Interprofessional Pain Education

Harvard School of Dental Medicine and Brigham and Women’s Center of Excellence in Pain Education

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Learning objectives

• Recognize the concepts of the flipped classroom
• Recognize the NIH program for teaching principles for pain management by creating CoEPEs
• Identify how orofacial pain and pain management can best be taught via interprofessional education
The flipped classroom

- The student reviews lecture material the night before class (PPT, handouts, publications, case materials)
- Class begins with a short pre-test
- The class is organized into small groups of 6-10 students
- Each group sits at a discussion table and is asked to answer questions about the case
- Periodically the instructor will ask the groups to answer the questions and will provide materials to support the discussion
What NIH Funding DOES at HSDM

Supports education innovation in 2015
• Teaches standards for opioid prescribing
• Encourages self-directed learning
• Allows “flipped-classroom” student interaction
• Creates inter-professional education opportunities
CoEPEs will develop pain management training resources for health care professionals to advance the assessment, diagnosis, and treatment of pain.
NIH Pain Consortium Centers of Excellence in Pain Education

Harvard School of Dental Medicine and Brigham and Women’s CoEPE
Thomas Jefferson School of Medicine Headache Collaborative CoEPE
Southern Illinois University Edwardsville/St. Louis University CoEPE
University of Pittsburgh CoEPE: Pain Challenges in Primary Care
John D. Loeser CoEPE at the University of Washington
University of Alabama at Birmingham CoEPE
University of California, San Francisco, CoEPE
University of Maryland Baltimore CoEPE
The University of Pennsylvania CoEPE
Rochester Area Collaborative CoEPE
University of New Mexico CoEPE
Johns Hopkins University CoEPE

NIH ICs Involved:
ORWH    NIA
OBSSR   NINR
NIDA    NICHD
NIDCR   NIAMS
NINDS   NCCAM
HSDM and BWH Center of Excellence in Pain Education

A Pain champion collaborative

Harvard School of Dental Medicine

Harvard Medical School Teaching Affiliates at Brigham & Women’s Hospital and Massachusetts General Hospital

Massachusetts College of Pharmacy and Health Sciences

Regis College School of Nursing and Health Professions
MGH School of Health Professions: Nursing

Massachusetts School of Professional Psychology
Boston Pain champions

- Principal Investigator: Dr. Jeffry Shaefer, DDS, MS, MPH, Assistant Professor of the Department of Oral and Maxillofacial Surgery, Harvard School of Dental Medicine
- Project Manager and Co-PI: Dr. Antje Barreveld, MD, Instructor of the Department of Anesthesiology, Perioperative and Pain Medicine and Fellow of Pain Management, Brigham and Women’s Hospital, Harvard Medical School Teaching Affiliate
- Co-Investigator: Dr. Robert Jamison, PhD, Professor of the Department of Anesthesiology, Perioperative and Pain Medicine and the Department of Psychiatry, Pain Management Center, Brigham and Women’s Hospital, Harvard Medical School Teaching Affiliate
- Co-Investigator: Dr. Ajay Wasan, MD, MSc, Assistant Professor of the Department of Anesthesiology, Perioperative and Pain Medicine and the Department of Psychiatry, Pain Management Center, Brigham and Women’s Hospital, Harvard Medical School Teaching Affiliate
- Co-Investigator: Dr. David Keith, BDS, FDS, RCS, DMD, Professor of Oral and Maxillofacial Surgery, Harvard School of Dental Medicine
Boston pain champions

- Co-Investigator: **Dr. Michele Szabo**, MD, Director of Medical Student Education, Anesthesiology Clerkship, Massachusetts General Hospital
- Co-Investigator: **Dr. Jennifer McSweeney**, MD, Director of Medical Student Education, Anesthesiology Clerkship, Brigham and Women’s Hospital
- Co-Investigator: **Dr. Nicole Holland**, DDS, MS, Orofacial Pain Fellow, Harvard School of Dental Medicine
- Co-Investigator: **Michele Matthews**, PharmD, Associate Professor of Pharmacy Practice, Massachusetts College of Pharmacy and Health Sciences; Clinical Pharmacy Specialist, Pain Management Center, Brigham and Women’s Hospital
- Co-Investigator: **Dr. Penelope Glynn**, PhD, RN, Dean of the School of Nursing, Science and Health Professions at Regis College
- Co-Investigator: **Dr Andrew Strassman**, PhD, Associate Professor of Anaesthesia, Anaesthesia and Critical Care, Beth Israel Deaconess Medical Center
- Co-Investigator: **Julie Whelan** Media Specialist, Countway Library of Medicine, Harvard Medical School, Boston
Pain Education Guideline

1

• Specific Aim:
  – To promote independent learning via uni-professional case-based modules on patients with acute and chronic pain.

• Hypothesis:
  – Cases tailored to the students’ clinical background in dentistry, medicine, pharmacy, or nursing
  – improve their knowledge, attitudes toward treating pain, and confidence in understanding and managing patients with pain.
Pain Education Guideline 2

• Specific Aim:
  – To conduct regular uni-professional small group sessions led by “pain champions”

• Hypothesis:
  – Small group discussions provide a forum to help increase students’ confidence in understanding and treating the multidimensional challenges of living with pain.
Pain Education Guideline

3

• Specific Aim:
  – To conduct inter-professional workshops

• Hypothesis:
  – Inter-professional contacts promote teamwork and patient-centered collaboration in learning how to best work together to manage acute and chronic pain.
Our mission - 1

• Specific Aim 1:
  – To establish an inter-professional pain education program and Center of Excellence in Pain Education for dental, medical, nursing, and pharmacy students during their clinical rotations in Boston, MA

• Hypothesis 1:
  – Although students participate in some uni-professional (e.g. dental), pre-clinical lectures in pain management, the clinical training years are paramount to learning the practical application of inter-professional fundamentals in managing and understanding pain.
Our mission - 2

• Specific Aim 2:
  – To conduct pre- and post-pain curriculum knowledge questionnaires and evaluations in all students.

• Hypothesis 2:
  – The questionnaire results and evaluations will provide valuable data on the impact of this program
case - 1

– 52 year old male with head and neck cancer and a history of substance abuse is admitted for repeat surgical resection.

– Learning objectives raised:

  • substance abuse, prescription abuse, diagnosis of dental pain, management of acute on chronic pain, treatment of xerostomia, pre-cancer treatment dental evaluation and care, and end-of-life care.
– 39 year-old female with a temporomandibular disorder and fibromyalgia is referred for help with managing her pain.

– Learning objectives raised:
  
  • **disease pathophysiology, adjunct medications, non-pharmacological approaches, alternative therapies, gender differences in pain management, diagnosis and management of masticatory and wide-spread muscle pain.**
case - 3

• 82 year-old male with herpes zoster with a 3-month history of chest wall pain is admitted for pain control and altered mental status.

• Learning objectives raised:
  – disease pathophysiology, neuropathic pain medications, and pain management in elderly adults.
case - 4

- 18 year-old female who recently moved to the area to start college with a history of depression and chronic pain from Juvenile Rheumatoid Arthritis (RA) pain managed with high-dose opioid therapy presents to the emergency department with worsening pain.

- Learning objectives raised:
  - age differences in pain experience, the psychological impact of pain, safe and effective opioid prescribing practices, and strategies for opioid management in young adults, diagnosis and management of TMJ arthralgia symptoms
Interactive on-line case-based modules

- HSDM learning objectives
Acute pain management
Recognizing the problem patient (drug seeker, at risk patient)
Address acute pain for chronic pain patient
Pain management in the elderly and pediatric patient
## CoEPE Case-based Scenarios

<table>
<thead>
<tr>
<th>Pain Syndromes &amp; Complications</th>
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</thead>
<tbody>
<tr>
<td>Cancer Pain</td>
</tr>
<tr>
<td>Pain in End of Life</td>
</tr>
<tr>
<td>Facial Pain Disorders</td>
</tr>
<tr>
<td>TMJ / TMD / Dental</td>
</tr>
<tr>
<td>Fibromyalgia Syndrome</td>
</tr>
<tr>
<td>Sickle Cell</td>
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<tr>
<td>Chronic Pelvic Pain</td>
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<tr>
<td>Chronic Abdominal Pain</td>
</tr>
<tr>
<td>Migraine</td>
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<tr>
<td>Non-migraine HA</td>
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<tr>
<td>Pediatric Pain</td>
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<tr>
<td>Chronic Back Pain</td>
</tr>
<tr>
<td>Musculoskeletal</td>
</tr>
<tr>
<td>Neuropathic Pain Syndrome</td>
</tr>
<tr>
<td>Pain in Noncommunicative Patients</td>
</tr>
<tr>
<td>Central Pain Syndromes</td>
</tr>
<tr>
<td>Pain in the Elderly</td>
</tr>
<tr>
<td>Post-Operative</td>
</tr>
<tr>
<td>Opioid-induced Hyperalgesia</td>
</tr>
<tr>
<td>Abuse / Misuse / Diversion</td>
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</tbody>
</table>
Mr. Gateway’s Hospital Course:

The Emergency Department (ED) calls you and says: “We have a 52-year-old male smoker with a history of substance abuse with recurrent laryngeal cancer who presents with increased throat and neck pain, dysphagia (pain with swallowing), and dehydration.”

You are part of the inter-professional team that will manage Mr. Gateway during his hospitalization.

You are asked to come evaluate the patient who will be admitted to the surgical service and help advise on how to manage his pain.
Questions you might consider for Mr. Gateway’s Dental Consult

• How do you manage acute dental pain episodes in a patient already on opioids to control chronic pain?

• How do you distinguish tooth pain from reversible (requiring a normal filling) and irreversible (requiring endodontic (root canal treatment)) pulpitis?

• How do you distinguish between a temporomandibular joint and/or a masticatory muscle-based problem?

• Describe the protocol for managing a patient suffering from xerostomia.

• Describe the priorities for dental treatment planning for a patient who is about to undergo radiation for head and neck cancer.
Tooth pain differential

- Caries
- Cracked Tooth
- Pulpal
- Periodontal
- Pericoronitis
- Sinusitis
Mrs. Farley’s chronic pain...

You are part of an inter-professional team composed of health care specialists from the following disciplines:

1) Medicine
2) Dentistry
3) Pharmacy
4) Nursing

Mrs. Christine Farley has been suffering from temporomandibular joint (jaw) and myofascial (muscular) pain, and you are asked to be part of her inter-professional team to advise on how to best help manage her pain.
Learning Objectives

**PART 1:**
1) Describe temporomandibular disorder (TMD) pathophysiology, diagnosis, and management

**PART 2:**
2) Describe fibromyalgia pathophysiology, diagnosis, and gender and psychological considerations

**PART 3:**
3) Define pharmacologic treatment options for TMD and fibromyalgia
4) Identify non-pharmacologic and complementary and alternative medicine (CAM) pain management strategies
Assessing Mrs. Farley’s Pain – a review on questions to ask a patient with pain

When assessing a patient’s pain, it is important to ask certain questions to get a full understanding of the patient’s pain history. There are different methods you can use to remember the important questions to ask. One option is the pneumonic “OPQRST.”

**O – Onset:** When did the pain start? What was happening at that time?

**P – Palliative and Provocative factors:** What makes the pain better? Worse? (Include specific activities, positions, or treatments.)

**Q – Quality:** Describe the pain. Is it burning, sharp, shooting, aching, throbbing, etc.?

**R – Region and Radiation:** Where is the pain? Does it spread to other areas?

**S – Severity:** How bad is the pain? (There are several scales to use; these will be discussed in the following slide.)

**T – Timing:** When does the pain occur? Has it changed since onset? If so, how?

**Reference:**
http://www.iasp-pain.org/AM/Template.cfm?Section=Home&TEMPLATE=/CM/HTMLDisplay.cfm&CONTENTID=11669
What is standard TMD therapy?

What medications are effective for TMD?

What is the goal of TMD treatment?

When are occlusal treatments indicated?

When is physical therapy (PT) and behavioral therapy (BT) indicated?

What success can one expect from TMD treatment?
What medications are effective for TMD?

These will be discussed in detail later in the module.

Some examples include: Non-steroidal anti-inflammatory drugs (NSAIDs) or other analgesics for acute pain episodes; muscle relaxants for acute muscle pain; sleep medications can help control night-time parafunction; a 10-day regimen of anti-inflammatory medication or a Medrol (steroid) dose pack for TMJ arthralgia.


Why Should We Care About Interprofessional Education in Pain?

• Specific Aim:
  – To conduct pre- and post-pain curriculum knowledge questionnaires and evaluations in all students.

• Hypothesis:
  – The questionnaire results and evaluations will provide valuable data on the impact of this program
1. Rate your perceived level of proficiency with regard to achieving each of the following objectives, both before this case and after it, on the following scale:

<table>
<thead>
<tr>
<th>Objective</th>
<th>Level of Proficiency Before Case (1-5 Scale)</th>
<th>Level of Proficiency After Case (1-5 Scale)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. Conduct an assessment of an older adult in pain using a holistic approach.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1b. Discuss the appropriate use of opioids for pain management in older adults.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1c. Utilize an opioid risk tool in a clinical setting.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1d. Consider disease and age-related changes in pain management of older adults.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1e. Develop a teaching plan for an older adult taking opioids for pain.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>1f. Discuss roles of the interprofessional team in pain management of older adults.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Student must complete this before going on to the next slide.
<table>
<thead>
<tr>
<th>Rate your responses on the following scale:</th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Strongly Disagree</td>
<td>2</td>
<td>Somewhat Disagree</td>
<td>3</td>
<td>Moderately Agree</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>2. This case met the stated objectives.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

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<tr>
<th>3. This case delivered balanced and objective evidence-based content.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Not Effective</td>
<td>2</td>
<td>Somewhat Effective</td>
<td>3</td>
<td>Moderately Effective</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>4. To what extent was the organization of this case effective?</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

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<tr>
<th>5. To what extent is this teaching format an effective way for you to learn this material?</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>
4. For patients with neuropathic pain, opioid therapy should only be considered:

- After a failed trial of antidepressant or anticonvulsant adjuvant analgesics
- After a trial of non-opioids like acetaminophen or NSAIDs failed to help
- After both of the above
- After neither of the above
Tramadol (Ultram):

1. Should only be used in cancer patients
2. Has mu receptor effects depending on dose
3. *Can be administered both orally and transdermally*
4. Can be used safely in patients with recent history of opioid misuse
5. **2 & 4**
2. What is the most common diagnosis for Temporomandibular Disorders?

- TMJ arthralgia
- Refractive disc displacement
- Disk displacement with reduction (reciprocal disc)
- Myofascial pain
- Muscle spasm
Barriers to Interprofessional Education

• Institutional Level Challenges
  • Top administrative leadership support needed

• The Lack of Institutional Collaborators
  • Lack of willing/available schools for interprofessional partnerships

• Practical Issues
  • Scheduling to bring students together across the professions

• Faculty Development Issues
  • Faculty need training to become effective interprofessional educators
  • Content & process of learning different from other content
e. anesthesia, sedation and pain control

• **DOMAIN V: DELIVERY OF CARE:** The practice of general dentistry requires an understanding of the manner in which care is delivered in a compassionate, efficient and effective manner. The general dentist must be able to provide emergency and comprehensive care for all populations in the community utilizing current technologies in pain control and anxiety management.

• **19. Control of Pain and Anxiety** - The general dentist must be able to employ techniques to manage orofacial discomfort and psychological distress.
e. anesthesia, sedation and pain control

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- **19. Control of Pain and Anxiety** - The general dentist must be able to employ techniques to manage Orofacial Pain discomfort and psychological distress.
Orofacial Pain

- TMJ function: normal from abnormal
- TMJ joint disorders: Disc displacement, OA
- Masticatory muscle disorders: myositis, spasm, myofascial pain
- Headache Disorders: TTHA, Migraine, Cluster
- Neuropathic pain: neuralgia, atypical odontalgia
- Distinguish nociceptive pain from neuropathic pain
- Understand what they can manage and which patients should be referred
Dissemination and Impact for Pain education

Interprofessional unity:
• promote confident collaboration between all patient care providers

Evidence-based pain curriculum dissemination:
• use to establish universal standards for pain management education in each discipline

Liaisons with administration and curriculum committees to ensure implementation:
• national initiative directly influences education locally

Collaboration with “Pain Champions” at other institutions:
• unified approach to pain education guarantees improved patient care and safety
Questions?