DEPARTMENT OF ANESTHESIOLOGY, PERIOPERATIVE & PAIN MEDICINE & DEPARTMENT OF SURGERY

COMBINED GRAND ROUNDS

Linked via MB TeleHealth *
Live Streamed ONLY, no in-person attendance

Wednesday March 25, 2020 at 7:45 am

COVID-19 Pandemic Planning - UPDATE 2

DR. CHRIS CHRISTODOULOU
DR. EDWARD BUCHEL
DR. JODI JONES
Elective surgery delayed
Elective clinic visits rescheduled

Wait lists should be kept as best as possible
working to establish plan for “catching up”

Virtual visits for clinic optimized.
billing codes established.
## Current Slate Map

<table>
<thead>
<tr>
<th>Site</th>
<th>Total Slates</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Boniface</td>
<td>6</td>
<td>2x Cardiac, ACSS, 2x Obs/Gyne/C-section, +1 additional slates for essential/time-sensitive procedures.</td>
</tr>
<tr>
<td>Grace</td>
<td>3</td>
<td>3 ORs daily to deliver Ortho Trauma, ACSS and other essential/time-sensitive procedures.</td>
</tr>
<tr>
<td>Victoria</td>
<td>3</td>
<td>3 ORs daily in addition to endoscopy and cystoscopy. Potential to redirect plastics, oral, ENT from other sites appropriate for day surgery and 23 hour care</td>
</tr>
<tr>
<td>Pan Am</td>
<td>2</td>
<td>2 ORs daily for essential and time-sensitive orthopedics and plastics.</td>
</tr>
<tr>
<td>Concordia</td>
<td>2</td>
<td>2 ORs daily for essential, time-sensitive orthopedics (including trauma) and spine</td>
</tr>
<tr>
<td>Misericordia</td>
<td>2</td>
<td>2 ORs daily for retinal and other time-sensitive ophthalmology</td>
</tr>
<tr>
<td>HSC</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>
Current daily Resource Planning

• 730 am   Ortho surgery
  • ( HSC, Grace, Conc, Pan Am)

• 750 am   ACSS surgery
  • ( HSC , ST B , Grace, Vic)
PPE and Protocol

• Two main factors

  – Risk from **procedure**
    • High risk procedure - upper aero digestive tract
    • Low risk procedure - all other surgeries

  – Risk from **patient** as potential or real source.
    • Low risk - none of the prior 5 factors
    • High risk – any positive prior mentioned risk factor
Patient Risk

• Low risk
  – In province and no risk factors (travel and exposure)

• High risk
  – Risk factors, NEW – out of province.

• Positive

  Urgent vs Emergent
Patient Risk

• Low risk
  – No travel history *including interprovincial*
  – No exposure to COVID positive patient
  – No Exposure to suspected positive
  – Not immunocompromised
  – Not greater then 70

*Screened by: Surgeons office
  PAC
  Hospital admitting*
## Procedure Risk

<table>
<thead>
<tr>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non Upper Aero-digestive tract surgery</strong></td>
<td><strong>Upper Aero-digestive tract surgery</strong></td>
</tr>
</tbody>
</table>

### Urgent

- A. Can wait 14 days
- B. Can only wait 5 days
- C. Less then 5 days

### Emergent

- A. Can wait 14 days
- B. Can only wait 5 days
- C. Less then 5 days
COVID positive

- Non Upper Aero-digestive Tract.
- Upper Aero-digestive Tract
Algorithm
NON UPPER AERODIGESTIVE TRACT – LOW RISK

LOW RISK

URGENT

CAN WAIT 14 DAYS

CAN WAIT 5 DAYS

QUARANTINE +/- VIRAL TEST +/- CHEST CT

- SYMPTOMS

+ SYMPTOMS

ROUTINE OR VIRAL TEST CT CHEST

- SYMPTOMS & - TEST

- ROUTINE OR

+ SYMPTOMS or + TEST

+ ROUTINE OR

EDCP OR (N95)

EDCP OR (N95)

Consider further delay until testing negative
NON UPPER AERODIGESTIVE TRACT – HIGH RISK

URGENT

CAN WAIT 14 DAYS

QUARANTINE

SYMPTOMS

ROUTINE OR

VIRAL TEST

- CHEST &
  - VIRAL TEST

ROUTINE OR

EDCP OR (N95)

SYMPTOMATIC

TEST

EDCP OR (N95)

EMERGENT

CAN WAIT 5 DAYS

QUARANTINE ORDER VIRAL TEST

ASYMPTOMATIC

&

TEST

CHET

or

VIRAL TEST

ROUTINE OR

vs

EDCP OR

(EDIT: ROUTINE OR)

Consider further delay until testing negative
UPPER AERODIGESTIVE TRACT – LOW RISK

LOW RISK

URGENT

CAN WAIT
14 DAYS

CAN WAIT
5 DAYS

QUARANTINE

ASYMPTOMATIC

EDCP OR (N95)

SYMPOMATIC

ORDER
VIRAL TEST
CT CHEST

BOTH

EDCP OR
(N95)

EITHER

PAPR OR

QUARANTINE
ORDER VIRAL TEST
CT CHEST PRIOR TO OR

ALL

EDCP OR
(N95)

ANY

PAPR OR

Consider further delay until testing negative

PAPR OR
EDCP OR (N95)
+ Level 3/Level 4 Jumpsuits
UPPER AERODIGESTIVE TRACT – HIGH RISK

- Consider further delay until testing negative

HIGH RISK

URGENT

CAN WAIT 14 DAYS

QUARANTINE ORDER VIRAL TEST AT 1 WEEK

ASYMPTOMATIC — VIRAL TEST

EDCP OR (N95)

SYMPTOMATIC + VIRAL TEST

EDCP OR (N95)

PAPR OR

CAN WAIT 5 DAYS

QUARANTINE ORDER VIRAL TEST CT CHEST PRIOR TO OR

ALL —

EDCP OR (N95)

PAPR OR

ANY +

EDCP OR (N95)

PAPR OR

EMERGENT

PAPR OR VS EDCP OR (N95) + Level 3/Level 4 Jumpsuits
Algorithm & Explanations
Non Upper Aero-digestive Tract Surgery
Low Risk

• **Urgent and can wait 14 days.**
  – Quarantine for 14 days
    • Home if possible
    • Hospital if needed

**Asymptomatic**
  – surgery as per routine.

**Symptomatic**
  – Viral test and CT scan
    – + then ECDP

• **Urgent and can wait 5 days**
  – Quarantine for 5 days
    • Home if possible
    • Hospital if needed

**Asymptomatic**
  – Discussion with Radiology regarding CT chest
  – Discussion with Lab regarding testing and timing of results.

**Symptomatic**
  – Viral testing and CT chest
    – + then ECDP
Non Upper Aero-digestive Tract Surgery

Low Risk

• Emergent
  – OR with ECDP

• Endoscopic surgery protocol
Non Upper Aero-digestive Tract Surgery
High Risk

• Urgent and can wait 14 days.
  – Quarantine for 14 days
    • Home if possible
    • Hospital if needed

Asymptomatic
  - surgery as per routine.

Symptomatic
  – Viral test and CT scan
  – + then ECDP

• Urgent and can wait 5 days
  – Quarantine for 5 days
    • Home if possible
    • Hospital if needed
    • Viral test on admission
    • CT chest prior to OR

Asymptomatic and Negative Tests
  – OR ECDP

Symptomatic or Positive Tests
  – OR PAPR
Non Upper Aero-digestive Tract Surgery
High Risk

- Emergent
  - PAPR OR
UPPER AERODIGESTIVE TRACT – HIGH RISK

- HIGH RISK
  - URGENT
    - CAN WAIT 14 DAYS
      - QUARANTINE ORDER VIRAL TEST AT 1 WEEK
        - ASYMPTOMATIC
          - VIRAL TEST
            - EDCP OR (N95)
        - SYMPTOMATIC
          - VIRAL TEST
            - EDCP OR (N95) vs PAPR OR
    - CAN WAIT 5 DAYS
      - QUARANTINE ORDER VIRAL TEST CT CHEST PRIOR TO OR
        - ALL
          - EDCP OR (N95) vs PAPR OR
        - ANY
          - PAPR OR

- EMERGENT
  - PAPR OR vs EDCP OR (N95) + Level 3/Level 4 Jumpsuits
Upper Aero-digestive Tract

In all cases consideration should be done to delay case until patient non symptomatic or recovered with negative tests

In all cases consideration should be done to change procedure route

Emergency cases: logistically there will likely only be EDCP and Level 3, 4 jump suits.

In all cases if full PAPR not available and indicated the entire surgical team will be quarantined for 14 days.
Other Concerns
Testing

Laboratory Specimens

• Only test persons who are SYMPTOMATIC
  – In addition to routine investigations relevant to the patient’s symptoms and care, testing for COVID-19 requires a nasopharyngeal (NP) swab placed in viral transport medium or NP aspirate. If such a specimen is being collected for ILI or presumed viral RTI, then a second swab is not required.
  – At this point in the epidemic, for COVID-19 testing to occur, the following information must be included on the CPL General Requisition: travel history, relevant symptoms, and request for COVID-19.

There is currently no serological test for the COVID-19 virus.
CT scan Chest Concerns and Recommendations.

CONCERNS form Radiology

- these patients do require isolation in the dept
  - Limited CT scanner space and human resources.
  - The scanner and room must be cleaned more thoroughly. This takes time and manpower.
  - At this point, we can handle the volume. However, once more cases of COVID suspects, and more staff is isolated, throughput will be affected.
  - Scanners remain fully booked with outpatient and emergency work that must be done currently.

  Additionally, this is also an extra dose of radiation which we are administering the patient without a proven benefit.

FOR NOW

- Asymptomatic aero-digestive cases
  - scan the asymptomatic high risk patients that cannot wait 2 weeks in quarantine.
  - will need to reevaluate as we go.

- Symptomatic upper aerodigestive tract patients that cannot wait for the 2 weeks quarantine
  - recommend NO imaging preoperatively,
  - use of PAPRs.
  - Imaging would not help in this case. The only indication is to look for a specific complication that would affect management.
Linen and Waste

• Handling Linen, etc
  No special care is required for handling linen, cutlery or dishes. Routine Practices are sufficient.

• Waste
  No special care is required for handling patient waste. Routine Practices are sufficient.
Aero-digestive Tract Surgery

PRIOR COMMUNICATION

All:
There has been new concerns raised by the ENT groups in Canada and United States regarding transmission of covid infection to operative staff, when operating in the nasopharynx and oropharynx. All elective cases are cancelled as per prior emails. Urgent and emergent cases that operate on the oropharyngeal and/or nasopharyngeal will be assessed on an individual basis to evaluate the risk and urgency of the procedure.

PROTOCOL

1. As soon as a patient is identified needing this type of procedure urgently/emergently, the patient will be quarantined.
2. Two COVID RT-PCR tests will be done, 48 hours apart, if time allows before surgery. (CHANGED)
3. The patient will have a un-infused CT scan of their chest as close to the time of the OR as possible. THE REQUEST FOR THE SCAN AND REASON FOR THE SCAN WILL NEED TO BE COMMUNICATED TO THE ATTENDING RADIOLOGIST.

If both tests and the CT scan are negative, operating room staff will be limited to essential members only. Staff will wear N95 masks.

If the patient tests positive, PAPR's will be worn by all in room staff.

We are working with clinical engineering at the hospital to develop better smoke evacuation systems that do not recirculate air within the operating room.
DONE

We are working on developing other suction devices that also do not recirculate with in the operating room. Within the next few days we will have information on enhance protection for the operative staff.
DONE

Of note the operating rooms have enhanced filtration (ULPA) with is significantly better then the HEPA filters used in the reported cases.
Theater Smoke Evac and Suction
HSC

- A). the COVID19 virus is .06 - .14 micron
- B) Neptune systems recirculate the vacuumed air into the rooms either through an ULPA filter on the smoke evacuation and HEPA on the liquid.
- C) ULPA filters only go down to .1 micron (hence some particles can pass) and HEPA has a poorer performance

Therefore use of Neptune systems for any potential COVID-19 patients is stopped.

- 1. Smoke evacuation will be through the piped wall system. There is no air recirculation on this system therefore contamination is minimized/eliminated. FM is looking at inline filtration to try to capture and protect piping.
- 2. Traditional piped medical vacuums with canisters will be used.

- Both the smoke evacuation and medical vacuum systems exhaust outside the facility and are marked at the roofs with warnings for staff safety.
Theater Smoke Evac and Suction
St. Boniface

• Have no negative pressure OR’s.
  – Just a negative pressure bronchoscopy room that used to be an induction room that was converted. Not big enough for most surgeries.

• Canister system in all our ORs (hooked to wall suction)
Laparoscopic Surgery

• Recommendations

• Surgeons should utilize a closed filtration system during laparoscopy and for evacuation of the pneumoperitoneum at the end of the case as resources and availability allow.

• Full recommendation including technique available
Upper Endoscopy

All elective delayed.

Urgent / Emergent

- masks and face-shields not N95

- Enhanced droplet for suspected or confirmed cases only
Thanks

Ed Buchel
1. Post an “Enhanced Contact/Droplet Precautions” sign on the OR Theatre door.

2. Maintain OR theatre in normal air handling system operation (positive pressure).

3. Minimize theatre door opening and closing.

4. Appropriate PPE shall be available immediately outside of the OR theatre.

5. All staff entering the OR theatre shall wear PPE including gown, gloves, N95 mask (if aerosolizing procedures are likely) or surgical mask (for non aerosolizing procedures) and eye protection.

6. Personnel assigned to the OR theatre shall include:
   - One (1) designated “clean” circulating nurse who has no contact with patient or patient supplies/equipment;
   - One (1) designated “dirty” circulating nurse who has contact with patient or patient supplies/equipment;
   - One (1) scrub nurse (if applicable); and
   - One (1) designated “runner” outside of the OR theatre to obtain supplies from sterile corridor or other areas outside of the OR theatre as necessary.

7. The designated “clean” circulating nurse shall obtain/open supplies for the team, while maintaining their “clean” status.

8. Staff in direct or indirect contact with the patient shall not touch clean surfaces with contaminated gloves.

9. The designated “dirty” circulating nurse (direct/indirect patient contact) may become “clean” by removing PPE, performing hand hygiene and re-apply clean PPE.

10. Hand hygiene shall be performed after removal of contaminated PPE as per Routine Practices training.

11. Patient chart:
   - Only essential documentation should enter the OR theatre;
   - Should be placed as far as possible away from the patient; and
   - Documentation should be completed by a designated “clean” person.

12. If patient will be transported to the post-op destination on the same bed/stretcher:
   - Whenever possible, bed/stretcher should remain in the OR theatre;
   - If the bed/stretcher cannot remain in the OR theatre:
     - The “dirty” person shall strip and clean the bed/stretcher in the OR theatre using minimal agitation technique for handling laundry as per Routine Practices training. Follow housekeeping Standard Operating Procedures for cleaning and disinfecting the bed.
     - Once cleaned the bed/stretcher shall be placed in the hallway immediately outside of the OR theatre; and
     - A “clean” person shall make up the bed/stretcher with clean linen if required.

13. In the event of a cardiac arrest:
   - Code Blue Team shall don PPE including gown, gloves, N95 mask, and eye protection;
   - An additional designated “clean” person shall be required to pass supplies as required;
   - The defibrillator (separate or removed from the Code Blue Cart) may be brought into the OR theatre and requires cleaning and disinfection post event; and
   - If the Code Blue cart is brought into the room, the contaminated items shall be discarded or reprocessed and the cart cleaned and disinfected/restocked.
Intraoperative Care

a. Post appropriate Precautions sign on the OR Theatre door.

b. Maintain OR theatre in normal air handling system operation (i.e., positive pressure).

c. Apply appropriate PPE- enhanced droplet

Any staff having contact with the patient or patient environment outside the sterile field shall wear gloves and gowns, procedure mask and eye protection.

*** Please note if an Aerosol Generating Medical Procedure is required OR anticipated, staff must wear an N95 respirator in addition to gloves, gown and eye protection.