An Advanced Look at the Impact of Opioid Analgesics on the Body Systems

A Workers’ Compensation Continuing Education Course

June 16, 2016
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1. Remain logged on for the entire webinar
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**Sample Poll Question:**

Compounds make up a small number of scripts but have impacted drug spend in workers' comp in that these are high cost meds

Please select one:

- True
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Presenters

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Learning Objectives

• Review the impact of opioid analgesics on every body system
• Explore ways to lessen the impact of opioid analgesics on each body system
• Discuss ways to manage claimants suffering with chronic pain
Meet Anne and Tom

Case Studies
Anne’s Story

Anne is a 45-year-old delivery driver with 15 years of service who was moving a package weighing 50 pounds and felt a pop in her lower back. This caused immediate pain radiating into her right leg with associated numbness and tingling.

Initial diagnosis: Radiculitis due to the displacement of a lumbar intervertebral disk.
Anne’s Story

Over the course of her claim, which lasted several years, she underwent

- Lumbar Surgery – which led to post-laminectomy syndrome
- Treatments – Physical therapy, injections, spinal cord stimulator trials
Anne’s Story

Her medical providers attempted to better control her pain and worsening depression with multiple medication classes including:

- Muscle relaxants
- Nonsteroidal anti-inflammatory drugs (NSAIDs)
- Benzodiazepines
- Antidepressants
- Anti-convulsants
- Topical anesthetics
- Opioid analgesics
Anne’s Story

• She experienced minimal to no lasting pain relief with the medications being prescribed

• She developed unpleasant side effects and significant functional setbacks as a direct result of six opioid analgesic medications

• She developed or was at a heightened level of risk for opioid analgesic-related side effects involving every major body system
Tom’s Story

Tom is a 49-year-old man who injured his back when he tripped while unloading his truck. He lost his balance, fell and twisted his lower back, causing immediate right-sided, low back pain.

Initially, the pain only affected the lower spine and his symptoms were effectively treated with nonsteroidal anti-inflammatory drugs (NSAIDs).
Tom’s Story

A few weeks later, his low back pain started traveling down the back of his upper thigh, through his calf muscles and into the bottom of his right foot. He developed right leg weakness that, in combination with the pain, decreased his balance and made walking difficult.

Treatment Plan:

• Physical therapy, water therapy and epidural steroid injections
• Two lumbar fusion procedures
• A spinal cord stimulator was implanted, but was later removed due to its limited effectiveness
• Short and long-acting opioid analgesics
Tom’s Story

Opioid Analgesic Monitoring Procedures

- Opioid risk assessment
- Medication agreement
- Regular pill counts
- Urine drug testing

Tom still experienced side effects that would eventually impact nearly every major body system.
The Impact of Chronic Pain and Opioid Analgesics on the Body

What can be done to minimize the effects
The Impact of Opioid Analgesics on the Body Systems
• Impair the bone generating cells, called osteoblasts

• Negatively affect the hormones that help regulate bone growth

• Higher risk for fractures
Minimize the Impact

- Provide the appropriate ancillary equipment for support and stability
- Request a home safety evaluation to determine if modifications are necessary
- Refer to physical or occupational therapy
- Promote adequate nutrition
Muscular System

- Cause fatigue and inactivity to the point that muscles become weak and endurance declines
- Affect the body's hormones and can further negatively affect muscle mass and strength
Muscular System

Minimize the Impact

• Encourage physical and aerobic activity

• Exercise and stretching are effective at reducing pain

• Promote adequate nutrition
Cardiovascular System

Increased risk of heart attack

- Opioid analgesics, including morphine and meperidine
- Patients who were taking multiple opioid analgesics at one time
Cardiovascular System

Minimize the Impact

• Monitor medications for potential drug-drug and drug-disease interactions

• Encourage routine physician visits

• Monitor blood pressure

• Educate patient on cardiac signs and symptoms
Respiratory System

- Decrease the brain’s ability to sense high levels of carbon dioxide in the blood
- Diminish the amount of air breathed in by the lungs
Minimize the Impact

• Encourage physical activity
• Take doses as prescribed
• Educate patient on risks of opioid therapy
• Keep medications in a secure location
Poll Question #1
Nervous System

- Increase the likelihood of developing depression or worsening of preexisting depression, which is often accompanied by social isolation and sleep disturbances, either insomnia or excessive daytime sleepiness.

- Have the potential to over-sensitize the brain, leading to a condition where patients have actually had increased amounts of pain. This condition is called opioid-induced hyperalgesia.

- The risks of dependence and addiction that frequently accompany opioid analgesic use.
Nervous System

Minimize the Impact

- Refer for a psychological evaluation and intervention
- Monitor depression
- Identify adjunctive therapy to address pain
- Monitor drug interactions
- Educate patient on the signs and symptoms of depression
- Use depression scale
- Increase social interaction as appropriate
Poll Question #2
Endocrine and Reproductive Systems

- May affect the hormones of the body
- Increased risk for reproductive system abnormalities
- Women are more prone to menstrual irregularities
- Higher risk for sexual dysfunction and problems with intimacy
Endocrine System

Minimize the Impact

- Monitor medications
- Promote the lowest dose possible
- Use medication therapy for hormone replacement and sexual health
Digestive System

- Increased nausea and vomiting
- Increased time for food to pass through the stomach, leaving a feeling of fullness long after meals
- Increased risk of constipation
Digestive System

Minimize the Impact

- Take a laxative
- Implement dietary changes
- Promote appropriate hydration
- Monitor bowel program
Urinary System

- The ability to void or urinate
- Decrease the sensation of a full bladder by limiting the amount of discomfort that is noticed.
- Increased resistance to urine flow out of the bladder.
- Urinary retention that can contribute to urinary tract infections and kidney damage
Urinary System

Minimize the Impact

- Monitor bladder function
- Minimize dose
- Promote a timed voiding program
- Educate patient
Integumentary System

- Affected by opioid analgesics and medications applied to the skin
- May cause an allergic reaction and resultant rash that require the medication to be discontinued
Integumentary System

Minimize the Impact

- Monitor for allergic reaction
- Monitor response to therapy
- Rotate/change medication as appropriate
Immune and Lymphatic Systems

- Higher risk of having an infection
- Some opioid analgesics, including morphine, fentanyl and codeine, have been found to increase the risks of pneumonia in elderly patients
Immune and Lymphatic Systems

Minimize the Impact

• Be aware of the medications prescribed to the elderly

• Use medications for the shortest duration possible

• Monitor comorbid conditions that may heighten condition
Poll Question #3
Factors Influencing Treatment of Chronic Pain
Factors Influencing Treatment of Chronic Pain

1. Comorbid conditions
2. Body part and nature of injury
3. Plan of care
4. Medication patterns
5. Medication monitoring
6. Nonpharmacological treatment
7. Functional restoration
8. Return to work
Thank you

Questions?

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