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Intermountain Project ECHO
Pain Management
Non-Opioid Strategies for Pain Management
June 7th, 2022

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Disclosure

The content of this presentation does not relate to any product of a commercial entity; therefore, we have no relationships to report.

Off-label indications **will** be discussed.
At the conclusion of this activity, participants should be able to successfully:

- Evaluate the evidence for opioids in chronic pain management
- Compare multimodal treatment options for chronic pain and list alternative and adjunctive medications
- Create a patient-specific pain management plan utilizing non-opioid therapy
What Is Pain?

- Definition of Pain
- International Association for the Study of Pain (IASP) in 1979 and subsequently published in the *Classification of Chronic Pain* produced by the IASP in 1994 – then updated July 2020.¹
- “An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage.”

¹ H. Merskey N. Bogduk *Classification of Chronic Pain: Descriptions of Chronic Pain Syndromes and Definitions of Pain Terms*. 2nd ed. 1994 International Association for the Study of Pain Seattle Updated July 2020 - IASP

What Is Pain (cont.)

Six Key Notes from this definition:

1. Pain is always a personal experience that is influenced to varying degrees by biological, psychological, and social factors.

2. Pain and nociception are different phenomena. Pain cannot be inferred solely from activity in sensory neurons.

3. Through their life experiences, individuals learn the concept of pain.

4. A person’s report of an experience as pain should be respected.

5. Although pain usually serves an adaptive role, it may have adverse effects on function and social and psychological well-being.

6. Verbal description is only one of several behaviors to express pain; inability to communicate does not negate the possibility that a human or a nonhuman animal experiences pain.

1. H. Merskey N. Bogduk Classification of Chronic Pain: Descriptions of Chronic Pain Syndromes and Definitions of Pain Terms. 2nd ed. 1994 International Association for the Study of Pain Seattle
Updated July 2020 - IASP
What about Chronic Pain?

- Chronic pain - is defined as pain that persists or recurs for more than 3 months\(^2\)
- Chronic pain affects 20% of people worldwide. 100 million Americans with pain, \textbf{25 million with chronic pain}.
- 10-15% of the population presenting to their general practitioner (GP) with main complaint of chronic pain
- 40% of people reporting chronic pain indicate moderate to severe degradation in their functioning
- Estimated that chronic pain costs between $565 and $635 billion per year in health care and reduced productivity (2011)\(^3\)
- Increased \textbf{fivefold} in the past decade and will probably increase with the aging population\(^3\)
- Increased health care expenditures ≠ improvements in clinical outcomes \(^4\)

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3. Committee on Advancing Pain Research, Care, and Education: Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research. 2011 Institute of Medicine Washington, DC
Primary Care and Chronic Pain

- Consultations on pain account for 22% of all primary care consultations.

- Andersson et al completed a Swedish population-based study.
  - Chronic pain patients visit their GP twice as often as patients without chronic pain.

- Kay et al performed a retrospective chart review which was published in Pain Medicine.
  - 2.6X the odds of an ER visit, 5X the odds of a hospitalization, and 2.3X times the odds of an after-hour call when compared with non-pain controls.

This translates to a large burden for the medical system, especially a very busy and time-constrained primary care provider.

7. Cynthia Kay, MD, MS, Erica Wozniak, MS, Joanne Bernstein, MD: Utilization of Health Care Services and Ambulatory Resources Associated with Chronic Noncancer Pain, Pain Medicine, Volume 18, Issue 7, July 2017, Pages 1236–1246
Question #1

True or False:

Pain is an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage.
How To Manage Pain Patient

General Overview
Where to begin with treatment?

- Assessment of pain
  - History - OLDCARTS
  - PMHx and PSHx
  - Medication Hx – what has worked, is working, has not worked
  - Previous Ancillary Modalities (PT, acupuncture, massage, psychology, etc.)
  - Physical Exam
  - Basic (xrays, US) vs Advanced (MRI, CT, PET) Imaging
  - Diagnosis or Etiology?

"Given that chronic pain is a complex biopsychosocial disorder, successful management of it requires a systematic multidimensional approach to assessment and strategically targeted interdisciplinary therapies"
Multimodal Treatment

- Concurrent use of separate therapeutic interventions with different mechanisms of action within one discipline aimed at different pain mechanisms.¹
- Medications -> Ex. the use of pregabalin and TCAs for neuropathic pain; the use of NSAID and orthosis nociceptive pain.
- This doesn't just mean pharmacologic strategies
- Utilization of numerous ancillary techniques: psychology/psychiatry, CBT/pain coping/mindfulness, physical therapy, occupational therapy, chiropractor, TENS, acupuncture, massage therapy, nutrition, alternative medicine, etc.....and yes, INTERVENTIONS!

- Multidisciplinary, or even better, Interdisciplinary setting to best accommodate the complexity of chronic pain state.
- **Multidisciplinary**
  Multimodal treatment provided by practitioners from different disciplines.
  All the professions working separately with their own therapeutic aim for the patient and *not necessarily* communicating with each other.\(^1\)

- **Interdisciplinary**
  Multimodal treatment provided by a multidisciplinary team collaborating in assessment and treatment using a shared biopsychosocial model and goals.
  All working *closely together* with regular team meetings, agreement on diagnosis, therapeutic aims, and plans for treatment and review.\(^1\)
Interdisciplinary Pain Medicine within IHC
- Utah Valley Pain Management
- Salt Lake Pain Medicine
- Park City Pain Medicine
- Layton Pain Medicine
When is the best time to refer patient to Pain Specialist?

A. When conservative treatment such as rest, NSAIDS, PT have had minimal benefit.
B. When a patient's functional status has continued to decline and pain has impacted all facets of life
C. When a patient has increasing pain despite multimodal treatment
D. Early, often, and before starting opioids
E. All of the above
General Overview

Opioids
Opioid History

The opium poppy was cultivated as early as 3400 BC in Mesopotamia

Modern prescription opioids’ role in therapy

• Acute (trauma, post operative pain)
• Breakthrough pain
• Cancer pain
• Chronic non cancer pain

Role for Opioids in Chronic Pain

Per CDC in 2016 recommendations

“Non-pharmacologic therapy and non-opioid pharmacologic therapy are preferred for chronic pain. Clinicians should consider opioid therapy only if expected benefits for both pain and function are anticipated to outweigh risks to the patient. If opioids are used, they should be combined with non-pharmacological therapy and non-opioid pharmacologic therapy, as appropriate.”

• No evidence shows a long-term benefit in pain and function versus no opioids past 1 year
• Extensive evidence shows the possible harms of opioids
• Extensive evidence suggests some benefits of nonpharmacologic and nonopioid pharmacologic treatments compared with long-term opioid therapy, with less harm

Centers for Disease Control. MMWR Recomm Rep, 2016.
Role for Opioids in Chronic Pain

Per Utah Department of Health in 2018 recommendations
• “Alternatives to opioid treatment should be tried (or adequate trial of such treatment by a previous provider documented), before initiating opioids.”
• “Opioid medications should only be used for treatment of chronic pain when the severity of the pain warrants that choice and after determining that other non-opioid pain medications or therapies are either contraindicated or will not provide adequate pain relief.”
Role for Opioids in Chronic Pain

Per CDC 2022 proposed updates (open for public comment until 4/2022)
• Emphasis continues to be on noninvasive nonpharmacological treatments, non-opioid pharmacologic treatments, and guidance for opioid treatments
  • Appropriate treatments for acute pain and episodic pain such as migraine
• Public comments being addressed:
  • Need to increase availability of non-opioid and non-pharm treatments
  • Concerns for misapplication of the 2016 guidelines (causing a reflex movement to unfairly reduce opioids and stigmatize patients on opioids)
  • Emerging evidence suggesting that patients for whom risks of continued full agonist opioids outweighs the benefits but unable to taper and do not have OUD, might benefit from transition to buprenorphine

Evidence for Opioids

**Risk**

- Insufficient
  - No study >1 year (most <6 weeks)
  - Observational studies or RTCs with notable limitations

**Benefit**

- Extensive
  - Addiction/Abuse
  - Overdose
  - Side effects
# Opioid Related Side Effects

<table>
<thead>
<tr>
<th>Neurologic</th>
<th>Cardiopulmonary</th>
<th>GI</th>
<th>Urologic</th>
<th>Endocrine</th>
<th>Derm</th>
<th>Immunologic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delirium</td>
<td>Respiratory Depression</td>
<td>Nausea Vomiting</td>
<td>Altered kidney function</td>
<td>Hypogonadism</td>
<td>Pruritus</td>
<td>Immune suppression</td>
</tr>
<tr>
<td>Hallucination</td>
<td>Noncardiogenic pulmonary edema</td>
<td>Constipation</td>
<td>Urinary retention</td>
<td>Sexual dysfunction</td>
<td>Diaphoresis</td>
<td></td>
</tr>
<tr>
<td>Sedation</td>
<td>Bradycardia</td>
<td>Xerostomia</td>
<td>Peripheral edema</td>
<td>Osteoporosis</td>
<td></td>
<td></td>
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<tr>
<td>Myoclonus</td>
<td>Hypotension</td>
<td></td>
<td></td>
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<tr>
<td>Hyperalgesia</td>
<td>Cardiac dysrhythmias</td>
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<tr>
<td>Muscle rigidity</td>
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<tr>
<td>Seizures</td>
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<td></td>
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<tr>
<td>Headaches</td>
<td></td>
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</tr>
</tbody>
</table>

Figure 3. Age-adjusted rates of drug overdose deaths involving opioids, by type of opioid: United States, 1999–2019

1Significant increasing trend from 1999 through 2006 and 2013 through 2019, with different rates of change over time, \( p < 0.05 \).

2Significant increasing trend from 1999 through 2017, with different rates of change over time, \( p < 0.05 \).

3Significant increasing trend from 2005 to 2016, with different rates of change over time, then significant decreasing trend from 2016 through 2019, \( p < 0.05 \).

4Significant increasing trend from 1999 to 2006, with different rates of change over time, then significant decreasing trend from 2006 through 2019, \( p < 0.05 \).

NOTES: Drug overdose deaths are identified using the International Classification of Diseases, 10th Revision (ICD–10) underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14. Drug overdose deaths involving selected drug categories are identified by specific multiple-cause-of-death codes: heroin, T40.1; natural and semisynthetic opioids, T40.2; methadone, T40.3; and synthetic opioids other than methadone, T40.4. Deaths involving more than one opioid category (e.g., a death involving both methadone and a natural or semisynthetic opioid) are counted in both categories. Natural and semisynthetic opioids include drugs such as morphine, oxycodone, and hydrocodone; and synthetic opioids other than methadone include drugs such as fentanyl, fentanyl analogs, and tramadol. The percentage of drug overdose deaths that identified the specific drugs involved varied by year, ranging from 75%–79% from 1999 through 2013 and increasing from 81% in 2014 to 94% in 2019. Access data table for Figure 3 at: https://www.cdc.gov/nchs/data/databriefs/db294-tables-508.pdf#3.


https://www.cdc.gov/nchs/products/databriefs/db294.htm
Multimodal Approach

Non-Pharmacological Therapies
Multimodal Approach

Effects of Chronic Pain are Multidimensional

• Multimodal strategy: to utilize multiple therapies to “capture the effectiveness of individual agents at optimal doses and minimize side effects from the agents”

Centers for Disease Control. MMWR Recomm Rep, 2016.
Multimodal Approach

Non-Invasive Non-Pharmacological Therapies

• Physical or Occupational Therapy
• Exercise Therapy
• Cognitive Behavioral Therapy (CBT)
• Psychosocial rehabilitation
• Electrical nerve stimulation
• Weight loss
• Nutrition
• Massage
• Acupuncture
• Yoga or Tai Chi
Multimodal Approach

Non-Chronic Pain Considerations

• Mental Health
• Migraine
• Sleep
• Diabetes (neuropathy)
• Electrolyte (especially in renal deficiency and CV disease)
• Social and support
• Etc.
Non-Opioid Pharmacotherapies
Opioid vs Non-Opioid Comparative Outcomes

Primary Care Veterans Affairs Study

<table>
<thead>
<tr>
<th>Trial Design</th>
<th>Pragmatic, 12-month, randomized cohort study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>N = 240</td>
</tr>
<tr>
<td></td>
<td>Chronic back pain or hip or knee osteoarthritis NOT on long-term opioid therapy</td>
</tr>
<tr>
<td></td>
<td>Mean age 58.3 years, 13% women</td>
</tr>
<tr>
<td>Interventions</td>
<td>Opioid vs non-opioid medication therapies</td>
</tr>
<tr>
<td></td>
<td>-Treat to target of improved pain and function</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Primary</td>
</tr>
<tr>
<td></td>
<td>-Pain-related function (Brief Pain Inventory scale): No significant difference (3.4 vs 3.3; P=0.58)</td>
</tr>
<tr>
<td></td>
<td>Secondary</td>
</tr>
<tr>
<td></td>
<td>-Pain intensity was significantly better in non-opioid group</td>
</tr>
<tr>
<td>Safety</td>
<td>Significantly more Adverse Drug Reactions in opioid group (mean of 1.8 vs 0.9; 95% CI, 0.3-1.5)</td>
</tr>
</tbody>
</table>

Krebs et al. JAMA 2018.
Non-Opioid Medications

Non-Opioid Analgesics
- Acetaminophen
- NSAIDs & COX-2 Inhibitors
- Topical/Local agents

Adjuvant Agents
- Anticonvulsants
- Antidepressants
- Medical cannabis

Utah guidelines have a great resource
Acetaminophen

Indication: mild-moderate non-inflammatory nociceptive pain

• Osteoarthritis, low back pain, and general musculoskeletal pain
  o **Scheduled** 650-1,000 mg every 4-6 hours, max 3,000mg per day
    ▪ Limit to 2,000mg in hepatic impairment
    ▪ May consider 4,000mg if low risk
• Caution with combination products

Non-Steroidal Anti-Inflammatory Agents (NSAIDs)

Indication: Mild-moderate inflammatory pain
• Osteoarthritis, low back pain, general musculoskeletal pain

• Caution for GI toxicity
  o Higher risk: >65 years old, GI history (H. pylori), anticoagulants/antiplatelets
  o Add PPI, H2A, or misoprostol

• Caution for CVD risk
  o Associated with HTN, stroke, MI
  o COX-2 selective agents have greater risk
  o Naproxen may have lower CV risk

Non-Steroidal Anti-Inflammatory Agents (NSAIDs)

**Non-Selective**
- Ibuprofen
- Indomethacin
- Naproxen
- Piroxicam

**COX-2 Selective**
- Meloxicam
- Etodolac
- Nabumetone

**COX-2 Specific**
- Celecoxib
Topical/Local Agents

General: More local site effect with less systematic effect

• Lidocaine
  o Neuropathic pain
  o Patch 5% – 12 hours on and 12 hours off; cost can be a barrier
    ▪ Other: OTC 4% patch, 5% gel

• Diclofenac gel
  o Musculoskeletal pain
  o NSAID with lower risk of systematic effects

• Capsaicin
  o Neuropathic (and possibly muscle/join pain)
  o Requires 3-4x per day administration for 2-4 weeks for full effect
  o Poor tolerance

Anticonvulsants

First and Second Line for Neuropathic Pain

• Fibromyalgia (pregabalin)
• Postherpetic neuralgia, diabetic neuropathy, trigeminal neuralgia
  (pregabalin, gabapentin, carbamazepine)

• Pearls
  o Start low and titrate every 3-7 days
  o If stopping, taper off to decrease risk of withdrawal and seizure
  o Common side effects: sedation and dizziness
    ▪ Caution with carbamazepine and drug-drug interactions
    ▪ Caution with gabapentin/pregabalin and renal dysfunction

Anticonvulsants

Gabapentinoids

• Abuse
  o Low risk of misuse, abuse, and dependence
  o Increased in substance abuse disorder, especially opioid use disorder
    ▪ Amplify euphoria of opioids
    ▪ Treat opioid withdrawal in abuse

• Physical dependence
  o Potential for withdrawal – restlessness, insomnia (seizure is rare)

• Euphoria
  o More with pregabalin
Polypharmacy and Opioids

Gabapentinoids

• Respiratory depression
  o Relatively rare compared to other sedating medications
    ▪ Per FDA, 12 confirmed deaths from 2012-2017 from 49 cases submitted
  o Primarily studied perioperative
  o Amplified by opioid use
• Sedation
• Dizziness/Abnormal gait

McAnally H. Pain Ther. 2020 Dec;9(2):441-452
Antidepressants

First and Second Line for Neuropathic Pain
Also effective for Low Back Pain

• Opportunity to kill 2 birds with 1 stone
  o Depression, anxiety, insomnia, migraine, PTSD, hot flashes, etc.

• Tricyclic Antidepressants (TCAs)
  o Off label use
    o Common side effects: sedation, weight gain, hypotension, and anticholinergic effects

• Serotonin/Norepinephrine Reuptake Inhibitors (SNRIs)
  o Generally well tolerated, limited sedation

Antidepressants

SNRI – Conversion to/from SSRI

SSRI → SSRI: Straight switch
SSRI → SNRI: Straight switch
SNRI → SSRI: Cross taper
SNRI → SNRI: Straight switch

*Fluoxetine: long half life so taper down over 2 weeks to 20 mg once daily then stop and allow for a 5-day washout period before starting new drug

*No “one size fits all” approach
Medical Cannabis

THC – Not FDA Approved, Federal Controlled I Substance

Evidence for use in neuropathy and muscle spasticity

• Evidence is inconsistent and generally limited to poor quality

• Most robust evidence suggests efficacy for chemotherapy-induced nausea and vomiting, seizure disorders, MS-related spasticity, and pain (excluding diabetic neuropathy)

• Typically well tolerated
  
  o Most common adverse effects: dizziness, somnolence, dry mouth, nausea, and euphoria

Others

Ketamine
• More data needed
• Oral and intranasal

Non-Benzodiazepine Skeletal Muscle Relaxers
• Evidence for use in muscle spasticity and acute lower back pain
• Limited data on long-term efficacy and safety
• Risk of respiratory depression and death with opioids
• Considered high risk medications in the elderly

Chau R. J Pain Symptom Manage. 2004 Aug;28(2):140-75
Tulder MWV. Cochrane Database Syst Rev. 2003;2003(2):CD004252
VA/DoD CPG the Diagnosis and Treatment of Low Back Pain 2022
# Polypharmacy and Opioids

## Common Non-Benzodiazepine Skeletal Muscle Relaxers

<table>
<thead>
<tr>
<th>Medication</th>
<th>Mechanism of Action</th>
<th>Common Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclobenzaprine</td>
<td>Central acting – reduces tonic somatic motor activity</td>
<td>Sedation, dizziness, anticholinergic</td>
</tr>
<tr>
<td>Methocarbamol</td>
<td>General CNS depression</td>
<td>Sedation, dizziness</td>
</tr>
<tr>
<td>Carisoprodol</td>
<td>General CNS depression&lt;br&gt;Metabolized to meprobamate – anxiolytic/sedative</td>
<td>Sedation, dizziness</td>
</tr>
<tr>
<td>Baclofen</td>
<td>Inhibit monosynaptic and polysynaptic afferent reflex transmission at spinal cord</td>
<td>Sedation, dizziness, hypotonia, asthenia</td>
</tr>
<tr>
<td>Tizanidine</td>
<td>Central acting alpha-2 adrenergic agonist</td>
<td>Sedation, dizziness, hypotension, anticholinergic, asthenia</td>
</tr>
<tr>
<td>Metaxalone</td>
<td>General CNS depression</td>
<td>Sedation, dizziness</td>
</tr>
<tr>
<td>Orphenadrine</td>
<td>Central anticholinergic effects</td>
<td>Sedation, dizziness, euphoria, anticholinergic</td>
</tr>
</tbody>
</table>

References:
- Lexicomp Online [Internet]. St. Louis (MO): Wolters Kluwer Health; 2017 [cited 2022]. Available from: [www.online.lexi.com](http://www.online.lexi.com)
Unique Opioid Pharmacotherapies
Unique Opioids

Buprenorphine
• Partial agonist at the μ opioid receptor & antagonist at k receptors

Tramadol
• Weak agonist at the μ opioid receptor
• Inhibits reuptake of norepinephrine and serotonin

Low dose naltrexone
• Pure opioid antagonist with highest affinity at the μ opioid receptor
  o Also appears to modulate neuro-inflammation
• Shown promise in fibromyalgia, inflammatory bowel conditions, and multiple sclerosis

Benefits of Buprenorphine

Compared to full opioid agonists
• Ceiling effect for respiratory depression while maintaining analgesia
• Less development of tolerance
• Ease of use in renal impairment and elderly
• Longer acting without novel formulations
• Also
  o Less rewarding effects
  o Less effect on hypogonadism
  o Less constipation
  o Not associated with serotonin syndrome
Interventional Therapies
List of Common Interventional Pain Procedures

- Cervical, Thoracic, Lumbar, Sacral
  - Epidural Steroid Injections
  - Interlaminar and Transforaminal
  - Medial Branch Denervation (RFA)
  - Sacral or Cluneal Nerve Denervation (RFA)
  - Sacroiliac Joint Injection
  - Basivertebral Nerve Ablation
- Vertebral Augmentation
  - Vertebroplasty/Kyphoplasty
  - Interspinous Spacers
- Neuromodulation
  - Dorsal Column SCS
  - DRG Stimulation
  - Peripheral Nerve Stimulation
- Sympathetic Nerve Block
  - Stellate Ganglion
  - Celiac/Splanchnic
  - Hypogastric
- Peripheral Joints
  - CSI, RFA, Stimulation
LOW BACK PAIN: Facet Joints

- **Lumbar Medial Branch Denervation (rhizotomy, neurotomy, ablation)**
  - Targeting the medial branch of the dorsal primary ramus nerves that supply corresponding joint.
  - ONE of the most common procedures

- **Clinical Features of Lumbar Facet Syndrome**
  - Low back pain – predominately axial
  - Localized TTP over facet joints
  - Can be referred to buttock, posterior thighs (typically stopping at knee), hip, groin
  - Exacerbated by twisting and extension of the low back region but relieved by forward flexion, prolonged sitting/standing
  - Alleviated by forward flexion, rest, sometimes walking
  - Normal SLR and no neurologic signs

LOW BACK PAIN: Facet Joints

- **Lumbar Medial Branch Denervation (rhizotomy, neurotomy, ablation)**
LOW BACK PAIN: Intervertebral Discs & Spinal Nerve Roots

Lumbar Interlaminar and Transforaminal Epidural Steroid Injection
Can be used to treat numerous syndromes including:
   Lumbar radicular syndrome
   Herniated Discs
   Lumbar spinal stenosis
   Low back pain

Tests for nerve root irritation:
   Straight-leg raise
   Straight-leg raise and ankle dorsiflexion of the extended lower extremity
   Crossed straight-leg raise
   Tripod test
   Femoral stretch test

Rule out "red flags"
   Causes: Malignancies, Infections, Fractures
   Symptoms: Cauda equina syndrome (CES)

LOW BACK PAIN: Intervertebral Discs & Spinal Nerve Roots

- Lumbar Interlaminar and Transforaminal Epidural Steroid Injections
LOW BACK PAIN: Vertebral Bodies

Minimally Invasive Vertebroplasty or Kyphoplasty

Vertebral compression fractures are common - 1:2 women and 1:5 men will experience osteoporotic fracture. 1.4 million worldwide every year\(^{10}\)
Substantial pain, morbidity, health care utilization.

Vertebroplasty and kyphoplasty are minimally invasive, image-guided procedures that involve the injection of cement into a fractured vertebral body.

Patient Presentation:
Acute onset midline spine pain, worse with movement.
Vast majority, the acute back pain symptoms subside over a period of 6 to 8 weeks as the fracture heals.
Small subset of patients with symptomatic osteoporotic compression fractures that fail conservative medical therapy (analgesics, bed rest, TLSO brace, PT, VitD and Ca2+ w/ Bisphos)


LOW BACK PAIN: Vertebral Bodies (compression fracture)

- Vertebroplasty and **Kyphoplasty**
LOW BACK PAIN: Sacroiliac Joint

Sacroiliac Joint Injections

Numerous pathologic conditions that affect SIJ: inflammatory, degenerative, traumatic, metabolic, infectious, iatrogenic.

Predisposing factors:

Conditions that cause unusual stress on the joint including previous lumbar fusion surgery, spinal deformity, leg length discrepancy.

Pathology from surrounding structures (ie. IVD, lumbar facet joints) -> postural changes with increased stress to joint.

Pregnancy – thought to be due to ligament laxity mediated by increase in hormone relaxin

Patient Presentation:

Pain in the superior medial quadrant of the buttoc, the lateral buttock, and inferior to the posterosuperior iliac spine, with radiation to the greater trochanter, upper lateral thigh, and groin

Common Exam Findings:

Positive Faber-Patrick's Test (FABER)

Gaenslen’s Test

Sacroiliac Shear Test

***If persistent pain and decreasing efficacy with IA steroid injections – we may proceed with targeting the superior and middle cluneal nerves with diagnostic blocks and potentially RFA. ***

LOW BACK PAIN: Sacroiliac Joint

- Sacroiliac Joint Injection and Superior/Middle Cluneal Nerve Block
LOW BACK PAIN: Failed Back Surgery Syndrome

Spinal Cord Stimulation (Dorsal Column Neuromodulation)
Utilizes pulsed electrical energy near the spinal cord to control pain.
Melzack and Wall proposed gate control theory in 1965
First applied to the intrathecal space and later the epidural space – Shealy et al 1967.

First we trial the device, then we implant:
Implantation of leads in thoracic (or cervical epidural space) via percutaneous approach and tunnel leads to an implantable pulse generator (battery) in the flank.
Outpatient procedure that takes 45-90 minutes to complete.

Patient Presentation for failed back:
Classic patient would be an individual who has had lumbar spine fusion with ongoing and refractory lumbar radiculopathy not likely to improve from subsequent surgical intervention.

FDA approved for:
Chronic intractable pain of the trunk and/or limbs including unilateral or bilateral pain associated with the following ->

• Failed back surgery syndrome
• Complex Regional Pain Syndrome (CRPS) Types I and II
• Intractable low back pain and leg pain.

Associated conditions and etiologies may be radicular pain syndrome, radiculopathies resulting in pain secondary to failed back syndrome or herniated disc, epidural fibrosis, degenerative disc disease (herniated disc pain refractory to conservative and surgical interventions), arachnoiditis, multiple back surgeries

LOW BACK PAIN: Failed Back Surgery Syndrome

- Spinal Cord Stimulator
We are at the conclusion of this activity, I hope we have a little better idea of:

• Evaluate the evidence for opioids in chronic pain management
• Compare multimodal treatment options for chronic pain and list alternative and adjunctive medications
• Create a patient-specific pain management plan utilizing non-opioid therapy
Bibliography/References (Winter)

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Intermountain Project ECHO

Pain Management

Non-Opioid Strategies for Pain Management

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