PCE Practicing Clinicians EXCHANGE™

Created for Nurse Practitioners and Physician Assistants

2008 Symposia Series 3

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Created for Nurse Practitioners and Physician Assistants

Striking the Balance: Treating Pain Effectively and Safely

Yvonne M. D'Arcy, MS, CRNP, CNS
Pain Management and
Palliative Care Nurse Practitioner
Suburban Hospital
Bethesda, Maryland

Faculty Disclosure

- **Ms D'Arcy:** *advisory board:* Abbott Laboratories, Alpharma Inc., Endo Pharmaceuticals, Ortho-McNeil Inc.; *consultant:* Ortho-McNeil Inc.; *speakers bureau:* Endo Pharmaceuticals, Pfizer Inc

KEY QUESTION ?

What medication for treating pain has the lowest physiologic patient risk profile?

1. NSAIDs
2. Acetaminophen
3. Anticonvulsants
4. Opioids
5. Antidepressants
6. Corticosteroids
7. Benzodiazepines

Use your keypad to vote now!

Learning Objectives

- Identify the essential elements of acute and chronic pain and the assessment process for each condition
- Determine how to use opioid medications that are appropriate to the patient's complaint of pain
- Identify the difference between opioid dependency and addiction
- Determine which patient behaviors demonstrate aberrant behaviors as opposed to addiction

Background and Scope of the Problem

- 100 million Americans suffer from pain
  - 75 million Americans suffer from chronic pain
  - Approximately 40 million rate their pain as severe
- Chronic pain is the most common cause of long-term disability
- Approximately 80% of patients in long-term care facilities experience chronic daily pain
- Only 1 in 4 patients with chronic pain receives appropriate treatment
- Annual cost is over $60 billion

McCarberg BH, et al. *Am J Ther.* 2008;15:312-320. American Pain Foundation. Pain facts: Overview of American pain surveys, 2007. http://www.painfoundation.org/page.asp?file=Newsroom/PainSurveys.htm.

Differences Between Acute and Chronic Pain

Acute Pain

- Short in duration
- Caused by tissue damage from trauma, surgery, or injury

Chronic/Persistent Pain

- Lasts beyond normal healing period
- Considered to be chronic when it lasts > 3 to 6 months

If acute pain is not adequately treated

It can result in a chronic, more difficult-to-treat condition, such as complex regional pain syndrome (CRPS)

American Pain Society. *Pain Control in the Primary Care Setting*. Glenview, IL; 2006.

Nociceptive vs Neuropathic Pain

Nociceptive Pain

- Produced in response to a stimulus from tissue damage (trauma or injury)
- Responds to analgesics
- Often described as achy, gnawing

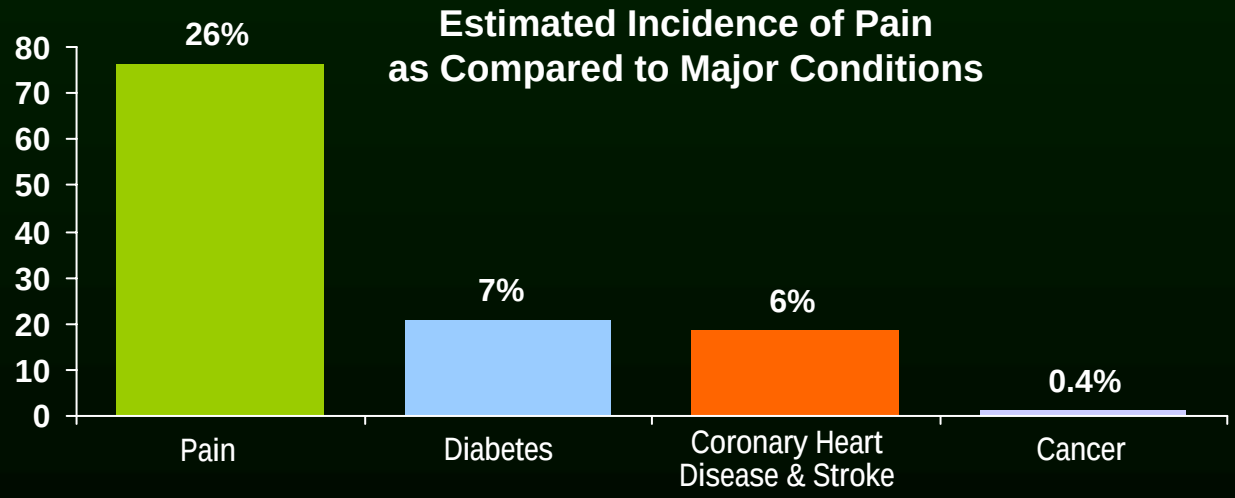
Neuropathic Pain

- Results from damage to a peripheral nerve or central nervous system
- Not fully responsive to opioids
- Requires the use of adjuvant agents such as antidepressants, antiseizure medications
- Described as shooting, burning, painful tingling

American Pain Society. *Pain Control in the Primary Care Setting*. Glenview, IL; 2006.

Chronic Pain: More Than a Symptom

- A medical entity, not a symptom—neural pathway changes explain hypersensitivity and resistance to antinociceptive input
- A legitimate and often progressive disease that is as disabling as heart disease, diabetes, and other recognized chronic illnesses
- Deserving of recognition and treatment



Pain—76.2 million people, National Centers for Health Statistics Report: Health, United States, 2006. www.painfoundation.org
Diabetes—20.8 million people (diagnosed and estimated undiagnosed), American Diabetes Association. www.diabetes.org
Coronary Heart Disease (including heart attack and chest pain) and Stroke—18.7 million people, American Heart Association. www.americanheart.org
Cancer—1.4 million people, American Cancer Society. www.cancer.org

Assessment Approach

To determine the onset, location, duration, intensity, type, and quality of the pain experience

Detailed H & P → Present Pain Complaint → Aggravating & Alleviating Factors →

Personal impact:
- Lack of sleep
- Fatigue
- Days off work →

Any contributing comorbidities:
- Always assess for depression & alcohol abuse →

American Pain Society. *Pain Control in the Primary Care Setting*. Glenview, IL; 2006.

Use of Pain Assessment Instruments

One Dimensional: Acute

- Numeric Pain Intensity Scale (NPI)
- Verbal Descriptor Scale (VDS)
- FACES Pain Rating Scale

Multidimensional: Chronic

- Brief Pain Inventory (BPI)
- McGill Pain Questionnaire (MPQ)
- Brief Pain Impact Questionnaire (BPIQ)

Comprehensive Pain Management Plan Components

- Biologic approaches
  - Pharmacologic and/or nonpharmacologic
- Psychological intervention
  - Mood disturbance
  - Coping skills
  - Sleep disturbance
- Social/rehabilitative issues
  - Family/social relations
  - Work issues
  - Physical rehabilitation

Stanos SP. *Clin J Pain.* 2007;8:S14-S22.

Analgesics for Chronic Pain: What's Available

Nonopioids and Adjuvants

- Acetaminophen/ NSAIDs—nonselective and COX-2
- Topical agents
- Anticonvulsants
- Antidepressants

Opioids

- Short-acting opioids
- Controlled-release medications
- Long-acting medications
- Transdermal delivery systems

Pharmacologic Management: Nonopioids

- Acetaminophen—consider for mild to moderate pain or use in combination with an opioid
- Topical agents such as menthol creams, local anesthetic/analgesic agents, topical NSAIDs
- NSAIDs—nonselective and COX-2 agents
  - Useful for inflammatory conditions
  - Indicated for mild to moderate pain
  - Can be used in conjunction with opioids to increase pain relief

Stanos SP. *J Pain Symptom Manage.* 2007;33:342-355. Grosser T, et al. *J Clin Invest.* 2006;116:4-15. Mercadante S, Portenoy RK. *J Pain Symptom Manage.* 2001;21:338-354.

Risks Associated With Nonopioid Therapy

- Limit acetaminophen dose to no more than 4000 mg daily
- ALL NSAIDs have an increased profile for cardio-vascular risks
- Traditional NSAIDs have a profile of GI bleeding that cannot be totally alleviated with the use of a PPI—the lower intestine can still have ulceration and bleeding; therefore, COX-2 agents are preferred
- NSAIDS should not be used in patients with a history of GI bleeding, abnormal renal function, concomitant anticoagulants, high-risk patients (CHF, CAD, HTN, and cirrhosis)

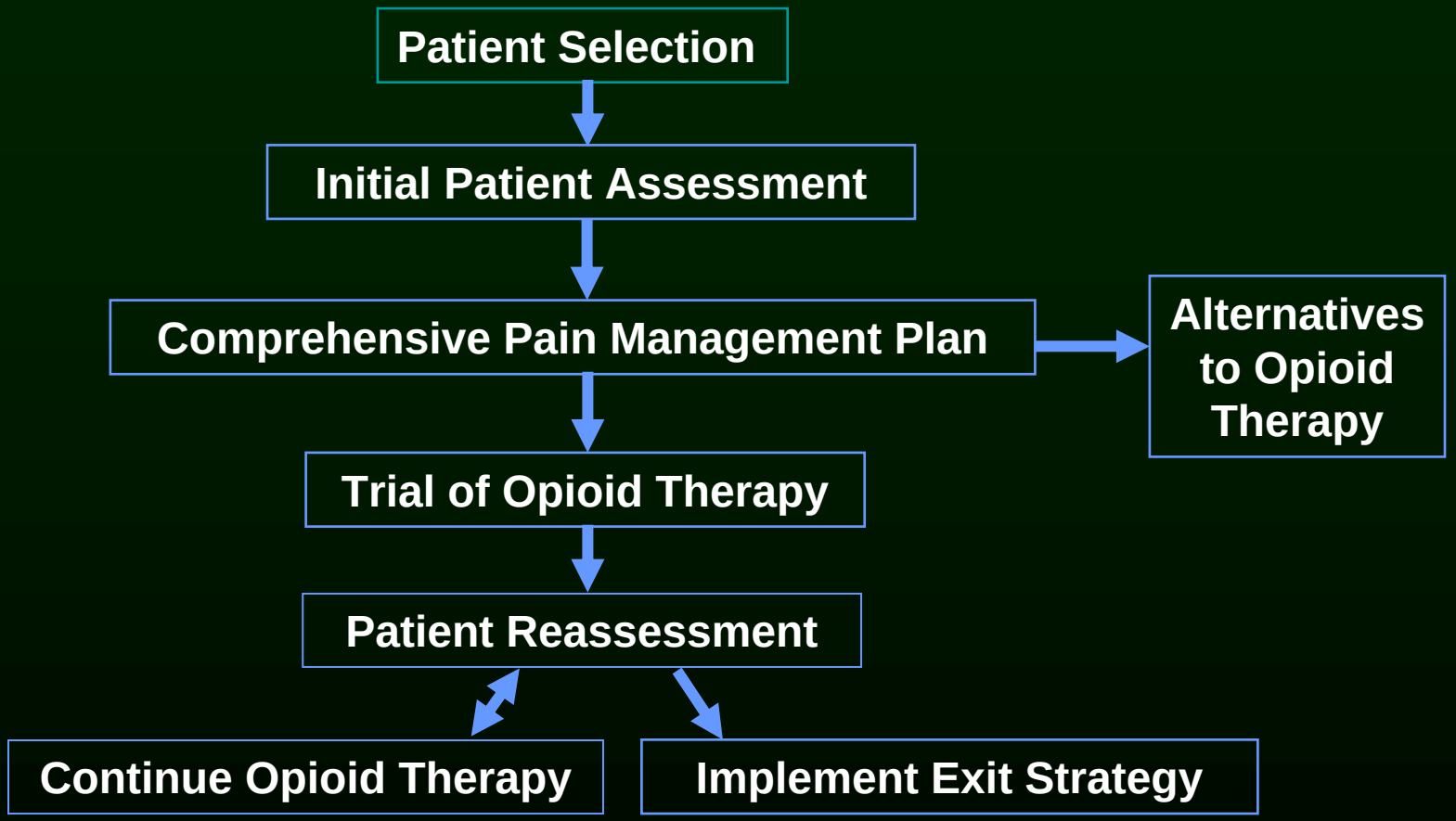
Guay DR, et al. In: Weiner D, et al, eds. New York, NY: Springer Publishing Company, Inc.; 2002. American Pain Society. *Pain Control in the Primary Care Setting.* Glenview, IL; 2006.

Adjuvant or Co-analgesic Choices

- Antidepressants—tricyclics (amitriptyline, desipramine), SSRI (fluoxetine), SNRI (venlafaxine)
- Antiseizure medications—gabapentin, pregabalin
- Corticosteroids
- Local anesthetics for topical analgesia (lidocaine patch 5%)
- Antispasmodics (diazepam, baclofen)
- Other (bisphosphonates)

SSRI=selective serotonin reuptake inhibitor; SNRI=serotonin-norepinephrine reuptake inhibitor

Algorithm for Opioid Treatment of Chronic Pain



National Initiative on Pain Control, Opioid Analgesia Algorithm. 2004, http://www.painedu.org/nipc-resourcenter.asp

Opioids for Treatment of Chronic Pain

- Since 1977, opioids listed on the World Health Organization's Model List of Essential Drugs
- Opioids should be considered as a treatment for moderate-to-severe pain associated with chronic ailments, according to evidence-based guidelines developed by:
  - American College of Physicians
  - American Pain Society
  - American College of Rheumatology
  - International Association for the Study of Pain
  - Neuropathic Pain Institute
  - European League Against Rheumatism
- Opioids are prescribed for chronic pain in as much as 90% of patients seen in pain management clinics, yet, few PCPs prescribe opioids, even for chronic pain

Ghodse H. *Br J Psychiatry.* 2003;183:15-21. Chou R, et al. *Ann Intern Med.* 2007;147:478-491. American College of Rheumatology Subcommittee. *Arthritis Rheum.* 2000;43:1905-1915. Jordan KM, et al. *Ann Rheum Dis.* 2003;62:1145-1155. Dworkin RH, et al. *Pain.* 2007;132:237-251.

Opioids for Treatment of Chronic Pain

- Can be used alone or in combination with nonopioids
  - Codeine-containing medications—mild pain
  - Hydrocodone-containing medications—moderate pain
  - Oxycodone-containing medications—moderate pain
  - Oxymorphone-containing medications—moderate pain
  - Morphine—severe pain
  - Hydromorphone—severe pain
  - Fentanyl—severe pain
  - Methadone—severe pain

Opioid Metabolism and Drug-drug Interactions

- Many opioids react with cytochrome P450 (CYP 450) isoenzymes, primarily CYP 2D6 and CYP 3A4
- Tramadol, oxycodone, hydrocodone, and codeine are converted to active metabolites by CYP 2D6
  - Drugs that inhibit this enzyme will decrease opioid effect
- Methadone and fentanyl are converted to inactive metabolites by CYP 3A4
  - Drugs that inhibit this enzyme will increase opioid effect
- Oxymorphone, morphine, and hydromorphone are not metabolized by CYP 450 isoenzymes

Kadiev E, et al. *Expert Opin Drug Metab Toxicol*. 2008;4:77-91. Stamer UM, et al. *Pain.* 2003;105:231-238.

KEY QUESTION ?

You should consider using an opioid to treat your patient's pain when:

1. He rates his pain at 4/10
2. He asks for a medication that will really work
3. You have tried other non-opioid options without success
4. His pain fluctuates from visit to visit
5. He asks for an opioid medication he found using the Internet

Use your keypad to vote now!

When to Use Opioid Therapy

- Persistent pain despite reasonable trials of nonopioid analgesics and adjuvants

or

- Severe pain requiring rapid relief

or

- Patient characteristics contraindicate use of other analgesics

Dworkin RH, et al. *Pain.* 2007;132:237-251.

What Opioid to Use

- Select a medication that fits the patient's complaint of pain
- When managing daily pain in opioid-tolerant patients, consider using an extended-release medication with a short-acting opioid combination for breakthrough pain
- Always consider the total daily dose of acetaminophen when using short-acting combination opioids

Dworkin RH, et al. *Pain.* 2007;132:237-251. Trescot AM, et al. *Pain Physician.* 2006;9:1-39. Kahan M, et al. *Can Fam Physician.* 2006;52:1091-1096. Raffa R. Pharmacological aspects of successful long-term analgesia. *Clin Rheumatol.* 2006;25 (suppl 1):S9-S15. Gonzalez-Perez A, Rodriguez LA. *Basic Clin Pharmacol Toxicol.* 2006;98:297-303.

KEY QUESTION ?

The most effective strategy in an opioid safety monitoring program is:

1. Implementing an opioid treatment agreement
2. Assessing for aberrant behaviors
3. Conducting a urine toxicity screen
4. Sending the patient for a psychosocial assessment
5. Using an opioid risk screening tool

Use your keypad to vote now!

Universal Precautions in Pain Management

- Make an appropriate differential diagnosis
- Perform a psychological assessment, including risk of addictive disorders
- Document informed consent
- Use a treatment agreement
- Individualize therapy
- Reassess pain scores and functionality
- Periodically review pain diagnosis and comorbid conditions
- Document all assessments and care plans

Gourlay et al. *Pain Med*. 2005;6(2):107-112.

Setting Realistic Goals

- Reach agreement with patient on shared goals of treatment
- Complete pain relief rarely achieved
- Common goals include:
  - Pain reduction
  - Improvement in selected areas of function
  - Improved mood
  - Improved work

Stanos SP. *Clin J Pain.* 2007;8:S14-S22. American Pain Society. *Pain Control in the Primary Care Setting.* Glenview, IL; 2006.

Work From a Written Treatment Plan/Contract

- Be specific about medications
- Be specific about amounts to be dispensed—usually small amounts
- Be specific about refill policy
- Be specific about replacement of “lost” medications
- Be specific about frequency of office visits
- Be specific about other practitioners ordering medications
  - ONE practitioner AND ONLY ONE practitioner IS PRESCRIBER
- Go to www.painmed.org for a sample patient contract

Nicholson B, Passick SD. *South Med J.* 2007;100:1028-1036. Kipnis S. NYS Office of Alcoholism and Substance Abuse Services; 2002.

Screening for Aberrant Behaviors

- Negative mood changes
- Increasingly unkempt or impaired
- Involvement in car or other accidents
- Requests frequent early renewals
- Increased dose without authorization
- Reports lost or stolen prescriptions
- Uses pain medication in response to situational stressor
- Alcohol or illicit drug abuse
- Use an opioid risk screening tool such as SOAPP-R (www.painEDU.com) or ORT

Passik SD, Kirsh, KL. *Curr Pain Headache Rep*. 2004;8:289-294.

Know the Difference Between Addiction, Dependence, and Tolerance

- Addiction is a chronic neurobiologic disease characterized by the four C's: craving, compulsive use, lack of control, continued use despite harm
- Physical dependence is a state of adaptation where the body becomes accustomed to the regular use of a medication. A withdrawal syndrome occurs when the medication is stopped abruptly
- Tolerance is the loss of effect over time, such as decreased sedation

Nicholson B, Passik SD. *South Med J.* 2007;100:1028-1036.

Patient Reassessment Model

The "Four A's of Pain"

- Analgesia
- Activities of daily living
- Adverse effects
- Aberrant drug-taking behaviors

Important to remember

- Re-Assessment
- Action (treatment plan)

Passik SD, Weinreb HJ. *Advances in Therapy*. 2000;17:70-80. Nicholson B, Passik SD. *South Med J.* 2007;100:1028-1036.

Changing/Discontinuing Ineffective Treatments

- No improvement in pain and/or functioning
- Excessive/intolerable side effects
- Unresolved aberrant behavior

- Insure reasonable treatment goals
- Make timeline for reassessment of goals
- Consider rotation to a different opioid

Harris JD. *Clin J Pain.* 2008;24:S8-S13. Kahan M, et al. *Can Fam Physician.* 2006;52:1091-1096.

When to Refer to a Specialist

- Uncontrolled, severe pain
- Significant, ongoing disruption of physical and/or psychosocial functioning
- Presence of a comorbid psychiatric disorder
- Need for diagnostic evaluation for unknown etiology of complex pain syndromes
- Validation of a diagnosis and treatment plan
- Consultation for treatment recommendations
- Need for treatment modalities that PCP cannot provide
- Inability to establish mutually agreeable treatment goals

American Pain Society. *Pain Control in the Primary Care Setting.* Glenview, IL; 2006.

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Case Study 1

Patient Profile

- 24-year-old man (JZ)
- Sustained crush injury at work—right forearm and hand—6 months ago
- Cannot work because of pain
- Continues to complain of pain
- Wants more pain medications because “nothing touches the pain”
- Rates pain at 7/10—constant, burns, cold makes it ache, continued swelling

Current History

- Patient is regularly taking an extended-release opioid with short-acting combination medication for pain
- Frequent dose escalations of opioids with only fair relief
- Unable to perform physical therapy because of pain
- Vital signs, lab values all within normal levels
- Urine drug screen negative for illicit substances
- ORT screen and SOAPP-R indicate patient is low risk for aberrant behaviors
- Sent to pain clinic because PCP is becoming uncomfortable with opioid use and lack of progress with pain control
- Pain clinic practitioner diagnoses JZ with complex regional pain syndrome (CRPS)

ORT=Opioid Risk Tool; SOAPP=Screener and Opioid Assessment for Patients with Pain

Harden RN, Bruehl SP. *Clin J Pain.* 2006;22:415-419.

DECISION POINT ?

What changes in therapy should be made at this point?

1. Add a medication to treat central pain
2. Add a topical analgesic, such as lidocaine patch 5%
3. Add physical therapy
4. Add a medication to treat central pain, topical analgesic, and physical therapy

Use your keypad to vote now!

Ongoing Management

- Opioids continued, but lidocaine patches 5% and gabapentin are added
- Nerve block is used prior to physical therapy to help increase movement, strengthen arm, and increase wrist motion
- 3 months after beginning therapy: 50% increase in arm/wrist function, gabapentin doses maximized, opioids decreased by 50%
- JZ being retrained for job that will accommodate his right arm weakness

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Case Study 2

Patient Profile

- 71-year-old female (MJ) with persistent widespread pain in shoulders, neck, and lower back
- Reports that pain has worsened over the past 10 yrs
- Average pain 8-10 on VAS despite taking 1-2 doses of hydrocodone 7.5 mg/acetaminophen 750 mg daily
- BUE tingling at night
- EMG/NVC report is normal
- Difficulty with ambulation, especially at night (unsteady)

VAS=visual analog scale; BUE=bilateral upper extremities; DDD=degenerative disc disease; EMG=electromyography; NVC=nerve conduction velocities

Current History

- ***Medical Hx***: RA, OA, cervical DDD; hypertension, a-fib, CAD; GERD; post-spinal surgery x2; bilateral total knee replacement; cholecystectomy; depression; denies allergies, alcohol use, or recreational drug use; has smoked ½ pack/day "for many years"
- ***Current meds***: isosorbide dinitrate, diltiazem, furosemide, esomeprazole, celecoxib, warfarin, hydrocodone (7.5 mg/acetaminophen 750 mg, 4 times a day), acetaminophen as needed
- ***Social Hx***: widow, lives with daughter; enjoys playing cards, gardening, playing with her grandchildren; activities limited due to pain

RA=rheumatoid arthritis; OA=osteoarthritis; DDD=degenerative disc disease; CAD=coronary artery disease; GERD=gastrointestinal reflux disease

Physical Examination Findings

- Multiple joint deformities and rheumatoid nodules seen bilaterally on her hands
- Pain on palpation of the cervical paraspinal muscles and bilateral upper trapezius muscles
- Decreased range of motion of neck and shoulders; no carotid bruits
- Impaired lumbar forward flexion to 30 degrees; Romberg +

Physical Examination Findings (Cont.)

- Impaired position sense in both distal lower extremities; decreased vibratory sense to ankles bilaterally
- Babinski response present on left, absent on right; DTRs brisk
- Beck's depression score: 16 (mild to moderate)
- ORT: 1 (low risk)

DTR=deep tendon reflexes; ORT=Opioid Risk Tool

Diagnosis

- Multiple medical problems (including history of RA)
- Possible cervical myelopathy, which would explain the widespread nature of her pain and RA-associated pain

What pharmacologic aspects of this case could be improved upon in the new treatment plan?

DECISION POINT ?

1. Poor efficacy of the current opioid
2. The use of additional acetaminophen, prn
3. The use of an NSAID in an older adult with GERD
4. Polypharmacy
5. All of the above listed elements are important to consider

Use your keypad to vote now!

The New Management Plan

- Obtain old medical records, diagnostic tests, consults with referring practitioners: assess underlying cause(s) of pain
- Order MRI of cervical spine if not recently done
- Change to stronger immediate-release opioid: hydrocodone/APAP to oxycodone/APAP (10/325), 4-6 times/day as needed
  - Sign opioid treatment agreement and opioid consent form
  - Order urine toxicity screen
- Attempt to increase activity level with benefit of increased analgesia
- Consider antidepressant with neuromodulating effects

Patient-specific Considerations

- Acetaminophen
  - Chronic use of ≥4 g/day can cause hepatotoxicity
  - Can potentiate the effects of warfarin; monitor PT/INR
- NSAIDs
  - Chronic use is associated with increased cardiovascular risks
  - Traditional NSAIDs should not be prescribed for patients with a history of GI bleeding, renal insufficiency, or hepatic dysfunction
  - May not be appropriate for patients who are taking anticoagulants, or have CHF, coronary artery disease, or hypertension
  - Traditional NSAIDs are inappropriate for older adults with a history of ulcer disease and GERD

PT/INR=prothrombin time; GI=gastrointestinal; CHF=congestive heart failure; GERD=gastrointestinal reflux disease

Guay DR, et al. In: Weiner D, et al, eds. New York, NY: Springer Pub Co, Inc.; 2002. American Pain Society. *Pain Control in the Primary Care Setting.* Glenview, IL 2006. van der Hooft CS, et al. *Br J Clin Pharmacol.* 2005;60:137-144. Beers MH. *Arch Intern Med.* 1997;157:1531-1536.

Patient-specific Considerations: Older Adults

- Multiple health problems and comorbidities:
  - Degeneration of structures associated with the spine
  - Other musculoskeletal problems
  - Chronic, painful conditions
  - Depression
  - Other sequelae that lead to a decreased quality of life
- Metabolic changes
  - Leads to increased variation in distribution, bioavailability, and elimination of drugs
  - Can affect dosing
- Polypharmacy
  - Driving

Milton JC, et al. *BMJ.* 2008;336:606-609. Rogers JF, et al. *Am J Med.* 2002;113:746-750. American Geriatrics Society. *J Am Geriatr Soc.* 2002;50:S205-S224.

Follow-up Visits & Reassessment

- 2 weeks later: MJ is medically stable
- 4 weeks later: MJ has resumed gardening activities and outings with her daughter, but when her pain increased, her activities subsided
  - Pain 3-4 without added activities, 7-8 with activity. Pain reported especially in her shoulders.
- No adverse side effects of medication, no constipation
- Appears to be using medication appropriately

DECISION POINT ?

How should the treatment plan be modified at this point?

1. Switch to a long-acting opioid with a short-acting opioid for breakthrough pain
2. Add duloxetine for depression and the neuropathic component of pain
3. Initiate physical therapy for strengthening and functional restoration
4. All of the above therapy changes can be implemented at this time

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Optimizing Therapy

- Analgesic therapy changed to extended-release fentanyl patch with immediate-release oxycodone 10 mg and acetaminophen 325 mg for incident pain
- Duloxetine is added to treat depression and the neuropathic component of pain
- Physical therapy is added to improve musculoskeletal function, balance, and social interaction

Follow-up Visit & Reassessment

- 7-month follow-up visit: MJ reports her pain as 10 out of 10 by VAS
- 3 weeks prior, she had emergency surgery for a perforated ulcer after complaining of abdominal pain, blood in her vomit, and a tarry stool
- *What was the etiology of the acute abdominal bleed?* MJ reported taking 2 to 3 NSAIDs and approximately 8 extra-strength acetaminophen per day to control her arthritis pain
- MJ is self-managing her pain and has discontinued the fentanyl patch

DECISION POINT ?

What went wrong with the treatment and monitoring plan?

1. The patient should have stayed on a short-acting opioid only
2. The patient should have been regularly monitored with urine toxicity screens
3. The antidepressant agent was added too early
4. The patient was not given enough physical therapy

Use your keypad to vote now!

Treatment Plan Changes

- MJ's daughter will be involved in the treatment plan
- MJ's understanding of her treatment plan will be reassessed frequently, and she will receive further education regarding the side effects of all potential analgesics, including the safety of opioids
- Ongoing comprehensive monitoring will be implemented:
  - Urine toxicity screens
  - Asking about pain interference with pleasurable activities
  - Pain Assessment and Documentation Tool (PADT)

Katz NP, et al. *Anesth Analg.* 2003;97:1097-1102. Gourlay D, et al. Stamford, CT: PharmaCom Group, Inc.; 2004. Passik SD, et al. *Clin Ther.* 2004;26:552-561.

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Q & A

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PCE Takeaways

PCE Takeaways

- Evidence exists for the efficacy of opioids in the treatment of chronic pain
- Persistent moderate-to-severe pain, unresponsive to nonopioid analgesics and adjuvants, warrants a trial of opioids
- Opioid treatment should include setting realistic goals, a collaborative practitioner-patient relationship, patient education, ongoing documentation and reassessments, and a clearly defined exit strategy
- Appropriate use of opioids depends upon differentiating among dependence, tolerance, and addiction and identifying aberrant drug-taking behaviors
- Opioids are an essential tool in the overall treatment and management of chronic pain

KEY QUESTION ?

What medications for treating pain have the lowest physiologic patient risk profile?

1. NSAIDs
2. Acetaminophen
3. Anticonvulsants
4. Opioids
5. Antidepressants
6. Corticosteroids
7. Benzodiazepines

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