Proposed Pain Curriculum- Work in Progress

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New request to add to the curriculum

• What exists to this point?
• What should we be teaching?
  – Flipping the classroom?
    • Biopsychosocial vs. socio.-psycho.-bio. model?
  – Curriculum in Canada?
  – International curriculum?
  – What time slot are we looking at? Can some of these topics be integrated elsewhere?
• Next steps...
Concurrent trend- increased attention to pain curriculum.

Beecher and Bonica- context plays a major role in the pain experience.

Studies affirm- Dysphoric Social Dimension, isolation, withdrawal, distress and stigma contribute to the multidimensional experience of pain as much as nociception itself.

Perhaps its time we change the model to Socio-Psycho-Bio...
Current model encourages the student and learner to view emotions, family dysfunction and economic stress as distractions...

Arguably these “distractions” may be closer to the essence of pain than the idealized biological focused model.

Introduction of these concepts early in medical curricula would emphasize their importance.

Other areas to discuss:
- Epidemiology of Pain and Disability
- Social and Behavioural Medicine
- Social Networks
- Organization of Healthcare Systems
- Social Justice and Global Health Issues
- Disability Certification
- Mental health Issues
- Etc.

“We believe ... that the now-standard approach to pain education, which begins with and emphasizes processes at the subcellular and cellular scale, poorly prepares trainees to assess and treat pain in everyday clinical practice.”
Modifying our approach to teaching pain management

• “Current pain curricula resembles more a discussion of combustion chemistry and automechanics while on-road training in courteous and defensive driving is optional.”

• I have said in the past do not treat CNCP the same way you treat cancer/end of life pain but...

What can we do different?
A Pillar of the Michael G. DeGroote Centre
Institute for Pain Research and Care

The Michael G. DeGroote National Pain Centre is the third pillar in the tripod of what we anticipate will be an internationally important initiative.

In Hamilton, the identification of the problem of chronic pain and the need for development of effective treatment is increasingly absorbing more attention and focus.

We have the basic science program currently in the Institute for Pain Research and Care, robustly accented with related research in its sister institutes.

McMaster and Hamilton Health Sciences currently operate the largest university-affiliated pain centre in Canada, with over 13,000 patient visits annually. This provides clinical care as well as training for health care professionals in pain management, and a unique opportunity to evaluate the impact of guidelines on care.

The combination of basic science, clinical care and education, and now the National Pain Centre’s development

OPIOID MANAGER

The Opioid Manager is designed to be used as a point of care tool for providers prescribing opioids for chronic non-cancer pain. It condenses key elements from the Canadian Opioid Guideline and can be used as a chart insert.

OPIOLID MANAGER

NATIONAL PAIN CENTER

Opioid Manager

The Opioid Manager is also available in French, Portuguese, Spanish, Farsi. Click on "Opioid Manager" button above to download.

NATIONAL PAIN CENTER

Canadian Guideline

for Opioid Use for Pain
Principles

The following principles guide the pain curriculum for the entry level physician:

1. Pain is a multidimensional requiring comprehensive and ongoing assessment and effective management.
2. Physicians play an essential role in the prevention, diagnosis and management of acute and persistent pain.

Objectives

Physicians upon completing this entry level pain curriculum will be able to:

1. Recognize pain medicine as a necessary field in clinical practice for acute and persistent (chronic) pain conditions
2. Understand basic sciences of pain processing components such as anatomy, physiology, neurobiology and pharmacology
3. Identify clinical presentation of acute and persistent pain syndromes or conditions
4. Recognize the multidimensional aspects of the pain experience and its related management
5. Understand analgesic options appropriate for individual patients according to medical condition, drug availability, risk-benefit balance, cost-effectiveness, culture, mental status and evidence of efficacy
6. Learn effective interaction with multi-professional teams involved in practicing pain medicine.
7. Practice pain medicine according to ethical principles
Curriculum Content Outline

I. Multidimensional Nature of Pain

A. Definition of pain

1. Biological significance of pain (survival value)
2. Relationship between acute and chronic pain
3. Distinction between nociceptive and neuropathic pain
4. Pain as a public health problem
5. Epidemiology: Societal consequences

B. Ethical issues

1. The right to receive treatment for pain
2. Pain disability and litigation
3. Pain in children
4. Pain and opiate dependence
5. Pain research in humans and animals
C. Basic sciences

1. Neuroanatomy and Neurophysiology of Pain
   i. Peripheral receptors, afferent fibers, transduction and transformation, peripheral sensitization  
   ii. spinal terminations and spinal processing of nociceptive information, spinal reflexes, ascending  
      tracts, transmitters (peptides and amino acids),  
   iii. brainstem mechanisms of pain (autonomic reflexes, ascending reticular activating system)  
   iv. thalamic nuclei, nociceptive cortical network, cortical reorganization  
   v. descending control of nociceptive information and pain modulation. Central sensitization  
   vi. Genetics in relation to pain mechanisms

2. Pharmacology of Pain
   i. Basic pharmacology of local anesthetics,  
   ii. Basic pharmacology of nonsteroidal anti-inflammatory drugs,  
   iii. Basic pharmacology of opioids,  
   iv. Basic pharmacology of other relevant drugs (e.g. anticonvulsants, antidepressants).

3. Psychology of Pain
   i. Affective, cognitive, behavioral, and developmental aspects. Pain attribution. Self-esteem, self-  
      efficacy, and perceived self-control  
   ii. Interpersonal issues, sick role, illness behavior (normal and abnormal), the influence of political,  
      governmental, and social welfare programs, the role of the family.  
   iii. Cultural differences in pain meanings and treatment approaches.  
   iv. Illness behaviors associated with pain (denial and amplification)  
   v. Pain as a coded message of psychosocial distress
II. Pain Assessment and Measurement

A. The validity, reliability, sensitivity, specificity, and clinical utility of methods for:

   1. The measurement of pain, disability, associated distress and suffering
   2. Quantitative sensory testing in relation to specific mechanisms
   3. The evaluation of analgesic therapy (Choice of outcome measures)
   4. Assessment of pain relief

III. Management of Pain

A. General principles

   1. The measurement, quantification and recording of pain
   2. The multiperspective approach (multidisciplinary pain clinics)
   3. The clinician-patient relationship

B. Clinical pharmacology

   1. Nonsteroidal anti-inflammatory drugs
   2. Systemic and spinal opioids, endorphins
   3. Local anesthetics
   4. Other drugs active against neuropathic pain (e.g. anticonvulsants, antidepressants)
C. Neurostimulation techniques
   1. Transcutaneous nerve stimulation
   2. Brain and spinal cord stimulation
   3. Acupuncture

D. Nerve blocks (image guided)
   1. Local anesthetics
   2. Neurolytic solutions

E. Surgical techniques
   1. Nerve decompression
   2. Neurosurgical techniques
   3. Orthopedic techniques

F. Psychotherapeutic and behavioral approaches
   1. Individual, family, and group psychotherapy
   2. Cognitive-behavioral therapy
   3. Relaxation techniques (biofeedback, etc.)
   4. Hypnotherapy, operant approach, stress management

G. Physical therapy
   1. Exercise, massage, heat, hydrotherapy, etc.
IV. Clinical Conditions

A. Specific pain issues related with:

   1. Children and infants (signs of pain, evaluation and management, physiology, acute and chronic pain)
   2. Elderly
   3. Developmentally challenged
   4. Pregnancy, childbirth, and breastfeeding
   5. The opioid tolerant patient
   6. Substance abuse disorders

B. Etiology, diagnosis, multidisciplinary management, economic impact, medico-legal and compensation issues within:

   1. Emergency Service Pain
   2. Postoperative Pain
   3. Neuropathic Pain
   4. Musculoskeletal pain
   5. Cancer Pain
   6. Headache
   7. Visceral pain
   8. Dysfunctional pain syndromes

References

German pain curriculum for medicine (15 hours, 5th year)
Recommendations for a New Curriculum in Pain Medicine for Medical Students: Toward a Career Distinguished by Competence and Compassion

Beth B. Murinson, MS, MD, PhD,* Vitaly Gordin, MD,† Susie Flynn, BS,‡ Larry C. Driver, MD,§ Rollin M. Gallagher, MD, MPH,‖ Martin Grabois, MD, ‡ and the Medical Student Education Sub-committee of the American Academy of Pain Medicine†
Table 1  “Top 5” Highest rated learning objectives in pain medicine

Be able to distinguish between acute and chronic pain
Know of the importance of an exam and diagnostic testing to obtain an accurate diagnosis
Know the definitions of addiction, tolerance, substance abuse, and dependence
Demonstrate knowledge of and promote compassionate care practices
Display empathetic responses to patients with pain as a primary complaint
Table 2  Top-rated topics in pain, in order of rating on a scale of 0–4

1. Compassionate care and empathy 3.93
2. Examination skills 3.82
3. Communication 3.82
4. Prescribing skills 3.79
5. Opioids 3.76
6. Core knowledge: fundamentals of pain neurobiology, nonpharmacological treatments 3.74
7. Interview skills 3.69
8. Cognitively impaired populations 3.67
9. Clinical skills 3.64
10. Neuromodulating agents 3.63
11. Spine pain 3.61
12. Clinical reasoning 3.61
13. Behavioral perspectives on pain 3.61
14. Comorbid illness 3.58
15. Epidemiology, public health, and multicultural perspectives 3.55
16. Drug addiction 3.55
17. Musculoskeletal pain 3.52
18. Counseling pain patients 3.52
19. Team communication 3.51
20. Pain emergencies 3.50
21. Assessment decisions and treatment decisions 3.46
22. Approach to the patient with pain 3.45
23. COX inhibitors 3.44
24. Neuropathic pain 3.43
25. Visceral pain 3.43
26. Pain terminology and pain assessment 3.43
27. Pain in older adults 3.43
28. Acute and surgical pain 3.40
| 1. Compassionate care and empathy |
| 2. Examination and interview skills |
| 3. Communication skills including team communication |
| 4. Prescribing skills |
| 5. Clinical reasoning: Assessment decisions and treatment decisions |
| 6. Counseling pain patients: Approach to the patient with pain |
| 7. Opioids |
| 8. Neuromodulating agents |
| 9. COX inhibitors/NSAIDs |
| 10. Fundamentals of nonpharmacological treatments |
| 11. Epidemiology, public health and multicultural perspectives |
| 12. Fundamentals of pain neurobiology |
| 13. Behavioral perspectives on pain |
| 14. Pain terminology and pain assessment |
| 15. Drug addiction and pain |
| 16. Spine pain |
| 17. Musculoskeletal pain |
| 18. Pain emergencies |
| 19. Acute and surgical pain |
| 20. Headache |
| 21. Neuropathic pain |
| 22. Visceral pain |
| 23. Oncologic pain |
| 24. Pain in older adults |
| 25. Pediatric pain |
| 26. Cognitively impaired populations |
| 27. Pain and comorbid illness |

NSAIDs = nonsteroidal anti-inflammatory drugs.
EDITORIAL

Twenty-First Century Pain Education: The Rediscovery of Compassion

Reflecting on this exciting pain course at Hopkins, amidst my hopes for its continued success, I asked myself whether the bottom line isn’t simply to foster, in a structured setting, the innate compassion medical students arrive with, and that the hurried, de-personalized world of modern medicine constantly threatens to extinguish [32]. And then I recalled that a Boston Brahmin, contemporary of Hopkins’s Osler said this over 80 years ago: “The most common criticism made at present by older practitioners is that young graduates have been taught a great deal about the mechanism of disease, but very little about the practice of medicine—or, to put it more bluntly, they are too ‘scientific’ and do not know how to take care of patients... One of the essential qualities of the clinician is interest in humanity, for the secret of the care of the patient is in caring for the patient” [33].

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Our plan

Broad involvement: anaesthesia, psychology, oncology, family med, palliative care, physiatry/med rehab, complementary medicine

Can integrate with other systems
  Neuro, communication, geriatrics, peds, etc

Ideal: multi-disciplinary team/learners

Novel ideas: smoking cessation, prescribing exercise, etc.

In the future...
  Bring together the various faculty learners for SGS discussion re: multi-disciplinary approach (ie. McMaster session)…
WGS

Introduction to Pain
  Review pain physiology/biology, communication skills
  Epidemiology of pain/community health issues
Psychological assessment and intervention
Physical rehab strategies for management of pain
Addiction and pain
Complementary and alternative medicine
Format

SGS
Case studies
  Chronic pain in different pt groups
  Cancer pain/pain in end of life care
  Post-op/acute pain and PCA
  Pharmaceutical choices
  How to write a duplicate script
  Safe prescribing strategies
Format

Assigned readings

Opioid guidelines
Co-analgesics/adjuvant med pharmacology
Peri-operative pain management (PCA/ED analgesia)
Interventional pain therapies
Comments?