping to the specific guidelines of anesthesiology and the clinical context

C COL 1.3 Communicate effectively with physicians and other colleagues in the health care professions, in particular with pre-op consultants and per-operatively with surgeon

C COL 3.2 Organize the handover of care to the most appropriate physician or health care professional in the PACU or ICU

C L 4.2 Assume a leadership role in managing complex cases in the OR

C HA 1.2 Apply the principles of behaviour change during conversations with patients about adopting healthy behaviours such as smoking cessation

C S 3.4 Identify new evidence appropriate to their scope of professional practice through quality-appraised evidence-alerting services

C P 2.1 Demonstrate a commitment to maintaining and enhancing competence
Relevant Milestones (Part B): Management of lung isolation

1. **C ME 1.3** Apply knowledge of anatomy to lung isolation technique

2. **C ME 3.1** Integrate all sources of information to develop a plan for lung isolation that is safe, patient-centred, and considers the risks and benefits of all approaches

3. **TTD ME 3.1** Apply appropriate monitors correctly for the planned procedure

4. **F ME 3.3** Consider urgency, and potential for deterioration, in advocating for the timely execution of a procedure or therapy

5. **TTD ME 3.4** Demonstrate effective procedure preparation, including gathering required equipment and optimal positioning of the patient

6. **C ME 3.4** Perform lung isolation techniques in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances

7. **F ME 5.1** Prioritize the initial medical response to adverse events to mitigate further injury

8. **F COM 5.2** Appropriately document anesthetic care and technique in an accurate, complete, timely, and accessible manner

9. **C COL 1.3** Communicate effectively with physicians and other colleagues in the health care professions while performing a technical skill

10. **F P 2.2** Demonstrate a commitment to patient safety and quality improvement through adherence to institutional policies and procedures (e.g. infection control and sterility procedures)

11. **F P 4.1** Demonstrate an ability to regulate attention, emotions, thoughts, and behaviours while maintaining capacity to perform professional tasks
Anesthesiology: Core EPA #36

Providing perioperative anesthetic management for patients undergoing mediastinal and esophageal surgery, including management of mediastinal masses

Key Features:
- This EPA includes preoperative assessment, investigation/optimization if needed, informed consent, anesthetic management, invasive monitoring if required and determination of postoperative disposition

Assessment plan:

Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Type of procedure: mediastinoscopy; anterior mediastinal mass; esophageal surgery; other

Collect 6 observations of achievement
- At least two mediastinoscopy
- At least two anterior mediastinal mass
- At least two esophageal surgery

Relevant milestones

1. **C ME 1.4** Perform appropriately timed preoperative clinical assessments with recommendations that are well-organized and properly documented in written and/or oral form
2. **C ME 1.6** Adapt care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves, including anticipation of intense but brief intraoperative stimulation
3. **C ME 2.2** Select and interpret appropriate preoperative investigations based on the planned procedure and the patient’s comorbidities
4. **C ME 2.2** Synthesize patient information to determine anesthetic considerations and to plan appropriate anesthetic management
5. **C ME 3.1** Integrate all sources of information to develop an anesthetic management plan that is safe, patient-centred, and considers the risks and benefits of all approaches
6. **C ME 3.4** Perform the anesthetic management and all related technical procedures in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances

© 2017 The Royal College of Physicians and Surgeons of Canada. All rights reserved.
7  C ME 3.4 Establish and implement a plan for post-anesthesia care

8  C ME 3.4 Anticipate potential intraoperative and postoperative complications and implement appropriate management strategies (including but not limited to hemorrhage, recurrent laryngeal nerve damage, pneumothorax, air embolism)

9  F COM 5.1 Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions

10 C COL 1.1 Anticipate, identify, and respond to patient safety issues related to the function of a team

11 C COL 1.2 Consult as needed with other health care professionals, including other physicians to ensure optimal preoperative medical condition and optimal postoperative follow up

12 C COL 1.3 Communicate effectively with physicians and other colleagues in the health care professions

13 C COL 3.2 Organize the handover of care to the most appropriate physician or health care professional

14 C S 1.2 Seek and interpret multiple sources of performance data and feedback, with guidance, to continually improve performance

15 C P 1.1 Manage complex issues while preserving confidentiality
Anesthesiology: Core EPA #37

Providing perioperative anesthetic management for organ retrieval surgery including perioperative anesthetic management of the donor, and determination of neurologic death

Key Features:
- Intraoperative management of organ retrieval will be observed mainly in the operating room by the anesthesiologist
- Observation of the declaration of neurologic death should be done in ICU

Assessment plan:

Part A: Perioperative management of organ donor
Supervisor does assessment based on direct or indirect observation (case review with debrief)

Use Form 1. Form collects information on:
- Timing of involvement: intraoperative; preoperative/ICU

Collect 3 observations of achievement
- At least one of each timing

Part B: Declaration of neurologic death
Supervisor does assessment based on direct observation

Use Form 2

Collect 2 observations of achievement
- at least 2 assessors

Relevant milestones (Part A): Perioperative management of organ donor

1. **C ME 1.3** Apply knowledge of the clinical and biomedical sciences relevant but not limited to the brain death, end-stage organ disease and donor organ protection

2. **C ME 1.4** Perform appropriately-timed preoperative clinical assessments with recommendations that are well-organized and properly documented in written and/or oral form

3. **C ME 1.6** Adapt care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves.

4. **C ME 2.1** Consider clinical urgency, feasibility, availability of resources, and comorbidities in determining priorities to be addressed
5 C ME 2.2 Select and interpret appropriate preoperative investigations based on the planned procedure and patient’s comorbidities

6 C ME 2.2 Use appropriate information from ongoing monitoring, and interpret their results for the purpose of diagnosis and management.

7 C ME 2.2 Focus the clinical encounter, performing it in a time-effective manner, without excluding key elements

8 C ME 3.1 Integrate all sources of information to develop a management plan that is safe, patient-centred, and considers the risks and benefits of all approaches

9 C ME 3.2 Obtain and document informed consent, explaining the risks and benefits of, and the rationale for a proposed procedure

10 C ME 3.4 Perform the management and all related technical procedures in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances

11 C ME 3.4 Optimize patient conditions throughout the perioperative period and anticipate, prevent and treat complications

12 C ME 3.4 Competently monitor and manage the pathophysiologic changes occurring with brain death to ensure perioperative hemodynamic stability

13 C ME 5.2 Apply the principles of situational awareness to clinical practice

14 F COM 5.1 Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions

15 C COL 1.2 Negotiate overlapping and shared responsibilities with physicians and other colleagues in the health care professions

16 C COL 1.2 Demonstrate knowledge of the different roles of the team members in an organ transplantation organization and work efficiently with each member

17 C COL 2.2 Gather the information and resources needed to manage differences and resolve conflicts among collaborators

18 C HA 2.3 Demonstrate knowledge of organ procurement as a highly organized process on a national level and recognize that optimal outcomes are based on integration of local resources into this structure

19 C P 1.3 Manage ethical issues encountered in the clinical and academic setting

Relevant Milestones (Part B): Declaration of neurologic death

1 C ME 2.2 Synthesize patient information to determine diagnosis
2 C ME 3.4 Competently perform the process of declaration of brain death

3 C COM 1.1 Communicate with patient and family in a manner that encourages trust and autonomy and is characterized by empathy, respect, and compassion

4 C COM 1.5 Establish boundaries as needed in emotional situations

5 C COM 2.2 Manage the flow of challenging patient encounters, including those with angry, distressed, or excessively talkative individuals

6 C COM 3.1 Provide information on diagnosis and prognosis in a clear, compassionate, respectful, and objective manner

7 F COM 5.1 Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions

8 C P 1.3 Manage ethical issues encountered in the clinical and academic setting
Anesthesiology: Core EPA #38

Providing comprehensive multi-modal management of acute and acute on chronic pain conditions

Key Features:
- This EPA includes pain management in the immediate post-operative period (i.e. providing an initial postoperative pain management) as well as assessments and management of acute pain in other clinical situations and management of acute pain in patients already treated by a pain consultant expert
- This EPA may be observed across a variety of clinical situations including medical, surgical and trauma patients
- This EPA may be observed across a variety of medical conditions including but not limited to the opioid tolerant patient, the opioid addicted patient, the patient with obstructive sleep apnea, the medically compromised patient, the pediatric patient and the elderly patient

Assessment plan:
Supervisor does assessment based on direct or indirect observation (case review and debrief)

Use Form 1. Form collects information on:
- Type of issue: initial management; followup care; acute pain crisis/complication; acute on chronic pain
- Patient category: post-operative; trauma; medical
- Complications of pain management: yes; no
- Complexity of case: low; medium; high

Collect 6 observations of achievement
- At least 1 patient for each type of issue
- At least one patient from two different categories
- At least one complication of pain management
- At least 3 assessors

Relevant milestones

1. C ME 1.3 Apply knowledge of the anatomy and physiology of acute pain in the development of a pain management strategy

2. C ME 1.3 Apply knowledge in pharmacology of various analgesics and analgesic adjuvants to develop a multimodal approach to acute pain management

3. C ME 2.4 Diagnose and manage the complications of various acute pain management strategies
4 **C ME 2.2** Elicit a history, perform a physical exam and select appropriate investigations, and interpret their results for the purpose of diagnosis and management of a patient with acute pain

5 **C ME 3.1** Integrate all sources of information to develop a procedural or therapeutic plan that is safe, patient-centred, and considers the risks and benefits of all approaches

6 **C ME 3.4** Perform the pain management and all related technical procedures in a skilful and safe manner, adapting to unanticipated findings or changing clinical circumstances

7 **C COM 2.2** Manage the flow of challenging patient encounters, including those with angry, distressed, or excessively talkative individuals

8 **F COM 5.1** Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions

9 **C COL 1.3** Communicate effectively with physicians and other colleagues in the health care professions
Anesthesiology: Core EPA #39

Assessing, diagnosing and managing patients with common chronic pain disorders, including both medical and basic interventional treatments, using a collaborative, multidisciplinary approach

Key Features:
- This EPA focuses on chronic pain management but does not include the complexity of chronic pain and the breadth of interventional pain management practiced by pain specialists
- The observation of this EPA is divided into two parts: pain management and communication with the patient

Assessment plan:

Part A: Pain management
Supervisor does assessment based on direct or indirect observation (case review and debrief)

Use Form 1. Form collects information on:
- Type of pain: back; neuropathic; phantom limb; complex regional pain syndromes (CRPS); cancer; other

Collect 8 observations of achievement
- At least 4 types of pain

Part B: Patient interview
Supervisor does assessment based on direct observation

Use Form 1

Collect 3 observations of achievement

Relevant milestones (Part A): Pain Management

1. C ME 1.3 Apply knowledge of the clinical sciences relevant to pain medicine
2. C ME 1.3 Apply knowledge in pharmacology of various analgesics and analgesic adjuvants to develop a multimodal approach to chronic pain management
3. C ME 2.1 Consider clinical urgency, feasibility, availability of resources, and comorbidities in determining priorities to be addressed
4. C ME 2.2 Focus the clinical encounter, performing it in a time-effective manner, without excluding key elements
5 C ME 2.2 Elicit a history, perform a physical exam and select appropriate investigations, and interpret their results for the purpose of diagnosis the chronic pain syndrome. This includes determination of the character and severity of pain, use of the appropriate pain scale and assessment of the impact on function.

6 C ME 2.4 Formulate and implement management plans that consider all of the patient’s health problems and context, in a timely manner, in collaboration with patients and their families and, when appropriate, the interprofessional team.

7 C ME 3.4 Competently perform discipline-specific procedures.

8 C ME 3.4 Demonstrate optimal and safe use of fluoroscopy and ultrasound equipment.

9 C ME 4.1 Diagnose and manage the complications of various chronic pain management strategies.

10 C ME 4.1 Diagnose emergencies in the context of chronic pain, and manage and refer patient appropriately.

11 C COL 1.2 Consult as needed with other health care professionals, including other physicians.

12 C COL 1.3 Provide timely and necessary written information to colleagues to enable effective relationship-centered care.

13 C HA 1.1 Facilitate timely patient access to disability or other insurance benefits.

Relevant Milestones (Part B): Patient interview:

1 C ME 2.2 Focus the clinical encounter, performing it in a time-effective manner, without excluding key elements.

2 C ME 2.3 Address the impact of the medical condition on the patient’s ability to pursue life goals and purposes.

3 C COM 1.5 Recognize when strong emotions (such as anger, fear, anxiety, or sadness) are impacting an interaction and respond appropriately.

4 C COM 2.1 Actively listen and respond to patient cues.

5 C COM 2.1 Integrate, summarize, and present the biopsychosocial information obtained from a patient-centred interview.
6  C COM 2.2 Manage the flow of challenging patient encounters, including those with angry, distressed, or excessively talkative individuals

7  C COM 4.1 Use communication skills and strategies that help patients and their families make informed decisions regarding their health

8  F COM 5.1 Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions
Anesthesiology: Core EPA #40

Executing scholarly projects

Key Features:
- Individual programs may have requirements concerning the type of project; projects will need approval of the program director
- This EPA includes:
  - Elaboration of a scientific question from a clinical problem
  - Development of a protocol to answer the question
  - Communication of the results

Assessment plan:

Supervisor does assessment based on review of the resident’s submission of a completed scholarly project

Use Form 1 with mandatory comments. Form collects information on:
- Type of scholarly project: research; quality improvement; educational; other
- Format: presentation; abstract; poster; paper; other

Collect 1 observation of achievement

Relevant milestones

1. C L 4.1 Ensure optimal time management in daily activities in order to meet all deadlines
2. C S 3.1 Generate focused questions that address practice uncertainty and knowledge gaps
3. C S 3.2 Summarize the state of knowledge on a research topic or research question
4. C S 3.3 Evaluate the applicability (external validity or generalizability) of evidence from a resource
5. C S 3.3 Describe study results in both quantitative and qualitative terms
6. C S 4.1 Contribute to a scholarly investigation and to the dissemination of research findings in anesthesiology or related discipline
7. C S 4.1 Demonstrate an understanding of the scientific principles of research and scholarly inquiry, and the role of research evidence in health care
8. C S 4.2 Identify ethical principles for research and incorporate them into obtaining informed consent, considering harm and benefits, and considering vulnerable populations
9  **C S 4.3** Actively participate as a research team member, balancing the roles and responsibilities of a researcher with the clinical roles and responsibilities of a physician

10  **F S 4.4** Describe and compare the common methodologies used for scholarly inquiry in anesthesiology

11  **C S 4.4** Select appropriate methods of addressing a given scholarly question

12  **C S 4.4** Pose medically and scientifically relevant and appropriately constructed questions or hypothesis amenable to scholarly investigation

13  **C S 4.5** Summarize and communicate to professional and lay audiences, including patients and their families, the findings of applicable research and scholarly inquiry

14  **C S 4.5** Prepare a manuscript suitable for publication in a peer-reviewed journal

15  **C P 1.3** Manage ethical issues encountered in the clinical and academic setting

16  **C P 1.4** Proactively resolve real, potential, or perceived conflicts of interest transparently and in accordance with ethical, legal, and moral obligations
Anesthesiology: Core EPA #41

Recognizing and managing ethical dilemmas that arise in the course of patient care

Key Features:
- This EPA focuses on the resident recognizing that an ethical issue may arise in the course of a patient’s care and includes the ability to identify the issue and related ethical concepts and address the issue with the patient, family and/or health care providers while managing personal beliefs and/or values
- Examples of patient scenarios that involve this EPA may include a patient arriving to OR for a palliative operative procedure, a patient who identifies as Jehovah’s witness; a patient with severe comorbidity arriving for an elective procedure
- The observation of this EPA is divided into two parts: patient management and reflective critique of a clinical case that posed an ethical issue

Assessment plan:

Part A: Patient management
Supervisor does assessment based on direct or indirect observation (case review and debrief)

Use Form 1. Form collects information on:
- Name the ethical dilemma: (write in)
- Location: OR; ICU; emergency room; other
- Level of complexity: low; medium; high

Collect 4 observations of achievement
- two different clinical scenarios
- at least 1 in the OR
- at least 1 in the ICU

Part B: Reflective critique
Supervisor does assessment based on review of resident submission of a brief critique (max 2 pages) that identifies the clinical issue, the relevant ethical concepts, any relevant legal, professional or institutional statements and the outcome.

Use Form 1 with mandatory narrative

Collect 1 observation of achievement

Relevant milestones (Part A): Patient Management

1. **C ME 1.1** Demonstrate commitment and accountability for patients in their care

2. **C ME 1.6** Adapt care as the complexity, uncertainty, and ambiguity of the patient’s clinical situation evolves
3  C ME 2.3 Share concerns, in a constructive and respectful manner, with patients and their families about their goals of care when they are not felt to be achievable

4  C ME 2.4 Formulate and implement management plans that consider all of the patient’s health problems and context, in a timely manner, in collaboration with patients and their families and, when appropriate, the interprofessional team

5  C ME 2.4 Develop, in collaboration with a patient and his or her family, a plan to deal with clinical uncertainty in the perioperative context

6  C ME 2.4 Ensure treatment plans align with the patient’s expressed goals of care

7  C ME 2.4 Develop plans of care that offer non-surgical options for improving quality of life

8  C ME 4.1 Establish plans for ongoing care, taking into consideration the patient’s clinical state, circumstances, preferences, and actions, as well as available resources, best practices, and research evidence

9  C ME 3.3 Advocate for timely access for palliative surgical procedures

10 C COM 1.1 Communicate with patient and family in a manner that encourages trust and autonomy and is characterized by empathy, respect, and compassion

11 C COM 1.2 Optimize the physical environment for patient comfort, dignity, privacy, engagement, and safety

12 C COM 3.1 Provide information on diagnosis and prognosis in a clear, compassionate, respectful, and objective manner

13 C COM 3.1 Discuss end of life care planning as it relates to anesthetic care when appropriate

14 C P 1.3 Manage ethical issues encountered in the clinical and academic setting

15 C P 1.3 Consider the impact of his/her own values, attitudes, beliefs, context and biases when dealing with ethical challenges and counselling patients
16  C P 3.1 Describe and apply the relevant codes, policies, standards, and laws governing physicians and the profession relevant to Anesthesiology and Critical Care Medicine including but not limited to:
   ▪ Capacity
   ▪ Substitute Decision Makers, Guardianship, Next of Kin
   ▪ Living Wills, Legal Directives
   ▪ End of Life Care
   ▪ Spectrum & Implications of Do Not Resuscitate Orders
   ▪ Withdrawal of Care
   ▪ Euthanasia

17  C P 3.2 Recognize and respond to unprofessional and unethical behaviours in physicians and other colleagues in the health care profession

Relevant Milestones (Part B): Reflective critique

1  C P 1.3 Recognize and respond to ethical issues encountered in practice

2  C P 3.1 Describe and apply the relevant codes, policies, standards, and laws governing physicians and the profession relevant to Anesthesiology and Critical Care Medicine including but not limited to:
   ▪ Capacity
   ▪ Substitute Decision Makers, Guardianship, Next of Kin
   ▪ Living Wills, Legal Directives
   ▪ End of Life Care
   ▪ Spectrum & Implications of Do Not Resuscitate Orders
   ▪ Withdrawal of Care
   ▪ Euthanasia

3  C P 3.2 Recognize and respond to unprofessional and unethical behaviours in physicians and other colleagues in the health care profession.
Anesthesiology: Core EPA #42

Formal teaching, and teaching junior learners in the clinical setting (elective)

Key Features:
- The achievement of this EPA is elective
- This EPA includes both small and large group formal teaching, as well as informal bedside teaching to junior learners
- The observation of this EPA is divided into three parts: observation of formal teaching, observation of clinical teaching and learner feedback

Assessment plan:

Part A: Formal teaching
Three supervisors do assessment based on direct observation (at least one is expert in the field being discussed)

Use Form 1. Form collects information on:
- Type of activity: journal club; grand rounds; problem based discussion; other
- Information on supervisor: expert in the field being discussed /yes or no

Collect observations of achievement from three supervisors on 2 different teaching events
- At least one grand rounds

Part B: Clinical teaching
Supervisor does assessment based on direct observation

Use Form 1. Form collects information on:
- Location: OR; ICU; ward

Collect 3 observations of achievement
- At least two different locations

Part C: Learner feedback
Competence Committee reviews collated learner feedback

Use Form 1. Form collects information on:
- Level of learner: medical student; junior resident
- Type of teaching: OR; ICU; ward; formal

Collect observations of achievement at 3 teaching events
- No more than two formal
Relevant milestones (Part A): Formal Teaching

1. **C ME 1.3** Apply knowledge of the clinical and biomedical sciences relevant to Anesthesiology

2. **C S 2.4** Identify the learning needs of a learner

3. **C S 2.4** Plan, prepare and deliver a learning activity

4. **C S 2.4** Describe how to formally plan a medical education session

5. **C S 2.4** Describe sources of information used to assess learning needs

6. **C S 2.4** Define specific learning objectives for a teaching activity

7. **C S 2.4** Describe clinical teaching strategies relevant to Anesthesiology

8. **C S 2.4** Adapt and plan learning activities appropriate to the level of the learner

9. **C S 3.2** Identify, select, and navigate pre-appraised resources

10. **C S 3.3** Evaluate the applicability (external validity or generalizability) of evidence from a resource

11. **F S 3.3** Interpret study findings, including a critique of their relevance to their practice

12. **F S 3.3** Determine the validity and risk of bias in a source of evidence

13. **C S 3.3** Describe study results in both quantitative and qualitative terms

14. **C S 3.3** Critically evaluate the integrity, reliability, and applicability of health-related research and literature

15. **C S 3.4** Identify new evidence appropriate to their scope of professional practice through quality-appraised evidence-alerting services

16. **C S 3.4** Summarize the scientific knowledge on a topic or a clinical question and integrate evidence into decision-making in clinical practice

17. **F S 3.4** Describe how various sources of information, including studies, expert opinion, and practice audits, contribute to the evidence base of medical practice

Relevant Milestones (Part B): Clinical teaching

1. **C ME 1.3** Apply knowledge of the clinical and biomedical sciences relevant to Anesthesiology
2  F S 2.4 Identify the learning needs of a learner
3  C S 2.1 Use strategies for deliberate, positive role-modelling
4  F S 2.1 Identify behaviours associated with positive and negative role-modelling
5  C S 2.2 Promote a safe learning environment
6  C S 2.3 Supervise learners to ensure they work within limitations, seeking guidance and supervision when needed
7  C S 2.3 Balance clinical supervision and graduated responsibility, ensuring the safety of patients and learners
8  C S 2.3 Ensure patient safety is maintained when learners are involved
9  C S 2.4 Describe and demonstrate clinical teaching strategies relevant to Anesthesiology
10 C S 2.4 Adapt and plan learning activities appropriate to the level of the learner
11 C S 2.5 Provide feedback to enhance learning and performance
12 C S 2.6 Appropriately assess junior learners

Relevant Milestones (Part C): Learner feedback

1  C ME 1.3 Apply knowledge of the clinical and biomedical sciences relevant to Anesthesiology
2  F S 2.4 Identify the learning needs of a learner
3  C S 2.1 Use strategies for deliberate, positive role-modelling
4  C S 2.2 Promote a safe learning environment
5  C S 2.3 Balance clinical supervision and graduated responsibility, ensuring the safety of patients and learners
6  F S 2.4 Demonstrate basic skills in teaching others
7  C S 2.4 Adapt and plan learning activities appropriate to the level of the learner
8  C S 2.5 Provide feedback to enhance learning and performance
Anesthesiology: Core EPA #43

Developing a personal learning plan for the transition to practice stage

Key Features:
- The personal learning plan must include a summary of all feedback and assessments received throughout residency and must highlight areas of personal strength as well as areas for improvement.
- The plan must be clear, concrete and feasible, focusing on areas for improvement and must include the appropriate choice of clinical experiences for the next stage and use of appropriate academic resources (journals, textbooks, conference).
- The plan should be SMART (specific, measurable, assessable, realistic, timely).
- The plan may also include:
  o Additional areas of interest
  o Preparation plan for the Royal College examination
  o A possible career plan with specific steps toward achievement
- The plan must be reviewed a second time with supervisor during transition to practice stage to reassess its implementation (part of assessment plan of EPA TTP 11).
- Academic advisors (if implemented), Competence Committee members and/or program directors may offer a unique perspective to review and assess the learning plan.

Assessment plan:

Resident submits learning plan geared to progression of competence
Supervisor does assessment based on review of resident’s submission

Use Form 1 with mandatory comments
Collect 1 observation of satisfactory achievement

Relevant milestones:

1. **C ME 5.1** Identify potential improvement opportunities arising from harmful patient safety incidents and near misses

2. **C L 1.1** Analyze and provide feedback on processes seen in one’s own practice, team, organization, or system

3. **C L 4.1** Set priorities and manage time to integrate practice and personal life

4. **C L 4.2** Reconcile expectations for practice with job opportunities and workforce needs

5. **C L 4.2** Adjust educational experiences to gain competencies for future independent practice
6 C L 4.3 Improve personal practice by evaluating an area in need of improvement, setting priorities, executing a plan, and analyzing the results

7 C HA 2.1 Analyze current policy or policy developments that affect the communities or populations they serve

8 C S 1.1 Develop, implement, monitor, and revise a personal learning plan to enhance professional practice

9 C S 1.2 Seek and interpret multiple sources of performance data and feedback, with guidance, to continually improve performance

10 C S 1.3 Engage in collaborative learning to continuously improve personal practice and contribute to collective improvements in practice

11 C S 3.1 Generate focused questions that address practice uncertainty and knowledge gaps

12 C S 3.3 Evaluate the applicability (external validity or generalizability) of evidence from a resource

13 C S 3.4 Identify new evidence appropriate to their scope of professional practice through quality-appraised evidence-alerting services

14 C P 1.2 Analyze how the system of care supports or jeopardizes excellence

15 C P 2.1 Demonstrate a commitment to maintaining and enhancing competence

16 C P 2.1 Demonstrate accountability to patients, society, and the profession by recognizing and responding to societal expectations of the profession

17 C P 3.1 Describe the relevant codes, policies, standards, and laws governing physicians and the profession including standard-setting and disciplinary and credentialing procedures

18 C P 4.1 Exhibit self-awareness and effectively integrate skills that support adaption and recovering in challenging situations

19 C P 4.2 Manage competing personal and professional priorities

20 C P 4.2 Develop a strategy to manage personal and professional demands for a sustainable independent practice

21 C P 4.2 Develop a personal plan for managing stress and maintaining physical and mental well-being
Anesthesiology: Core EPA #44

Using ultrasound to assist in diagnosis and management of hemodynamically unstable or critically ill patients

Assessment plan:

Supervisor does assessment based on direct or indirect (review of images) observation

Use Form 2. Form collects information on:
- Type of exam: cardiac; pulmonary; cardiopulmonary; other
- Location: preoperative; intraoperative; ICU; emergency room
- Type of patient: stable; unstable
- Type of observation: direct; indirect

Collect 25 observations of achievement
- At least 4 pulmonary
- At least 5 unstable patients
- At least 10 direct observations

Relevant milestones:

1. **C ME 1.3** Apply clinical and theoretical knowledge of echography to anesthesiology and critical care practice

2. **C ME 2.2** Competently interpret focused transthoracic echocardiography exam for common pathologies including but not limited to hypovolemia, left and right ventricular failure and pericardial effusion and tamponade

3. **C ME 3.1** Integrate all sources of information to develop a management plan that is safe, patient-centred, and considers the risks and benefits of all approaches

4. **C ME 3.2** Use shared decision-making in the consent process, taking risk and uncertainty into consideration

5. **C ME 3.4** Competently acquire images of focused transthoracic echocardiography exam, pulmonary echographic exam and/or abdominal echographic exam

6. **C ME 3.4** Document procedures accurately

7. **C ME 4.1** Determine the necessity and appropriate timing of consultation

8. **C COM 1.2** Optimize the physical environment for patient comfort, dignity, privacy, engagement, and safety

9. **C COM 2.1** Actively listen and respond to patient cues
10 F COM 5.1 Document clinical encounters to adequately convey clinical reasoning and the rationale for decisions

11 C COM 5.2 Adapt use of the health record to the patient’s health literacy and the clinical context

12 C P 2.1 Demonstrate a commitment to maintaining and enhancing competence
Anesthesiology: TTP EPA #1

Managing all aspects of care for patients presenting to a preoperative clinic, including organizational aspects of the daily workload in terms of time management, advocacy and allocation of resources

Key Features:
- This EPA includes preoperative assessment for any patient presenting to the preoperative clinic and management of the daily workload of an anesthesiologist
- This EPA focuses on clinical care as well as time management, advocacy and allocation of resources
- The observation of this EPA is divided into two parts: overall clinic management and individual patient care

Assessment plan:
Part A: Clinic management
Supervisor does assessment based on direct and indirect observation of one clinic day

Use Form 2. Form collects information on:
- Total number of patient assessments that day
- Type of surgical procedure (check all that apply): general surgery; gynecology; neurosurgery; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; spinal surgery; thoracic surgery; urology; vascular surgery
- Level of complexity of cases on average: low; medium; high

Collect 3 observations of achievement (i.e. 3 different clinic days)
- At least two different assessors

Part B: Individual patient management
Supervisor does chart audit of at least 5 charts

Use Form 2

Collect one observation of achievement

Relevant milestones (Part A): Clinic Management

1. **TP ME 1.4** Perform appropriately-timed clinical assessments and case-managements addressing the breadth of anesthesiology, with recommendations that are well-organized and properly documented in written and/or oral form

2. **TP ME 1.5** Carry out professional duties in the face of multiple, competing demands, such as optimal care for the individual patient, the need to see all the patients who require a preoperative consultation in a given day, and teaching/supervising duties to trainees
3 C ME 2.1 Identify and resolve conflicting anesthesia priorities for complex patients for any surgical procedure

4 C ME 2.2 Focus the clinical encounter, performing it in a time-effective manner, without excluding key element

5 TP ME 2.4 Establish a plan for optimal management of the proposed procedure in a surgical or obstetrical patient, including but not limited to appropriate investigation, request for consultation with other specialist(s), preoperative medical optimization and/or modification of intraoperative or postoperative care

6 TP ME 5.2 Identify strategies to mitigate perioperative complications for individual patients

7 TP COM 4.3 Use communication skills and strategies that help the patient and family make informed decisions regarding their perioperative anesthetic management

8 TP COM 5.2 Communicate effectively using a written health record, electronic medical record, or other digital technology

9 F COL 1.1 Establish and maintain healthy and collegial relationships with physicians and other colleagues in the health care professions to support relationship-centered collaborative care

10 TP COL 1.3 Identify complex or controversial issues that require direct verbal communication with colleague anesthesiologists or other physicians and convey that information effectively

11 TP COL 2.2 Implement strategies to promote understanding, manage differences, and resolve conflicts in a manner that supports a collaborative culture

12 TP L 2.2 Apply evidence and management processes to achieve cost-appropriate care

13 TP HA 1.2 Work with the patient and family to increase opportunities to adopt healthy behaviours as they pertain to the perioperative setting (eg. smoking cessation)

14 TP S 1.2 Identify opportunities for learning and improvement by regularly reflecting on and assessing their performance using various internal and external data sources

15 TP S 3.4 Integrate best evidence and clinical expertise into decision-making in their practice

16 F P 1.1 Exhibit appropriate professional behaviours and relationships in all aspects of practice, reflecting honesty, integrity, humility, dedication, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality
Relevant Milestones (Part B): Individual patient management

1. C ME 1.4 Perform clinical assessments that address the breadth of issues in each case

2. C ME 2.1 Identify and resolve conflicting anesthesia priorities for complex patients for any surgical procedure

3. TP ME 2.4 Establish a plan for optimal management of the proposed procedure in a surgical or obstetrical patient, including but not limited to appropriate investigation, request for consultation with other specialist(s), preoperative medical optimization and/or modification of intraoperative or postoperative care

4. TP ME 5.1 Identify strategies to mitigate perioperative complications for individual patients

5. TP COM 4.3 Use communication skills and strategies that help the patient and family make informed decisions regarding their perioperative anesthetic management

6. TP COM 5.2 Communicate effectively using a written health record, electronic medical record or other digital technology

7. TP COL 1.3 Identify complex and/or controversial issues that require verbal communication with colleague anesthesiologists or other physicians and convey that information effectively

8. TP L 2.2 Apply evidence and management processes to achieve cost-appropriate care

9. TP S 3.4 Integrate best evidence and clinical expertise into decision-making in their practice
Anesthesiology: TTP EPA #2

Managing all aspects of care for admitted patients referred for consultation to the Anesthesiology service

Key Features:
- This EPA focuses on the assessment and management of any patient requiring consultation to the anesthesiology service
- In addition to clinical care, this EPA includes time management, prioritization of tasks and allocation of resources
- This EPA will primarily be observed during an on call period

Assessment plan:

Supervisor does assessment based on indirect observation (review of case)

Use Form 2. Form collects information on:
- Purpose of consultation: respiratory/airway issue management; pain management; hemodynamic management; iv access; preoperative assessment; other
- Emergency: yes; no

Collect 4 observations of achievement
- At least two emergencies

Relevant milestones

1. **TP ME 1.4** Perform appropriately-timed clinical assessments and case-managements addressing the breadth of anesthesiology, with recommendations that are well-organized and properly documented in written and/or oral form

2. **TP ME 1.5** Carry out professional duties in the face of multiple, competing demands and prioritize patient care including triaging of urgent/emergent patient care

3. **TP ME 2.1** Prioritize tasks taking into account clinical urgency, potential for deterioration, and available resources

4. **TP ME 2.1** Elicit all relevant information for the purpose of triaging and coordinating comprehensive anesthetic care of complex patients including urgent and emergent cases

5. **CM E 2.2** Focus the clinical encounter, performing it in a time-effective manner, without excluding key elements

6. **TP ME 2.4** Establish patient-centred management plans for all patients in a practice
7  C ME 5.2  Adopt strategies that promote quality patient care and address human and system factors

8  TP COM 1.5  Manage disagreements and emotionally charged conversations

9  TP COM 3.1  Communicate clearly with patients and others in the setting of ethical dilemmas

10 TP COM 5.2  Communicate effectively using a written health record, electronic medical record, or other digital technology

11 F COL 1.1  Establish and maintain healthy relationships with physician and other colleagues in the health care professions to support relationship-centered collaborative care

12 C COL 1.3  Engage in respectful shared decision-making with physician and other colleagues in the health care professions

13 TP COL 1.3  Use referral and consultation as opportunities to improve quality of care and patient safety by sharing expertise

14 TP COL 1.3  Identify complex or controversial issues that require direct verbal communication with colleague anesthesiologists or other physicians and convey that information effectively

15 TP COL 3.1  Determine when care should be transferred to another physician or health care professional

16 TP L 1.2  Contribute to a culture that promotes quality patient care and respectful, effective team management and resource allocation

17 TP HA 2.3  Work within the constraints of systems limitation to advocate for patients’ best interests and provide optimal patient care

18 TP S 3.4  Integrate best evidence and clinical expertise into decision-making in their practice

19 C P 2.1  Demonstrate accountability to patients, society, and the profession by recognizing and responding to societal expectations of the profession

20 C P 3.2  Recognize and respond to unprofessional and unethical behaviours in physicians and other colleagues in the health care professions
Anesthesiology: TTP EPA #3

Managing all aspects of patient care for a scheduled day list, including the organizational aspects related to the management of the operating room case load

Key Features:
- This EPA focuses on the provision of anesthesia care for all patients on a scheduled day list
- This EPA includes managing the organizational aspect of the day list especially as it relates to time management
- It is expected that this would involve a variety of procedures of low to high complexity, in various surgical specialties and subspecialties, in all patients including those with complex medical issues
- The observation of this EPA is divided into two parts: supervisor observation of a day list and episodic multisource feedback from the interprofessional team

Assessment plan:

Part A: Supervisor assessment
Supervisor does assessment based on direct observation of a scheduled day list

Use Form 2. Form collects information on:
- Type of procedure: general surgery; gynecology; neurosurgery; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; spinal surgery; thoracic surgery; urology; vascular surgery
- Complexity of cases: low; medium; high
- Number of cases: low; medium; high

Collect 5 observations of achievement
- At least 5 different types of procedures
- At least 5 assessors

Part B: MSF
Multiple observers provide feedback individually on one occasion, which is then collated to one report

Use Form 3. Form collects information on
- role of observer: surgeon; OR nurse, PACU nurse; anesthesia assistant/respiratory therapist
- did you work with this person afterhours: yes; no

Collect feedback from 8 observers
- At least 2 surgeons
- At least 2 OR nurses
- At least 2 PACU nurses
- At least 2 anesthesia assistant/respiratory therapist
Relevant milestones (Part A): Supervisor assessment

1. **TD ME 1.1** Demonstrate a commitment to high-quality care of their patients

2. **TP ME 1.4** Perform appropriately-timed clinical assessments and case-managements addressing the breadth of anesthesiology, with recommendations that are well-organized and properly documented in written and/or oral form

3. **TP ME 1.6** Recognize and respond to the complexity, uncertainty, and ambiguity inherent in anesthesiology practice

4. **TP ME 2.4** Establish a comprehensive patient-centred perioperative anesthetic management plan, taking into consideration the wishes of the patients and their families, the impact of the patient’s co-morbidities, available resources, and the needs and urgency of the surgical or diagnostic procedure

5. **C ME 3.2** Obtain and document informed consent, explaining the risks and benefits of, and the rationale for, a proposed procedure or therapy

6. **TP ME 3.4** Perform the anesthetic management and all related technical procedures in a skillful, efficient and safe manner, adapting to unanticipated findings or changing clinical circumstances

7. **C ME 3.4** Establish and implement a plan for post-anesthesia care

8. **C ME 5.2** Apply the principles of situational awareness to clinical practice

9. **C ME 5.2** Adopt strategies that promote patient safety and address human and system factors

10. **TP COM 1.6** Adapt to the unique needs and preferences of each patient, and to his or her clinical condition and circumstances

11. **C COM 4.1** Facilitate discussions with the patient and family in a way that is respectful, non-judgmental, and culturally safe

12. **TP COM 5.2** Communicate effectively using a written health record, electronic medical record, or other digital technology

13. **F COL 1.1** Establish and maintain healthy relationships with physician and other colleagues in the health care professions to support relationship-centered collaborative care

14. **TP COL 2.2** Implement strategies to promote understanding, manage differences, and resolve conflicts in a manner that supports a collaborative culture

15. **TP COL 3.2** Demonstrate safe handover of care, both verbal and written, during patient transitions to a different healthcare professional, setting or stage in care
16 TP L 2.1 Apply leadership and time management skills to ensure appropriate use of resources

17 TP L 2.2 Apply evidence and management processes to achieve cost-appropriate care

18 C L 4.2 Assume a leadership role in managing complex cases in the OR

19 TP L 4.2 Demonstrate the ability to run an operating room efficiently, safely, and effectively

20 TP S 1.2 Identify opportunities for learning and improvement by regularly reflecting on and assessing their performance using various internal and external data

21 TP S 3.4 Integrate best evidence and clinical expertise into decision-making in their practice

22 F P 1.1 Exhibit appropriate professional behaviours and relationships in all aspects of practice, reflecting honesty, integrity, humility, dedication, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality

23 TP P 1.2 Demonstrate a commitment to excellence in all aspects of practice

Relevant Milestones (Part B): MSF

1 TP COM 1.1 Communicate with the patient and family in a manner that encourages trust and autonomy and is characterized by empathy, respect, and compassion

2 TP COM 5.2 Communicate effectively using a written health record, electronic medical record, or other digital technology

3 TP COL 1.1 Establish and maintain healthy and collegial relationships with physicians and other colleagues in the health care professions to support relationship-centered collaborative care

4 C COL 1.3 Engage in respectful shared decision-making with physician and other colleagues in the health care professions

5 TP COL 2.1 Show respect toward collaborators

6 F COL 2.1 Delegate tasks and responsibilities in an appropriate and respectful manner

7 TP COL 2.2.1 Implement strategies to promote understanding, manage differences, and resolve conflicts in a manner that supports a collaborative culture

8 TP COL 3.2 Demonstrate safe handover of care, both verbal and written, during patient transitions to a different healthcare professional, setting or stage in care
9 **TP L 1.2** Actively encourage all involved in health care, regardless of their role, to report and respond to unsafe situations

10 **CL 4.2** Demonstrate appropriate leadership skills

11 **FP 1.1** Exhibit appropriate professional behaviours and relationships in all aspects of practice, demonstrating honesty, integrity, humility, commitment, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality

12 **FP 1.5** Exhibit professional behaviours in the use of technology-enabled communication
Anesthesiology: TTP EPA #4

Managing all aspects of patient care for an afterhours list (overnight, weekend), including postanesthesia care unit management and the organizational aspects related to the management of the operating room case load

Key Features:
- This EPA includes anesthesia care for all patients as well as the organizational aspects related to the on call duties especially regarding time management, prioritization of tasks and when needed, conflict management
- It is expected that this would involve a variety of procedures of low to high complexity in various surgical subspecialties in all patients including those with complex medical issues.

Assessment plan:

Supervisor does assessment based on direct observation of an afterhours list

Use Form 2. Form collects information on:
- Type of procedure: general surgery; gynecology; neurosurgery; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; spinal surgery; thoracic surgery; urology; vascular surgery
- Complexity of cases: low; medium; high
- Number of cases: low; medium; high
- A Case: yes; no
- Type of shift: week night; weekend day; weekend night
- Obstetric emergencies: yes; no

Collect 3 observations of achievement
- At least 3 assessors

Relevant milestones

1. **TP ME 1.1** Demonstrate a commitment to high quality care of their patients

2. **TP ME 1.2** Integrate the CanMEDS Intrinsic Roles into their practice of Anesthesiology

3. **TP ME 1.3** Apply a broad base and depth of knowledge in clinical and biomedical sciences to manage the breadth of patient presentations in anesthesiology practice

4. **TP ME 1.5** Carry out professional duties in the face of multiple, competing demands and prioritize various tasks optimally

5. **TP ME 1.6** Recognize and respond to the complexity, uncertainty, and ambiguity inherent in providing care for emergency cases
6 TP ME 2.1 Prioritize which issues need to be addressed in a timely manner during the perioperative period

7 TP ME 2.4 Establish a comprehensive patient-centred perioperative anesthetic management plan, taking into consideration the wishes of the patients and their families, the impact of the patient’s co-morbidities, available resources, and the needs and urgency of the surgical or diagnostic procedure.

8 C ME 3.2 Obtain and document informed consent, explaining the risks and benefits of, and the rationale for, a proposed procedure or therapy

9 TP ME 3.3 Prioritize among surgical cases taking into account clinical urgency, potential for deterioration, and available resources

10 TP ME 3.4 Perform the anesthetic management and all related technical procedures in a skillful, efficient and safe manner, adapting to unanticipated findings or changing clinical circumstances

11 C ME 3.4 Establish and implement a plan for post-anesthesia care

12 TP ME 5.2 Adopt strategies that promote patient safety and address human and system factors safety

13 C ME 5.2 Apply the principles of situational awareness to clinical practice

14 TP COM 1.5 Manage disagreements and emotionally charged conversations

15 TP COM 1.6 Adapt to the unique needs and preferences of each patient and to his or her clinical condition and circumstances

16 F COM 5.1 Document clinical encounters in an accurate, complete, timely and accessible manner, and in compliance with legal and privacy requirements

17 TP COL 1.1 Establish and maintain healthy and collegial relationships with physicians and other colleagues in the health care professions to support relationship-centered collaborative care

18 F COL 1.2 Negotiate overlapping and shared care responsibilities with physicians and other colleagues in the health care professions in episodic and ongoing care

19 C COL 1.3 Engage in respectful shared decision-making with physician and other colleagues in the health care professions

20 TP COL 2.2 Implement strategies to promote understanding, manage differences, and resolve conflicts in a manner that supports a collaborative culture

21 TP COL 3.2 Demonstrate safe handover of care, both verbal and written, during patient transitions to a different healthcare professional, setting, or stage in care
22 C L 2.1 Allocate health care resources for optimal patient care
23 C L 4.2 Assume a leadership role in managing complex cases in the OR
24 TP S 2.3 Ensure patient safety is maintained when learners are involved
25 TP S 3.4 Integrate best evidence and clinical expertise into decision-making when managing patients for emergency care
26 F P 1.1 Exhibit appropriate professional behaviours and relationships in all aspects of practice, reflecting honesty, integrity, humility, dedication, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality
27 C P 3.2 Recognize and respond to unprofessional and unethical behaviours in physicians and other colleagues in the health care professions
28 TP P 4.1 Exhibit self-awareness and effectively manage influences on personal well-being and professional performance
29 C P 4.1 Integrate skills that support adaption and recovery in challenging situations including skills to perform under stress requiring quick decision-making and procedures
Anesthesiology: TTP EPA #5

Managing all aspects of anesthetic patient care for procedures outside the operating suite, including the organizational aspects related to the provision of anesthesia and patient safety issues

Key Features:
- This EPA includes anesthesia care for the patients, and management of the organizational aspect of the case including the considerations related to the specific environment.

Assessment plan:
Supervisor does assessment based on direct observation of a case

Use Form 2. Form collects information on:
- Location: MRI; interventional cardiology; interventional radiology; brachytherapy; ECT; invasive procedures
- Complexity of case: low; moderate; high
- Type of anesthesia: general; monitored anesthesia care (MAC); other

Collect 3 observations of achievement
- At least three different locations
- At least one MAC

Relevant milestones

1  **TP ME 1.1** Demonstrate a commitment to high-quality care of their patients

2  **TP ME 1.3** Apply a broad base and depth of knowledge in clinical and biomedical sciences to manage the breadth of patient presentations in anesthesia

3  **TP ME 2.4** Establish a comprehensive patient-centred perioperative anesthetic management plan, taking into consideration the wishes of the patients and their families, the impact of the patient’s co-morbidities, available resources, and the needs and urgency of the surgical or diagnostic procedure

4  **C ME 2.4** Develop anesthetic management plans that acknowledge and mitigate the added risk of managing anesthetics for procedures outside the operating suite

5  **C ME 3.1** Ensure standard monitors are immediately available in the environment as outlined in the CAS guidelines
6 TP ME 3.4 Perform the anesthetic management and all related technical procedures in a skillful, efficient and safe manner, adapting to unanticipated findings or changing clinical circumstances

7 C ME 3.4 Establish and implement a plan for post-anesthesia care

8 TP ME 5.1 Recognize and respond to harm from health care delivery, including patient safety incidents

9 TP ME 5.2 Adopt strategies that promote patient safety and address human and system factors

10 C ME 5.2 Apply the principles of situational awareness to clinical practice

11 TP COM 1.6 Adapt to the unique needs and preferences of each patient and to his or her clinical condition and circumstances

12 F COM 5.1 Document clinical encounters in an accurate, complete, timely and accessible manner, and in compliance with legal and privacy requirements

13 C COL 1.3 Engage in respectful shared decision-making with physician and other colleagues in the health care professions

14 TP COL 3.2 Demonstrate safe handover of care, both verbal and written, during patient transitions to a different healthcare professional, setting, or stage in care

15 C L 1.2 Contribute to a culture that promotes patient safety

16 TP P 1.2 Demonstrate a commitment to excellence in all aspects of practice

17 TP P 2.2 Demonstrate a commitment to patient safety and quality improvement initiatives within their own practice environment
Anesthesiology: TTP EPA #6

Managing all aspects of anesthetic patient care for obstetrical patients, including the organizational aspects related to the management of the obstetric ward

Key Features:
- This EPA includes the anesthesia care and follow up for any patient as well as the management of the organizational aspects of the work especially regarding time management, prioritization of tasks and allocation of resources

Assessment plan:

Supervisor does assessment based on direct and indirect observation of a day of being the anesthesiologist in charge of obstetrical anesthesia care

Use Form 2. Form collects information on:
- Number of patients: (write in)
- Level of complexity: low; medium; high

Collect 3 observations of achievement
- At least two different assessors

Relevant milestones

1. **TP ME 1.3** Apply a broad base and depth of knowledge in clinical and biomedical sciences to manage the breadth of patient presentations in obstetric anesthesiology

2. **TP ME 1.5** Carry out professional duties in the face of multiple, competing demands and prioritize various tasks optimally

3. **TP ME 2.4** Establish patient-centred anesthesiology management plans for all patients in the peripartum period

4. **CM E 3.2** Obtain and document informed consent, explaining the risks and benefits of, and the rationale for, a proposed procedure or therapy

5. **TP ME 3.3** Prioritize the provision of obstetric anesthesiology services, taking into account clinical urgency, potential for deterioration, and available resources

6. **TP ME 3.4** Perform the anesthetic management and all related technical procedures in a skillful, efficient and safe manner, adapting to unanticipated findings or changing clinical circumstances

7. **TP COM 1.6** Adapt to the unique needs and preferences of each patient and to his or her clinical condition and circumstances
8 TP COM 4.1 Facilitate discussions with the patient and family in a way that is respectful, non-judgmental, and culturally safe

9 TP COL 1.1 Establish and maintain healthy and collegial relationships with physicians and other colleagues in the health care professions to support relationship-centered collaborative care

10 C COL 1.3 Engage in respectful shared decision-making with physicians and other colleagues in the health care professions

11 TP COL 2.2 Implement strategies to promote understanding, manage differences, and resolve conflicts in a manner that supports a collaborative culture

12 TP COL 3.2 Demonstrate safe handover of care, both verbal and written, during patient transitions to a different healthcare professional, setting, or stage in care

13 C L 2.1 Allocate health care resources for optimal patient care

14 TP S 1.2 Identify opportunities for learning and improvement by regularly reflecting on and assessing their performance using various internal and external data sources

15 TP S 2.5 Role-model regular self-assessment and feedback-seeking behaviour

16 F P 1.1 Exhibit appropriate professional behaviours and relationships in all aspects of practice, reflecting honesty, integrity, humility, dedication, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality

17 TP P 1.2 Demonstrate a commitment to excellence in all aspects of practice

18 C P 4.1 Integrate skills that support adaption and recovery in challenging situations including skills to perform under stress requiring quick decision-making and procedures
Anesthesiology: TTP EPA #7

Managing all aspects of care for a scheduled routine pediatric list, including the organizational aspects related to the management of the operating room case load

Key Features:
- This EPA includes the anesthesia care for all patients above the age of one year having a procedure of low to moderate complexity, as well as the organizational aspects of the day list especially regarding time management.

Assessment plan:
Supervisor does assessment based on direct observation of a scheduled day list

Use Form 2. Form collects information on:
- Type of procedure: general surgery; ophthalmology; orthopedic surgery; otolaryngology; plastic surgery; urology
- Complexity of cases: low; medium; high
- Number of cases: low; medium; high
- Range of patient age:

Collect 3 observations of achievement
- At least 3 assessors
- At least one otolaryngology list

Relevant milestones

1. **TP ME 1.4** Perform appropriately-timed clinical assessments addressing the breadth of pediatric anesthesiology, with recommendations that are well-organized and properly documented in written and/or oral form

2. **TP ME 1.5** Carry out professional duties in the face of multiple, competing demands

3. **TP ME 2.4** Establish patient-centred management plans for the full range of pediatric patients in a general anesthetic practice recognizing appropriate limits of own skills set

4. **C ME 3.2** Obtain and document informed consent, explaining the risks and benefits of, and the rationale for, a proposed procedure or therapy and incorporating the child’s developmental stage and capacity to consent

5. **TP ME 3.4** Perform the anesthetic management and all related technical procedures in a skillful, efficient and safe manner, adapting to unanticipated findings or changing clinical circumstances
6 TP ME 4.1 Implement a patient-centred care plan that supports ongoing care, follow-up on investigations, response to treatment, and further consultation

7 TP COM 1.6 Adapt to the unique needs and preferences of each patient and to his or her clinical condition and circumstances

8 TP COM 3.1 Communicate clearly with patients and others in the setting of ethical dilemmas

9 TP COM 4.3 Use communication skills and strategies that help the patient and family make informed decisions regarding their perioperative anesthetic management

10 TP COM 5.3 Share information with patients and others in a manner that respects patient privacy and confidentiality and enhances understanding

11 TP COL 1.3 Use referral and consultation as opportunities to improve quality of care and patient safety by sharing expertise

12 TP COL 3.2 Demonstrate safe handover of care, both verbal and written, during patient transitions to a different healthcare professional, setting, or stage in care

13 TP L 3.1 Demonstrate leadership skills to enhance health care.

14 TP L 4.2 Demonstrate the ability to run an operating room efficiently, safely, independently and effectively

15 TP P 2.2 Demonstrate a commitment to patient safety and quality improvement initiatives within their own practice environment
Anesthesiology: TTP EPA #8

Managing and coordinating the workday delivery of anesthesia services at a hospital level, i.e. fulfilling the role of operating room manager (elective)

Key Features:
- The achievement of this EPA is elective
- This EPA focuses on the organizational aspects of the operating theatre (daily work assignments, dealing with emergencies occurring during daytime, prioritization issues).
- For this EPA, the supervisor is the physician manager of the OR for that day: this may be an anesthesiologist or a surgeon

Assessment plan:
Supervisor (physician manager) does assessment based on direct and indirect observation

Use Form 2. Form collects information on:
- Scheduling complexity: low; medium; high

Collect 3 observations of achievement
- At least two different assessors

Relevant milestones

1. **TP ME 1.5** Carry out professional duties in the face of multiple, competing demands and prioritize patient care including triaging of urgent/emergent patient care

2. **TP ME 2.1** Elicit all relevant information for the purpose of triaging and coordinating comprehensive anesthetic care of complex patients, including urgent and emergent cases

3. **TP COL 1.1** Establish and maintain healthy relationships with physician and other colleagues in the health care professions to support relationship-centered collaborative care

4. **F COL 1.2** Negotiate overlapping and shared care responsibilities with physicians and other colleagues in the health care professions in episodic and ongoing care

5. **C COL 1.3** Engage in respectful shared decision-making with physicians and other colleagues in the health care professions

6. **TP COL 2.2** Implement strategies to promote understanding, manage differences, and resolve conflicts in a manner that supports a collaborative culture
7  **C L 1.2** Contribute to a culture that promotes patient safety

8  **C L 2.1** Allocate health care resources for optimal patient care

9  **TP L 2.1** Apply leadership and time-management skills to ensure appropriate use of resources

10 **TP L 2.2** Apply evidence and management processes to achieve cost-appropriate care

11 **F P 1.1** Exhibit appropriate professional behaviours and relationships in all aspects of practice, reflecting honesty, integrity, humility, dedication, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality

12 **TP P 1.3** Recognize and respond to ethical issues encountered in independent practice

13 **C P 2.1** Demonstrate accountability to patients, society, and the profession by recognizing and responding to societal expectations of the profession

14 **C P 3.2** Recognize and respond to unprofessional and unethical behaviours in physicians and other colleagues in the health care professions
Anesthesiology: TTP EPA #9

Providing and coordinating the care of patients with simple and complex acute pain conditions referred to and managed by the pain service

Key Features:
- This EPA focuses on the medical care provided to patients referred to the pain service, including dealing with simple and complex acute pain conditions and managing the daily workload

Assessment plan:
Supervisor does daily assessment based on direct and indirect observation (case review)

Use Form 2. Form collects information on:
- Complexity of cases: low; medium; high
- Number of cases: low; medium; high

Collect 5 observations of achievement
- At least 3 different assessors

Relevant milestones

1  **TP ME 1.4** Perform appropriately-timed clinical assessments addressing the breadth of postoperative and post-trauma acute pain, with recommendations that are well-organized and properly documented in written and/or oral form

2  **TP ME 1.5** Carry out professional duties in the face of multiple, competing demands and prioritize patient care including triaging of urgent/emergent patient care

3  **TP ME 1.6** Recognize and respond to the complexity, uncertainty, and ambiguity inherent in the acute pain service

4  **TP ME 2.1** Prioritize which issues need to be addressed during future visits or with other health care practitioners

5  **TP ME 2.4** Establish patient-centred management plans for all patients in a practice

6  **TP ME 3.1** Determine the most appropriate procedures or therapies for the purpose of management of simple and complex acute pain

7  **TP ME 4.1** Implement a patient-centred care plan that supports ongoing care, follow-up on investigations, response to treatment, and further consultation
8 TP COM 1.6 Adapt to the unique needs and preferences of each patient and to his or her clinical condition and circumstances

9 TP COM 2.1 Use patient-centred interviewing skills to effectively gather relevant biomedical and psychosocial information

10 F COM 5.1 Document clinical encounters in an accurate, complete, timely and accessible manner, and in compliance with legal and privacy requirements

11 TP COM 5.2 Communicate effectively using a written health record, electronic medical record, or other digital technology

12 TP COM 5.3 Share information with patients and others in a manner that respects patient privacy and confidentiality and enhances understanding

13 F COL 1.2 Negotiate overlapping and shared care responsibilities with physicians and other colleagues in the health care professions in episodic and ongoing care

14 TP COL 1.3 Use referral and consultation as opportunities to improve quality of care and patient safety by sharing expertise

15 TP L 2.1 Apply leadership and time-management skills to ensure appropriate use of resources

16 TP L 4.2 Demonstrate the ability to run the acute pain service efficiently, safely, independently and effectively

17 TP HA 1.2 Work with the patient and family to increase opportunities to adopt healthy behaviours
Anesthesiology: TTP EPA #10

Developing an ongoing personal career and learning plan

Key Features:
- This EPA includes reviewing the current learning plan developed in Core and developing a plan for the first 3-5 years of practice
- The personal learning plan must include a summary of all feedback and assessments received throughout residency and must highlight areas of personal strength as well as areas for improvement.
- The plan should include the resident’s scope of practice for the coming years (new centre, new role, new fellowship etc) and the implications on their professional development needs
- The plan should be SMART(specific, measureable, assessable, realistic, timely)
- The plan may include:
  o Plan to address areas for improvement through CME
  o Plans for CME in early practice; must be in line with future practice
  o Goals for developing new skills or improving current skills
  o New areas of interest
  o Practice improvement the new graduate can bring to his/her future work community
- Academic advisors (if implemented), Competence Committee members and/or program directors may offer a unique perspective to review and assess the learning plan

Assessment plan:

Part A: Review of Core learning plan
Resident submits reflective critique of personal learning plan developed in Core and its current status. Supervisor does assessment based on review of resident’s submission

Use Form 4

Collect 1 observation of achievement

Part B:
Resident submits learning plan geared to plan for practice and progression of competence. Supervisor does assessment based on resident’s submission

Use Form 1 with mandatory comments.

Collect 1 observation of achievement

Relevant milestones (Part A): Review of Core learning plan

1 C L 4.2 Adjust educational experiences to gain competencies necessary for future independent practice
2 C S 1.1 Develop, implement, monitor, and revise a personal learning plan to enhance professional practice

3 C S 1.2 Seek and interpret multiple sources of performance data and feedback, with guidance, to continually improve performance

4 C P 2.1 Demonstrate a commitment to maintaining and enhancing competence

Relevant Milestones (Part B):

1 TP ME 1.4 Demonstrate an awareness of the context of practice, including what is required to practice safely and effectively in a community practice, and exercise the ability to adapt to that context

2 TP ME 5.2 Adopt strategies that promote patient safety and address human and system factors safety

3 TP L 4.1 Set priorities and manage time to integrate practice and personal life

4 TP L 4.2 Manage a career and practice

5 C L 4.2 Reconcile expectations for practice with job opportunities and workforce needs

6 C L 4.2 Adjust educational experiences to gain competencies necessary for future independent practice

7 C L 4.3 Implement processes to ensure personal practice improvement

8 C S 1.1 Develop, implement, monitor, and revise a personal learning plan to enhance professional practice

9 TP S 1.2 Identify opportunities for learning and improvement by regularly reflecting on and assessing their performance using various internal and external data sources

10 TP S 1.3 Engage in collaborative learning to continuously improve personal practice and contribute to collective improvements in practice

11 TP S 2.5 Role-model regular self-assessment and feedback-seeking behavior

12 C S 3.1 Generate focused questions to address practice uncertainty and knowledge gaps

13 C S 3.3 Critically evaluate the integrity, reliability, and applicability of health-related research and literature

14 TP S 3.4 Integrate best evidence and expertise into decision-making in their practice
15 TP P 1.2 Demonstrate a commitment to excellence in all aspects of practice

16 CP 2.1 Demonstrate accountability to patients, society, and the profession by recognizing and responding to societal expectations of the profession

17 CP 2.1 Demonstrate a commitment to maintaining and enhancing competence

18 CP 3.1 Describe the relevant codes, policies, standards, and laws governing physicians and the profession including standard-setting and disciplinary and credentialing procedures

19 TP P 4.1 Develop a personal plan for managing stress and maintaining physical and mental well-being during independent practice

20 CP 4.2 Develop a strategy to manage personal and professional demands for a sustainable independent practice
Anesthesiology: TTP EPA #11

Leading initiatives to enhance the system of patient care

Key Features:
- The observation of this EPA is based on the review of a case or a series of cases or incidents, and presentation of the analysis during morbidity and mortality rounds, quality improvement rounds or any other similar patient safety initiatives.
- This EPA includes an analysis of the reasons for the gap in desired outcomes, and may include suggestions for processes to improve health care delivery

Assessment plan:
Supervisor does assessment based on direct observation of a case presentation or review of a written submission

Use Form 1 with mandatory comments

Collect 1 observation of achievement

Relevant milestones

1. **TP ME 1.1** Demonstrate a commitment to high-quality care of their patients

2. **TP ME 1.3** Apply a broad base and depth of knowledge in clinical and biomedical sciences to manage the breadth of patient presentations in anesthesiology practice

3. **TP ME 5.1** Recognize and respond to harm from health care delivery, including patient safety incidents

4. **C ME 5.1** Participate in an analysis of patient safety incidents

5. **TP ME 5.2** Adopt strategies that promote patient safety and address human and system factors

6. **F ME 5.2** Describe strategies to address human and system factors in clinical practice

7. **C COL 1.1** Anticipate, identify, and respond to patient safety issues related to the function of a team

8. **TP L 1.1** Apply the science of quality improvement to contribute to improving systems of patient care

9. **C L 1.1** Analyze and provide feedback on processes seen in one’s own practice, team, organization, or system

10. **TP L 1.1** Apply a system-based approach to address QI and patient safety issues
11 **TP L 1.1** Apply QI tools to identify gaps in patient care and develop possible solutions

12 **C L 1.2** Contribute to a culture that promotes patient safety

13 **C L 1.2** Model a just culture to promote openness and increased reporting

14 **TP L 1.3** Analyze harmful patient safety incidents and near misses to enhance systems of care

15 **TP L 1.4** Use health informatics to improve the quality of patient care and optimize patient safety

16 **C L 1.4** Map the flow of information in the care of anesthesiology patients and suggest changes for quality improvement and patient safety

17 **TP L 3.1** Demonstrate leadership skills to enhance health care

18 **TP L 3.2** Facilitate change in health care to enhance services and outcomes

19 **TP P 1.2** Demonstrate a commitment to excellence in all aspects of practice

20 **C P 1.2** Analyze how the system of care supports or jeopardizes excellence

21 **C P 2.1** Demonstrate accountability to patients, society, and the profession by recognizing and responding to societal expectations of the profession

22 **TP P 2.2** Demonstrate a commitment to patient safety and quality improvement initiatives within their own practice environment

23 **F P 2.2** Monitor institutional and clinical environments and respond to issues that can harm patients or the delivery of health care

24 **C P 3.3** Participate in the review of practice, standard setting and quality improvement activities

25 **C P 3.3** Prepare a morbidity and mortality report or chart review
Anesthesiology: TTP EPA #12

Leading a post crisis debriefing and feedback session (elective)

Key Features:
- The achievement of this EPA is elective
- The resident is expected to debrief an incident or a critical event with care team members including the anesthesiologist
- The focus of this EPA is identification of the key points of the event and a clear take home message for improvement in a future similar situation, and communication with the team

Assessment plan:

Supervisor does assessment based on direct observation

Use Form 2 with assessment anchors at the beginning and then milestones
Form collects information on:
  - short description of the situation being debriefed: (text box)

Collect 1 observation of achievement

Relevant milestones

1. C ME 5.1 Identify potential improvement opportunities arising from harmful patient safety incidents and near misses
2. C COL 1.1 Anticipate, identify, and respond to patient safety issues related to the function of a team
3. C COL 1.3 Communicate effectively with physicians and other colleagues in the health care professions
4. TP COL 2.1 Show respect toward collaborators
5. TP COL 2.2 Implement strategies to promote understanding, manage differences, and resolve conflicts in a manner that supports a collaborative culture
6. C L 1.2 Model a just culture to promote openness and increased reporting
7. TP L 3.1 Demonstrate leadership skills to enhance health care
8. TP S 1.3 Engage in collaborative learning to continuously improve personal practice and contribute to collective improvements in practice
9. TP S 2.5 Role-model regular self-assessment and feedback-seeking behaviour
10 **F P 1.1** Exhibit appropriate professional behaviours and relationships in all aspects of practice, reflecting honesty, integrity, humility, dedication, compassion, respect, altruism, respect for diversity, and maintenance of confidentiality

11 **TP P 2.2** Demonstrate a commitment to patient safety and quality improvement initiatives within their own practice environment

12 **C P 4.1** Integrate skills that support adaptation and recovery in challenging situations

13 **TP P 4.3** Promote a culture that recognizes, supports, and responds effectively to colleagues in need

14 **C P 4.3** Support others in challenging situations
INTRODUCTION:

The Transfusion Medicine rotation consists of four weeks.

The objective of this rotation is to develop expertise in:
1. Blood management
2. Blood conservation
3. Massive Transfusion Protocol and Coagulopathy
4. Management of perioperative anemia
5. Technical skills related to transfusion

It is expected that the resident prepares a 20 – 30-minute Journal Club presentation on a topic related to Transfusion Medicine.

Because it is expected of the resident to identify patients that will undergo surgeries where substantial blood loss is anticipated, this rotation also involves spending time in the pre-anesthetic clinic.

GOALS AND OBJECTIVES

The University of Manitoba Training Program for Residents in Anesthesia has been developed in accordance with the guidelines of the Royal College of Physicians and Surgeons of Canada.

The following Rotation Specific Goals and Objectives for Transfusion Medicine provide specialty specific emphasis to particular components of the general Program Goals and Objectives. These Goals and Objectives are written in the CanMEDS format.

Please also refer to the National Curriculum for Canadian Anesthesia Residency for more information on expected knowledge and skills.

All appropriate Anesthesia Program Goals and Objectives also apply to this rotation.

I. MEDICAL EXPERT/CLINICAL DECISION MAKER:

By the end of the rotation the resident must demonstrate knowledge of the following:

1.1 Physiology of oxygen transport:
   i. physiology of oxygen delivery and oxygen consumption
   ii. physiologic adaptive responses to (euvolemic) anemia
   iii. impaired oxygen delivery
   iv. clinical and laboratory indicators of shock
v. understands the concepts of VO2 for tissue metabolic processes, DO2, oxygen, 
  extraction ratio, DO2 crit (critical threshold of oxygen delivery)
vi. be able to calculate arterial oxygen content

The competent anesthesiologist will demonstrate knowledge of the pathophysiology, clinical 
presentation, laboratory investigation, and perioperative management of patients with the 
following conditions:

(*In collaboration with a hematologist. In emergency situations, there may not be sufficient time 
for this collaboration to occur, in which case the consultant anesthesiologist will be expected to 
manage such patients independently.)

1.2 Hemoglobinopathies:
   a) Methemoglobin, including precipitation by some pharmacologic agents
      (nitric oxide, nitroglycerine, nitroprusside) and pharmacology of methylene blue.
   b) Sulfhemoglobin
   c) Carboxyhemoglobin
   d) Anemias

   i. Acute blood loss: predict increased risk of acute blood loss, clinical signs of 
      acute blood loss, perioperative management, strategies to minimize blood loss
   ii. Management of the patient who refuses transfusions of blood products
   iii. Chronic blood loss/anemia secondary to deficiency of iron, B12, folic acid
   iv. Anemia of chronic disease, anemia of chronic renal failure, aplastic anemia, anemia 
      associated with liver failure

v. Hemolytic anemias including:
   • Congenital spherocytosis *
   • G6PD deficiency *
   • Immune hemolytic anemias (e.g. Drug-induced, hypersplenism) *
   • Sickle cell disease *, including prevention, end organ complications and pain management
   • Mechanical etiologies (e.g. Mechanical heart valve) *
   • Thalassemias *

e) Polycythemia:
i. primary polycythemias
ii. secondary to hypoxemia

1.3 Physiology of Normal Hemostasis:
   a) role of vasculature
   b) platelets (adhesion, activation, aggregation, and various factors involved with platelet 
      function)
   c) protein coagulation factors
   d) physiologic mechanisms to limit the coagulation: Antithrombin, Tissue Factor Pathway 
      Inhibitor, Protein C and Protein S, and the fibrinolytic system
e) alterations seen in the normal postoperative period (and the effect on postoperative DVT), normal pregnancy, the newborn, trauma, sepsis, shock and cancer
f) laboratory to assess the coagulation system
g) laboratory monitoring of the various pharmacological agents
h) minimum acceptable levels for laboratory testing to allow for normal surgical hemostasis, provision of spinal and epidural anesthesia (platelet count, factor levels, INR, fibrinogen level).

1.4 Pharmacology: Anticoagulants/Antifibrinolytics:
    a) pharmacodynamics (mechanism of action)
    b) pharmacokinetics (dose, clinical duration of action, etc.)
    c) clinical pharmacology (indications, side effects, complications and contraindications).
    d) understanding of the impact on INR, PTT, TT, fibrinogen level, fibrin degradation products.
    e) Perioperative use of
       i. Protamine
       ii. vitamin K
       iii. desmopressin (DDAVP)
       iv. recombinant activated Factor VII (rFVIIa).
    f) Perioperative management of anticoagulant - or antiplatelet agents;
       i. Coumadin / NOACS (New Oral Anticoagulants)
       ii. heparin (both unfractionated and low molecular weight)
       iii. agents used as alternatives to patients who have a history of (HITT) heparin induced thrombotic thrombocytopenia
       iv. platelet inhibitors such as cyclooxygenase inhibitors (e.g. ASA, NSAIDS)
       v. ADP inhibitors (e.g. Clopidogrel, ticlopidine)
       vi. glycoprotein IIB IIIA inhibitors (e.g. Abciximab)
       vii. phosphodiesterase inhibitors (e.g. Persantine)
       viii. anti-fibrinolytic agents (e.g. aminocaproic acid, tranexamic acid, aprotinin).

The competent anesthesiologist will demonstrate knowledge of the pathophysiology, clinical presentation, laboratory investigation, and perioperative management of patients with the following conditions:

1.5 Disorders of Coagulation

a) Congenital “bleeders:”
   i. Hemophilia A *
   ii. Hemophilia B *
   iii. Von Willebrand’s disease *

b) Congenital “clotters:”
i. Protein C deficiency *
ii. Protein S deficiency *
iii. Antithrombin deficiency *
iv. Other thrombophilia’s *

c) Acquired “bleeders:”
   i. Effects of anticoagulant drugs or antiplatelet drugs
   ii. Dilutional thrombocytopenia or dilution of procoagulants
   iii. DIC
   iv. Liver disease
   v. Massive blood transfusion
   vi. Hypothermia
   vii. Thrombocytopenia due to PIH, drug-induced, ITP
   viii. Effects of extracorporeal circulation
   ix. Sepsis

d) Acquired “clotters:”
   i. Heparin-induced thrombocytopenia *
   ii. TTP *
   iii. Antiphospholipid Antibody Syndrome *

e) Hematologic Emergencies:
   i. New diagnosis of acute leukemia (blast crisis) especially acute promyelocytic leukemia
   ii. TTP
   iii. hyperviscosity syndrome
   iv. acute thrombosis
   v. acquired hemophilia

**1.6 Blood Products:**
Regarding the following blood products:
- RBC
- Frozen Plasma (FP)
- Prothrombin Complex Concentration (PCC) (Octaplex)
- Platelets
- Cryoprecipitate

The competent anesthesiologist will understand the following:
a) Indications
b) Physiology

c) Risks

d) Benefits

e) Management of complications of:
i. febrile reactions

ii. allergic reactions

iii. volume overload

iv. transfusion-related acute lung injury (TRALI)

v. acute and delayed hemolytic reactions

vi. sepsis

vii. coagulopathy

viii. electrolyte disturbances

ix. hypothermia

x. transfusion-associated graft vs. host disease (TA-GVHD)

xi. immune-related effects

xii. transfusion-transmitted diseases (hepatitis B and C, HIV etc)

xiii. effect of age of stored RBC’s

xiv. Effect on 2-3 DPG

f) regarding administration of blood products:
i. informed consent

ii. identification and verification of both the patient and the blood product

iii. preparation and administration of the blood product (including the safe use of diluents, filters and filter size, blood administration sets, iv cannula size, and blood warmers including rapid infusion devices)

iv. documentation

1.7 Blood banking:
The consultant anesthesiologist is expected to have a working knowledge of blood bank procedures, including:
a) Clerical procedures

b) Serologic procedures

i. uncross matched (emergency release) RBC’s

ii. type-specific uncross matched RBC’s

iii. computer assisted and serological crossmatches

iv. type and screen

v. frozen plasma

vi. platelets

vii. cryoprecipitate

viii. antibody investigation.

1.8 Reduction of use of Homologous Blood Products:
The consultant anesthesiologist is expected to have working knowledge of:
a) methods used to reduce blood loss including:

i. patient position

Reviewed November 2017/ BM/JS
ii. controlled hypotension (including the physiology, indications, contraindications, and technique, including the pharmacologic agent(s) used)

iii. regional anesthesia

iv. pharmacologic agents (e.g. Antifibrinolytics agents, role of recombinant activated Factor VII (rFVIIa)).

b) alternatives to blood products and their risks and benefits

c) Use of crystalloids

d) Use of colloids including:

i. physiologic effects of colloids in comparison to crystalloids

ii. understand the crystalloid/colloid controversy

iii. compare starch vs. albumen

e) Management the patient (preoperative discussion, intraoperative and postoperative management) who refuses blood products for religious or other reasons

f) Calculate “allowable blood loss”

 g) Demonstrate working knowledge of

i. preoperative autologous donation (PAD)

ii. directed donation

iii. hemoglobin-based oxygen carriers, and perfluorocarbon emulsions

iv. erythropoietin therapy

v. Acute normovolemic hemodilution

vi. perioperative RBC salvage and auto transfusion (including indications, contraindications, complications and technique)

Level I fluid resuscitation equipment.

Set up and operate the cell saver.

COMMUNICATOR:

At completion of the rotation the resident should be able to:

I.
Obtain complete informed consent for anesthetic care including transfusion of blood products during the perioperative period.
Discuss the potential for perioperative blood loss with the surgical team.
Discuss the utility of antifibrinolytic agents during the pre-and intraoperative period.
Discuss transfusion of blood component therapy with the hemopathologist on call.
Anticipate use of blood products and discuss with the blood bank prior to surgery.
Discuss the potential use of a cell saver with the perfusionist on call.

Establish a therapeutic relationship with patients and/or family members as appropriate, including:

- Encouraging patient participation in decision-making, and to do this in consultative, elective, and emergent situations as well as in challenging situations such as patient anger, confusion, language, ethno-cultural differences or extremes of age.
- Listening to patients, answering their questions, and decreasing their anxiety.
- Demonstrating respect and empathy in relationships with patients. Articulate the above findings and concerns to the attending Anesthesiologist and other members of the health care team.

Understand the role of the Blood Bank (one day in lab) – **Blood Bank contact Karen Harrison 787-3508 or kharrison2@hsc.mb.ca**

**COLLABORATOR:**

At completion of the transfusion medicine rotation, the resident should be able to:

- Consult other physicians (hemopathologist, hematologist) and allied health professionals (blood bank, perfusionist) in order to provide optimal perioperative care.
- Coordinate care of adult patients with other members of OR team, PAC/POAC, ward, ICU staff and other physicians.
- Communicate effectively with other team members.
- Manage urgent and crisis situations such as cardiac arrest, trauma, anaphylaxis, and malignant hyperthermia, as a team member or a team leader.

**LEADER:**

Reviewed November 2017/ BM/JS
At the completion of this rotation, it will be expected that the resident:

Utilize personal and outside resources effectively to balance patient care, continuing education, practice and personal activities

Identify patients in PAC who will be at risk of undergoing major blood loss during the perioperative period and be involved in the anesthetic planning and management of at least two of these patients

Answer Blood conservation consults with Blood conservation nurse, and discuss consult with appropriate staff anesthetist.

**HEALTH ADVOCATE:**

Be able to discuss the risks and benefits, as well as the indications, for all blood products

Recognize individual and systemic issues with an impact on anesthetic care and safety of the adult patient

Participate in and lead where appropriate patient safety procedures such as briefing, time out and debriefing.

Communicate identified concerns and risks to patients, other health care professionals, and administration as applicable

Intervene on behalf of individual patients and the system as a whole regarding quality of care and safety

**SCHOLAR:**

Completion of **Bloody Easy 4** by the end of the rotation

**Required Reading:** (Handout package)

Anticoagulation Therapy
ANH and Hepatic resection
Heparin-Induced Thrombocytopenia
LMWH bridging protocol
Massive Transfusion Consensus Conference
WRHA MT Protocol
Orthopedic Surgery and transfusion
Cardiac surgery and transfusion
PROFESSIONAL:

Throughout the Transfusion Medicine Rotation, it is expected that the resident:

Deliver the highest quality patient care with integrity, honesty, and compassion

Fulfill the ethical and legal aspects of patient care

Maintain patient confidentiality

Demonstrate appropriate interpersonal and professional behavior

Recognize personal limits through appropriate consultation (with staff supervisors, other physicians, and other health professionals) and show appropriate respect for those consulted

Recognize conflict in patient care situations, professional relationships, and value systems, and demonstrate the ability to discuss and resolve differences of opinion.

Accept constructive feedback and criticism, and implement appropriate advice

Continually review personal and professional abilities and demonstrate a pattern of continuing development skills and knowledge through education

Identify problems of physical and mental health including chemical dependence, stress, and depression, and ways to deal with these problems in oneself and others