Risk and Benefits of Opioids
In the Management of Persistent Pain
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May 2012

100 million in U.S. live with Chronic Pain
\( \geq \) Diabetes, Heart Disease & Cancer combined
Costs U.S. \( \geq \) $600 Billion each year
- Health care (~$300 billion)
  - $100B paid by Gov't programs (CMS, VA, Workers Comp, et al.)
- Lost productivity (\( \geq \) $300 billion)
- Lost tax revenues compound problem

Prevalence & Cost of Chronic Pain

Prevalence & Cost of Chronic Pain

Issue of Opioid Misuse

- 5 million non-medical users
- $73 billion/year
- Most common:
  - Poisoning type
  - Overdose death
- “Gateway” drugs

IOM (2011) Relieving Pain in America

SAMHSA, 2011
BALANCED APPROACH:
RISKS/BENEFITS OF PAIN MEDICINES

- Pain reduction
- Improved life
- Functioning
- Healing
- Psychosocial
- Side effects
- Morbidity
- Toxicity
- Legal

The Meaning & Impact of pain?

- Impact of pain
  - Mind
  - Body
  - Spiritual
  - Social roles and interactions
- Meaning of pain
WHO 3-Step Approach to Relief

1. Non-opioids for mild to moderate pain ± Adjuvant
   (e.g. Non-drug &/or Intervventional Rx)

2. Opioids for mild to moderate pain ± Non-opioid ± Adjuvant

3. Opioids for moderate to severe pain ± Non-opioid ± Adjuvant

*Originally published by the World Health Organization (1986) for cancer pain

NSAID Toxicity May Limit Use

- #1 prescribed drug class in world
- Causes thousands of deaths & hospitalizations/yr
- Ibuprofen has the best efficacy & GI safety
  - Diclofenac sodium & naproxen (doubles) risk
  - Piroxicam, indomethacin, ketorolac >4X GI risk
- Worsen hypertension, CHF, renal disease
- With cancer ~mask fever or predispose to bleeding

Risk Factors for NSAID-Associated GI Complications

- Past Complicated Ulcer: 13.5
- Multiple NSAIDs: 7.3
- High-Dose NSAIDs: 6.6
- Anticoagulant: 6.1
- Past Uncomplicated Ulcer: 5.6
- Age >70 Years: 3.6
- SSRIs: 2.2
- Steroids: 0.0

Odds Ratio for Risk of Ulcer Complications

SSRI = selective serotonin reuptake inhibitor

Assess Pain & Co-morbid states

Risk-based Analgesia for Elderly

1. Acetaminophen

2. Carefully selected & dosed opioid or adjuvant: Tailored for pain type/intensity & co-morbid conditions

3. Cautious use of higher risk drugs (e.g. NSAIDs) with risk-reduction strategies

   Adjacent examples
   
   - Drugs:
     - Gabapentin
     - Duloxetine
   - Interventions:
     - Nerve Blocks
     - Neuroablation
   - Non-drug:
     - Heat or cold
     - Distraction
     - Coping
     - Acupuncture

American Geriatrics Society, 2009

Pain Medication Activity Sites

Adapted from: Pasero & McCaffery (2011) Pain Assessment and Pharmacological Management

Approaches to refractory pain

Individualized approach needed

- Opioids NNT = 2.7
- Gabapentin/Pregabalin NNT = 3.2
- TCA / SSNRI NNT = 4
- Lidoderm 5% NNT = 4.4
- Capsaicin NNT = 5.3

Are Opioids Indicated for Persistent Pain?

- Pain with life-limiting disease
- Acute on chronic pain
- Chronic pain
- After other therapy fails

Clinical practice guidelines:
- American Pain Society 2009
- VA - DoD 2010
  [http://www.healthquality.va.gov/Chronic_Opioid_Therapy_COT.asp](http://www.healthquality.va.gov/Chronic_Opioid_Therapy_COT.asp)
- ASA, ASRA, 2011

Selection and Initiation of Opioids

- Best medicine for the individual
  - Strength needed
  - Pharmacologic effect
  - Side-effect burden/toxicity
  - Individual vulnerabilities
- Best choice: psychosocial circumstance
  - Role functioning
  - Issues around environmental security
  - History of substance abuse (patient or family)

When are opioids not used?

- Contraindicated
  - Hypersensitivity / anaphylaxis
  - Undiagnosed significant head trauma
  - Respiratory depression & no equipment
  - Severe liver / kidney failure
    - Dose adjusted methadone or fentanyl may be used compassionately in some cases
When are opioids used cautiously?

- Monitoring / specialty support
  - Elevated risk of respiratory depression
  - Active substance abuse disorder
    - Alcoholism
    - Prescription drug abuse &/or addiction disorder
    - Illicit drug use
  - Hepatic/renal impairment; labile hypotension

- Pharmacovigilance ALWAYS!

Opioid Pharmacological Points

- Genetic Polymorphisms & Neuroplasticity
  - e.g. Codeine

- Within-class differences seen
  - Which medicine alleviates pain
  - Different side effect burdens
  - Differences in how medications work over time

- Interactions with drugs / diseases
  - e.g. Metabolic pathways CYTP450-2DP
  - e.g. Sleep apnea

Opioid Pharmacodynamics

- Periphery
  - Prevent release of inflammatory products

- Spine
  - Prevent presynaptic opening of voltage-sensitive Ca++ ion channels
  - Inhibits Na+ ion channel activity
  - Lowers the production and release of EAA (e.g. Substance P)
  - Lowers postsynaptic excitability (K+ escape)

- Brain
  - Activates descending pain inhibitors
  - Activates Dopaminergic neurons
Undesirable Opioid Effects

- Respiratory depression, bronchospasm
- Sedation, dizziness, ataxia, visual disturbances
- Nausea / vomiting, constipation
- Urinary retention, sexual dysfunction
- Itching, skin rash
- Immune, hormonal or neurological problems
- Psychosocial problems
- Behavioral / existential problems

Expected opioid effects

- Analgesia
- Side effects
- Tolerance
  - Diminution of one or more opioid effects
- Physical dependence
  - Abstinence syndrome

Signs/Sx of Withdrawal

- Vomiting, anorexia, yawning
- Tearing, rhinorrhea, congestion
- Erythema, sweating
- Fidgeting, uneasiness
- Pupil dilation, piloerection, crawling skin
- Anxious, scared, depressed, or irritable
- Reports of pain / dysphoria
Unexpected opioid effects

- Neurotoxicity / OIH
- Nonmedical use
- Drug abuse and diversion
- Pseudoaddiction
- Addiction
  - Craving, lost control, compulsive use

Universal Precautions: Pain and Addiction

1. Make a diagnosis
   - appropriate tests
   - Differential dx
2. Psychological assessment
   - mental illness
   - risk of addiction disorder
3. Informed consent

Screening

- Current drug abuse / addiction
  - COMM, CAGE-AID
  - “How many times in the past year have you used an illegal drug or used a prescription medication for nonmedical reasons?”
- Risk of developing aberrant behaviors
  - ORT
  - SOAPPr
Opioid Risk Tool (ORT)

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<th>Mark each box that applies:</th>
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<th>Male</th>
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<td>Prescription drugs</td>
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<td>3. Age (mark box if between 16-45 years)</td>
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**Scoring**

- 0-3: low risk (6%)
- 4-7: moderate risk (28%)
- > 8: high risk (> 90%)

**Administration**

- On initial visit
- Prior to opioid therapy

**WEBSTER, ET AL.**


**COMM**

- For patients on chronic opioid therapy to screen for problematic medication behavior
  - Signs and Symptoms of intoxication,
  - Emotional volatility,
  - Evidence of poor response to medications or addiction,
  - Healthcare use patterns,

Not used prior to initiation of opioid therapy

**MELTZER ET AL.**

Pain, 152 (2011) 397–402

**Universal Precautions (continued):**

4. Treatment agreement
   - Adherence to treatment plan
   - Legal risk management
   - Practice efficiency
5. Baseline and post-intervention assessment
6. Appropriate trial of opioid therapy
   - Level pain, function, adverse effects
   - ± adjunctive medication
**Universal Precautions (continued):**

7. Regularly assess “Four A’s”
   - **Analgesia**
     - Change on 0–10 scale, or
     - Reduction (percentage) in pain
   - Activity level
   - Adverse reactions
   - Aberrant behavior
     - Emergence of problematic behaviors

**Is It Relief-Seeking?**

- Titrating pain-relieving medication
  - Improves functioning
  - Improves quality of life
  - Helps focus on disease, rehab, Rx plan
- Drug seeking behavior subsides
- Express concern re: expected effects
  - Side effects, tolerance, dependence

**Is Drug Misuse or Addiction?**

- Wants more drug despite:
  - Increased dose
  - Decreases quality of life & functioning
  - More side effects
  - Abandoning other aspects of Rx plan
- Drug seeking behavior escalates
  - Lost Rx, early refill, unauthorized dose change
  - Excessive craving / focus
  - Neglects responsibilities … to get drugs

Gourlay HA, Hall DL. Pain Med Sup. 2009;2; S115.
WHENEVER DRUG-SEEKING IS SUSPECTED

Screen for both pain / addiction ... treat &/or refer

- Group I: “My patient”
- Group II: “Specialty patient”
- Group III: “My patient with specialist support needed”

In a patient with pain and addictive disorder, it is important to treat both conditions. Doing nothing for either pain &/or addiction represents substandard care.

Universal Precautions:
Pain and Addiction

8. Periodically review treatment plan
   - Pain diagnosis and
   - Co-morbidities including addictive disorders
   - Are opioids helping more than hurting?

9. DOCUMENT
   - DOCUMENT
   - DOCUMENT

Key points to teach patients

- Protecting the prescription
- Safe medication storage
- Safe use
- Travel precautions
- Exit strategy
Patient, Family & Community Safety
(needed education continued)

- Lock up opioids
- Don’t keep unused drugs
  - Properly dispose of any leftover medicine
- Never sell or give opioids to another person

Thank you!
Please save the date for our next webinar!

**Tuesday, May 22, 2012 1:00-2:00pm ET**

**Topic:** Managing Chronic Pain in the Patient with Addictive Disorders

**Speaker:** Paul Arnstein, RN, PhD, ACNS-BC, FNP-C, FAAN, Clinical Nurse Specialist for Pain Relief, Mass General Hospital

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