Introduction to the PCSS-O Responsible Opiate Precribing Series:
The relevance to medical practice and society.

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Pain and Addiction

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Case Presentation - PL

- 57 M,C,Male
- Alcohol related injure at 25 resulting in a hip replacement.
- Injury to his back at 32 resulting in disability. Onset of prescribed opiates
- Remained on disability
- Hospitalized 11-08 d/t to Klonopin OD
- Vicodin (acetaminophen 500mg, Hydrocodone 5mg) #7 / 6 times a day. (588 q 14 days)
- Suggested long acting opioid
Case Presentation - PL

- Came for consultation 3/09 Oxycontin 60mg, #5, 4 time a day
The Problem of Pain

- Costs US economy estimated $100 billion/year
  - Healthcare
  - Welfare & disability payments
  - Lost tax revenue
  - Lost productivity (work absence)
- 40 million physician visits annually
  - Most common reason for medical appointments
- Push toward opioid maintenance therapy in non malignant pain

Pain Standards

• JCAHO – Installs a Quality Standard on pain identification. (2001)
• Strong encouragement to increase the identification and treatment of pain.
• The development of new and very effective opiates for the treatment of pain.
• The tremendous rise in the prescription of opiates for non-cancer pain.

Source: DEA, ARCOS system, 2007

* Includes OTPs
New Illicit Drug Use United States, 2006

*533,000 new nonmedical users of oxycodone aged ≥ 12 years. Past year initiates for specific illicit drugs among people aged ≥ 12 years.

†LSD, lysergic acid diethylamide; PCP, phencyclidine.
Deaths per 100,000 related to unintentional overdose and annual sales of prescription opioids by year, 1990 - 2006

Source: Paulozzi, CDC, Congressional testimony, 2007
Unintentional drug overdose deaths are rising faster for prescription opioids than for illicit drugs.

Source: CDC, National Vital Statistics System, 2006
Where Pain Relievers Were Obtained Most Recent Nonmedical Use among Past Year Users Aged 12 or Older: 2006

Note: Totals may not sum to 100% because of rounding or because suppressed estimates are not shown.

1 The Other category includes the sources: “Wrote Fake Prescription,” “Stole from Doctor’s Office/Clinic/Hospital/Pharmacy,” and “Some Other Way.”
“Doctors are easy to find and they don’t carry guns”

- “To stop Rx diversion, the agency (DEA) has hired hundreds of new investigators and expanded it’s local and state task forces”
- “Quantity alone...may indicated diversion and trigger an investigation”
Federation of State Medical Boards of the United States, Inc

Model Policy for the Use of Controlled Substances for the Treatment of Pain

FSMB Model Policy
Basic Tenets

• Pain management is important and integral to the practice of medicine
• Use of opioids may be necessary for pain relief
• Use of opioids for other than a legitimate medical purpose poses a threat to the individual and society
• Physicians have a responsibility to minimize the potential for abuse and diversion
• Physicians may deviate from the recommended treatment steps based on good cause
• Not meant to constrain or dictate medical decision-making

FSMB, Federation of State Medical Boards
Aberrant Medication Use Behaviors:
A spectrum of patient behaviors that may reflect misuse

Prescription Drug Misuse

Addiction
Abuse/Dependence

Total Chronic Pain Population

Adapted from Passik. APS Resident Course, 2007
Who Misuses/Abuses Opioids and Why?

Nonmedical Use
- Recreational abusers
- Patients with disease of addiction

Medical Use
- Pain patients seeking more pain relief
- Pain patients escaping emotional pain
Pain
The challenge is that
“treating pain is neither an absolute science nor risk-free”

Scott M. Fishman, MD - Anesthesia & Analgesia. 2007;105:8-9

“To hear about pain is to have doubt; to experience pain is to have certainty.”

“The Body in Pain” – Elaine Scarry
Evaluation of Pain

- Prepare to spend adequate time with the patient.
  - Thorough history and physical
  - Be care not to rush to judgment

- “Focus on the patient not the Pain”
  - Listen
    - to the description of the pain
    - and the collateral damage of the pain, physical and psychological

- Reflective Listening
  - Believe and validate their experience
    - Let them know they are being heard
    - Give them an opportunity to modify what has been heard
Pain

• Acute Pain
  – Trauma, injury, dental procedures, and labor and delivery

• Chronic Malignant Pain
  – Cancer

• Chronic Nonmalignant Pain
  – Arthritis, Disc Disease

• Withdrawal-related Pain
Nomenclature in Pain Treatment

- Tolerance
  - Decreased effect over time
- Physical Dependence
  - Withdrawal symptoms upon discontinuation
- Addiction
  - Impaired control, compulsive use, continued use in spite of negative consequences
- Pseudo Addiction
  - Behavior surrounding obtaining adequate pain meds
- Pseudo Tolerance
  - Worsening of underlying condition
<table>
<thead>
<tr>
<th>Pain Type</th>
<th>Location</th>
<th>Patient Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nociceptive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Superficial somatic</td>
<td>Skin, subcutaneous tissue, mucous membranes</td>
<td>Sharp, pricking, burning</td>
<td>Superficial laceration or burn</td>
</tr>
<tr>
<td>Deep somatic</td>
<td>Muscles, tendons, joints; may seem diffuse</td>
<td>Dull, aching, cramping</td>
<td>Joint pain, low back pain</td>
</tr>
<tr>
<td>Visceral</td>
<td>Internal organs; may be poorly localized or referred to cutaneous sites</td>
<td>Deep aching, cramping, or sharp stabbing</td>
<td>Sickle cell disease, appendicitis, kidney stone</td>
</tr>
<tr>
<td>Neuropathic</td>
<td>Peripheral or central</td>
<td>Burning, tingling, prickling, shooting, aching, lancinating, electric shock-like</td>
<td>Trigeminal neuralgia, postherpetic neuralgia, diabetic neuropathy</td>
</tr>
</tbody>
</table>

Pain

- Perception of pain as a 4-step model
  - **Transduction**: Acute stimulation in the form of noxious thermal, mechanical, or chemical stimuli is detected by nociceptive neurons.
  - **Transmission**: Nerve impulses transferred via axons of afferent neurons from the periphery to the spinal cord, to the medial and ventrobasal thalamus, to the cerebral cortex
  - **Perception**: Cortical and limbic structures in the brain are involved in the awareness and interpretation of pain.
  - **Modulation**: Pain can be inhibited or facilitated by mechanisms affecting ascending as well as descending pathways.
Peripheral nerve stimulation in Pain

- Nociceptors quality of pain perceived dependent on:
  - site of stimulation,
  - nature of the fibers transmitting the sensation.
    - sharp immediate pain ("first pain") transmitted by A delta fibers,
    - prolonged unpleasant burning pain mediated through the smaller unmyelinated C fibers.
  - Modulation receptors on their surfaces effect sensitivity to stimulation.
    - GABA,
    - opiate,
    - bradykinin,
    - histamine,
    - serotonin
    - capsaicin receptors
Peripheral nerve stimulation in Pain

- Inflammation sensitizes nociceptors, (hyperalgesia).
  - Hyperalgesia may be
    - primary (at the site of stimulation, sensitization of neurons in the area)
    - secondary (felt remote from injury, and related to NMDA-mediated "wind-up")
Mediation of transmission of Pain

• Neurotransmitters mediate transmission of pain in both brain and spinal cord.
  • *Excitatory neurotransmitters:*
    • Glutamate and tachykinins, act at the various neurokinin receptors including as substance P ('P is for pain'), neurokinin A and neurokinin B, and on other substances that transmit pain impulses from incoming nerves in the dorsal horn.
  • *Inhibitory neurotransmitters:*
    • gamma amino butyric acid (GABA) most prominent.
Perceived Pain - Suffering

• At risk patients
  • Past history of substance use disorder
  • Emotionally traumatized
  • Dysfunctional / alcoholic family
  • Lacks effective coping skills
  • Dependent traits
  • Stimulus augmenters-deficit in hedonic tone

Paul Farnum, MD   PHP, BC
Medical Issues in Opioid Prescribing

• **Potential benefits**
  • Analgesia
  • Function
  • Quality of life

• **Potential risks**
  • Toxicity
  • Functional impairment
  • Physical dependence
  • Addiction
  • Hyperalgesia
Opioid Hyperalgesia

• Methadone maintenance patients have a reduction in their pain tolerance.¹

• Ballantyne NEJM report 2003, review of opioid therapy for chronic pain- “neither safe nor effective”²


Opioid Hyperalgesia

• Cellular responses to chronic opioid intake:
  • an increase in neuropeptides such as dynorphin\textsuperscript{11}, cholecystokinin, \textsuperscript{12} and substance P\textsuperscript{13}
  • all of which have been demonstrated to enhance pain sensitivity
  • the activation of glial cells, producing inflammatory cytokines and resulting in amplified pain.\textsuperscript{14}

Opioid Efficacy

- Opioids are an essential treatment for some patients with CNMP.
  - They are rarely sufficient
  - They almost never provide total lasting relief
  - They ultimately fail for many
  - They pose some hazards to patients and society
- It is not possible to accurately predict who will be helped – but those with contraindications are at high risk
Back Pain

• There has been 423% increase in the expenditure for spine-related narcotic analgesics from 1997 to 2004*

• Yet in assessment of health status there has been no significant improvement.

* JAMA February 13, 2008 Vol. 299, No. 6
Pain and Addiction

Does Not Necessarily Equal

Chronic Pain

Suffering

Ed Salsitz