

# **A RESOURCE GUIDE FOR PALLIATIVE CARE EDUCATION**

## **Part 1: PAIN ASSESSMENT AND MANAGEMENT**

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## **PREFACE**

There is a pressing need to improve palliative care education. This guide was developed to assist medical educators implement educational programs in key palliative care learning domains. The guide is meant to highlight the topics of greatest educational need, as identified by clinicians.

## **DISCLAIMER**

The information in this book is not medical advice. Health care providers should exercise their own independent clinical judgment. Some of the information in this book cites the use of a product in dosage, for an indication, or in a manner other than that recommended in the product labeling. Accordingly, the official prescribing information should be consulted before any such product is used.

## **LEARNING FORMATS USED IN THIS GUIDE**

### **PRE-POST TESTS**

A brief test (5 minutes), (short-answers or fill in the blank) is included at the beginning of each topic domain. Answers are provided at the bottom and can be covered when copies are made for distribution. The test can be administered in one of the following ways:

- Used at the beginning of a teaching session to heighten learner awareness of the topic;
- Used at the conclusion of a teaching session for the learner and/or the teacher to gauge effectiveness of the learning experience and to demonstrate topics for further learning;
- Used at both the beginning and the end of a teaching session for the learner and/or the teacher to gauge effectiveness of the learning experience and to demonstrate topics for further learning; Note: using the same test both pre and post may create re-test bias in the responses.

### **TEACHING OUTLINES**

Each topic domain contains a brief outline containing the essential topic information. The outlines are designed as quick reference guides, suitable for distribution for different types of learning opportunities—either as stand-alone guides, or as written material to accompany an educational experience, such as:

- a didactic lecture—small or large group setting
- teaching time during ward rounds
- a faculty development course
- a self-study guide

### **CASE STUDIES**

The case study format is used to complement the content outlines to help learners:

- express their own feelings toward the attitudinal issues raised in each case (see **Discussing attitudes**, below);

- reveal deficits in knowledge;
- reinforce existing knowledge.

The cases are designed for small-group discussions, ideally no more than 12-15 participants, (e.g. ward rounds teaching time, small group conference, faculty development course). Each case can be discussed in 30-45 minutes depending upon the depth of discussion. Case studies are included in the following modules: *Pain; Dyspnea; Delirium; Nausea; Constipation, Artificial Hydration/Nutrition.*

### **SMALL GROUP WORKSHOP-Attitude Discussions**

Small groups are excellent venues to discuss attitudinal issues. To optimally explore the personal attitudes that arise in discussing end-of-life care, it is essential that the small group environment feel comfortable and safe. Have each participant introduce themselves and then set basic small group ground rules. One suggestion to help engage all participants is to break the small group into pairs; have each pair work for 5-10 minutes on the questions and then re-convene the entire group, asking each pair to report their answers to the questions. Use of a blackboard or flip-chart can be helpful in keeping track of ideas, opinions. Listed below are key teaching points concerning the subject of attitude change (1).

- Exhortation, information and rational argument have a limited role in the learning or changing of attitudes.
- Recognize that attitudes involve ego-involvement.
  - Shared group attitudes are more resistant to change
  - There must be a willingness to change
- Effective teaching capitalizes on “teachable moments” when the learner is emotionally or intellectually aroused by a question, contradiction, or problem.
- Attitudinal development is fostered in situations in which
  - concrete knowledge and skills are taught that relate to the desired attitudes;
  - the learner is able to examine personal feelings/attitudes in an open and non-threatening dialog with peers;
  - the learner can be active and can engage with others around real problems;
  - the learner has an opportunity to practice the new behavior thus making a commitment;
  - the learner has the opportunity to reflect on the meaning, difficulties and rewards of attitudinal change.
- Role-playing and role-reversal encourages the learner to take an alternative perspective and may foster an empathic awareness of the other’s experience.
- Role models and mentors are crucial to the process of learning attitudes; especially when the learner is making a transition.
- Feedback about the learners progress towards explicitly desired attitudinal objectives can help promote self-reflection and self-learning.

1. Adapted from information provided by Susan Block, MD with assistance from Luann Wilkerson, Ed.D.

### **ROLE PLAYING AND EXPERIENTIAL EXERCISES**

Role playing exercises have been designed to help practice critical end-of-life skills, to reinforce knowledge and as learner evaluation tools. The exercises can be done with dyads (doctor and patient/family) or triads (doctor, patient/family and observer/recorder). The exercise can also be used as an example—the facilitator acting as the doctor, showing “how to do it right”.

The teacher can reduce the inevitable anxiety that accompanies experiential activities such as role playing by encouraging participants to view the role play as a time for the group to experiment with various approaches to common clinical dilemmas. In the process of experimenting, the learners will discover some approaches that work well, and other approaches that are less effective.

Role playing exercises have been designed to help practice critical end-of-life skills, to reinforce knowledge and as learner evaluation tools.

# **PAIN ASSESSMENT AND MANAGEMENT**

## **LEARNING OBJECTIVES**

### **ATTITUDES**

- Self reflect on the personal meaning of pain and pain treatment.
- Understand that pain at the end-of-life can be effectively treated.
- Recognize that pain is best managed using a team approach to care.
- Understand that a complaint of “pain” may include physical, psychological and spiritual dimensions.
- Understand that drug and non-drug treatments must be individualized for every patient.
- Understand that chronic opioid therapy is not synonymous with drug addiction.

### **KNOWLEDGE**

- Identify at least two cultural barriers to pain management, e.g. meaning of pain (punishment, benefit, redemptive value), cultural values (stoicism, “no pain no gain”).
- Describe the differences and give examples of acute, chronic non-malignant and chronic malignant pain.
- Describe at five medical barriers to pain management, e.g. inappropriate linkage of prognosis with pain relief, fear of opioid side effects, fear of opioid tolerance, confusion between physical and psychological dependence, fear of regulatory agency scrutiny and sanction, fear of ethical impropriety.
- Identify three patient and family barriers to pain management, e.g. fear of disease progression, fear of drug side effects, fear of tolerance and addiction, fear of morphine.
- Identify the neuro-anatomic and clinical characteristics of the major types of pain: somatic, visceral, and neuropathic.
- Describe the World Health Organization three-step ladder for cancer pain relief. Identify at least one drug from each step including indications, pharmacology, routes of administration, and side effects.
- Describe the indications, pharmacology, side effects and costs of NSAIDs used for mild cancer pain.
- Describe the indications, pharmacology, side effects, and costs associated with morphine, hydromorphone, oxycodone, codeine, methadone, and fentanyl.
- Describe the indications, pharmacology, side effects and relative costs of oral, transdermal, intravenous, subcutaneous, intramuscular, rectal and sublingual routes of opioid administration.
- Identify the prophylactic and active treatment approaches to common opioid side effects: constipation, nausea, sedation and confusion.
- Identify two patient and two drug-specific risk factors for opioid-induced respiratory depression in a patient with pain.
- Define and distinguish opioid tolerance, physical dependence, and psychological dependence.

- Describe the indications, pharmacology, and side effects of one drug from each of the following adjuvant analgesic classes: tricyclic antidepressants, anticonvulsants, and corticosteroids.
- Describe the indications for the following psychological interventions: education, reframing, imagery, and progressive muscle relaxation.
- Describe patient cues which may signal psychological and/or spiritual pain.
- Describe consultation resources for pain problems which are difficult to manage.
- Identify federal and state regulations concerning controlled substance prescribing practices.
- Explain the medical facts and ethical arguments concerning opioid induced respiratory depression, physician-assisted suicide and euthanasia in relation to opioid analgesics.
- Identify how to distinguish between patients taking opioids for pain from those taking opioids because of psychological dependence.
- Describe the approach for treating pain in a patient with a terminal illness who is a current or former substance abuser.

## **SKILLS**

- Demonstrate communication and cognitive skills necessary to obtain a pain assessment in the following patients: adults, children, patients with cognitive impairment
- Construct a differential diagnosis for the cause of pain in three patients with cancer.
- Develop an initial and long-term treatment plan for three patients with pain and cancer. The plan should include consideration of anti-neoplastic, drug and non-drug therapies.
- Utilize skills of allied health care professionals in a collaborative effort to improve pain management.
- Demonstrate how to convert a patient's dose of oral opioids to a parenteral opioid analgesic while maintaining continuous analgesia.
- Prescribe strong opioids appropriately; dose titration orders, use of short-acting and/or long acting opioids.
- Prescribe a tricyclic antidepressant and an anticonvulsant medication as an adjuvant analgesic appropriately, including dose titration.
- Demonstrate how to assist patients who have psychological or spiritual pain as a component of their pain experience.
- Counsel a patient and family in the use of pain medicines.
- Counsel a patient who is fearful of taking opioid analgesics.

## PAIN MANAGEMENT

### PRE / POST TEST

1. List one example of each major pain type:
  - a) somatic pain: \_\_\_\_\_
  - b) visceral pain: \_\_\_\_\_
  - c) neuropathic pain: \_\_\_\_\_
2. When using opioid-non-opioid combination products, the suggested maximal daily dose of acetaminophen is: \_\_\_\_\_gms/day.
3. When pain is poorly controlled, what percentage of the original dose is used to calculate a new higher dose--
  - a) for moderate to severe pain--dose escalate by: \_\_\_\_\_%
  - b) for mild to moderate pain--dose escalate by: \_\_\_\_\_%
4. The fentanyl patch can be safely dose escalated for uncontrolled pain no more frequently that every: \_\_\_\_\_hrs.
5. 10 mg of oral morphine is equianalgesic to:
  - a) \_\_\_\_\_mg of oral hydromorphone (Dilaudid)
6. Two common side effects of opioids that typically resolve within a few days, due to the development of drug tolerance, include:
  - a)
  - b)
7. List two characteristics that define psychological dependence (aka addiction, substance use disorder):
  - a)
  - b)

### **Answers**

1. Somatic: Bone metastases; Visceral: Liver metastases with capsule distention; Neuropathic: Sciatica. 2. 4 grams; 3. 50-100% and 25-50%; 4. 72 hrs 5. 2.5 mg; 6. Sedation, nausea; 7. Use despite harm, loss of control.

## PAIN ASSESSMENT AND MANAGEMENT

### PAIN ASSESSMENT

- location, duration, temporal pattern, modifiers (better/worse)
- quality--somatic: dull/aching, well localized: fracture, bone met, muscle strain
  - visceral: dull/sharp/colicky; well localized or referred: gastritis, gallstones
  - neuropathic: burning, lancinating itching; radicular or stocking-glove distribution, numb: H. Zoster, spinal disc, diabetic neuropathy
- intensity--0-10 scale (0=no pain---10=worst possible pain)
- treatments--what has the pt. used--drug and non-drug, response to treatments
- impact of pain on life: ADL's, sleep, eating, movement, mood, work, hobbies
- review patient understanding of pain causality
- determine patient goals for pain relief (numerical 0-10, functional-sleep, moving)

### DRUG THERAPY

#### Mild Pain

O.T.C. drugs--ASA, acetaminophen, ibuprofen, naprosyn---side effect profile and cost should determine choice of drug--no clear analgesic benefit of one drug compared to another.

#### Moderate Pain

##### Single agents

- ✓✓ codeine 30 mg, 60 mg (tablet or liquid)
- ✓✓ oxycodone 5 mg (tablet or liquid)
- ✓✓ propoxyphene 65 mg
- ✓✓ tramadol 50 mg, 100 mg,

##### Combination products

- ✓✓ acet. w/codeine 30 mg, 60 mg
- ✓✓ acet. 325-500 mg or ASA 325 mg w/oxycodone 2.5-10 mg
- ✓✓ acet. 325-750 mg or ASA 500 mg w/ hydrocodone (5-10 mg)
- ✓✓ acet. w/ propoxyphene

**Potency:** oxycodone = hydrocodone > codeine = tramadol > propoxyphene

**Duration:** q3-4 for all products except tramadol (q6h)

**Cost:** generic codeine or oxycodone << hydrocodone products

**NOTE:** the acetaminophen. or ASA in combination products limits dose escalation--do not exceed 4.1 grams of acetaminophen or ASA per 24 hrs.

#### Severe Pain

##### Short-acting drugs

Oral: onset 15-30 min; peak effect 60-90 min; duration 2-4 hrs.

Parenteral: onset 2-15 min; peak effect 10-30 min; duration 1-3 hrs.

- morphine
- hydromorphone
- oxycodone
- oxymorphone (duration 4-6 hours)



- meperidine-**shortest acting--use only for procedure-related pain—duration < 3 hrs; use for < 48hrs, no more than 600 mg/24 hours due to accumulation of toxic metabolite.**

**Long-acting drugs**

- Morphine Sustained Release: peak effect ~2 hrs; duration 8-12 hrs
- Oxycodone Sustained Release: peak effect ~1-2 hrs; duration 8-12 hrs
- Oxymorphone Sustained Release peak effect ~2-3 hours; duration 12 hrs;
- *Kadian*: long-acting morphine preparation; peak effect ~8 hrs; duration 12-24 hrs
- *Avinza*: long-acting morphine preparation; peak effect ~1 hr; duration 12-24 hrs
- Transdermal Fentanyl; peak effect 18-24 hrs; duration 48-72 hrs; **NOTE:** 12-24 hours to wear-off, once a patch is removed.

**Ultra-short-acting drug:**

- Transmucosal fentanyl (*Actiq*)—for breakthrough pain, onset 5-15 min, duration 1-2 hrs
- Fentanyl Buccal (*Fentora*)—for breakthrough pain, onset 15 min, duration 1-2 hrs

**Variable-duration drugs**--continued use leads to longer duration of action (see below)

- methadone--6-12 hrs; levorphanol--4-8 hrs

**Potency Ratios (these are estimates)**

30 mg oral morphine = 20-30 mg oral oxycodone = 7.5 mg oral hydromorphone =  
 10 mg IV/SQ morphine = 2 mg IV/SQ hydromorphone

**Fentanyl patch size (ug) = 24 hour oral morphine dose divided by 2.0**

(Example: 30mg q12 morphine sustained release = 60 mg po MS/24 hrs. Thus, approximate fentanyl patch strength equivalence = 60 divided by 2 = 30 ug. Round down to 25 ug patch q 72 hours)

**NOTE:** 2 Percocet q4h = 10 mg oral morphine q4h = 30 mg morphine SR Q12 = 1 mg/hr MS cont. IV or SQ infusion = 25 ug Fentanyl patch.

**NOTE:** always calculate the equi-analgesic value when changing from one opioid to another to avoid under or over-dosing. Consider dose reduction up to 50% when changing opioid due to incomplete cross-tolerance.

**Methadone** -- Methadone has an extended terminal half-life, up to 190 hours. This half-life does not match the observed duration of analgesia (6-12 hours) after steady state is reached. ***This long half-life can lead to increased risk for sedation and respiratory depression, especially in the elderly or with rapid dose adjustments.*** Methadone's apparent potency, compared to other opioids, varies with the patient's current exposure to other opioids. Suggested Dosing Guide for Opioid Tolerant Patients (Ayonrinde, Gazelle):

<u>Daily oral morphine dose equivalents</u>	<u>Conversion ratio of oral morphine to oral methadone</u>
<100 mg	3:1 (i.e., 3 mg morphine:1 mg methadone)
101-300 mg	5:1
301-600 mg	10:1
601-800 mg	12:1
801-1000 mg	15:1
>1001 mg	20:1

**Route**

Oral is the preferred route. IV, SQ will produce equi-analgesic effects although IV will have fastest onset of action. Little if any indication for IM route. Rectal is equianalgesic to oral (approved rectal preparations include: morphine, hydromorphone. Sustained release morphine can be used rectally but is not approved for such use in the US).

### **Dose escalation / Frequency of adjustment**

Dose escalate by 50-100% for severe/uncontrolled pain; 25-50% for mild-moderate pain--irrespective of starting dose. Short-acting drugs can be dose escalated as often as every 1-2 hrs; long acting morphine/oxycodone every 24 hrs; Fentanyl Patch or methadone no more frequently than every 48-72 hrs.

### **Prescribing Recommendations**

- use PRN orders only for a) truly episodic pain and b) any pt. on a long-acting opioid needs a short acting opioid PRN for breakthrough pain;
- never order more than one PRN opioid-non-opioid combination product at one time;
- use a continuously administered opioid for continuous pain (e.g. long-acting morphine or fentanyl patch); never order more than one long-acting product at a time;
- do not use dosing modifiers (e.g. Percocet PRN *moderate* pain);
- use equianalgesic tables to calculate doses when changing drug or route;

**Note: consider 50% dose reduction when changing drug, due to incomplete cross-tolerance.**

### **Toxicity**

- Constipation--prophylaxis with bowel stimulant (senna or MOM)
- Nausea--is not an allergy--will resolve after a few doses for most patients--use an anti-emetic PRN (e.g. prochlorperazine);
- Sedation/confusion--will resolve after a few doses/days for most patients;
- Respiratory depression--very rare with short-acting oral opioids, tolerance develops rapidly--risk factors include: rapid IV push, new liver/renal dysfunction, severe lung disease, rapid dose escalation of fentanyl patch or methadone;
- Pruritus—common, especially to morphine, least reported with fentanyl—not a true allergy; not a contraindication to opioid use; H1/H2 blockers usually not helpful; switch to opioid of a different pharmacological class.
- Neurotoxicity—multifocal myoclonus, delirium, and seizures are seen with morphine or hydromorphone, especially at high doses or in renal failure.
- Prolonged QT interval: risk of Torsades with methadone

### **Tolerance/addiction**

- Tolerance--need to increase dose to get same effect; **NOTE**: tolerance does not = addiction;
- Physical Dependence--withdrawal reaction if drug discontinued or antagonist given; **NOTE**: phys. dep. does not = addiction; all patients on chronic opioids develop physical dependence;
- Psychological dependence (addiction)--overwhelming involvement with acquisition/use of drug for non-medical purposes--no improvement in QOL--best defined as “loss of control” or “use despite harm”.
- Pseudoaddiction--behaviors suggesting addiction that are due to inadequately treated pain.

### **ADJUVANT ANALGESICS**

**Anti-depressants**--all tricyclic anti-depressants have analgesic effects; start at low dose, escalate dose slowly (q2-3 days) to maximally tolerated dose—discontinue if no response w/in 1 week at maximal dose. (Note: no evidence for superior analgesia with amitriptyline, which is maximally anticholinergic – especially problematic in the elderly.) Among the SSRI/SNRI class, only SNRIs appear to have analgesic effects (Venlafaxine, Duloxetine).

**Anti-convulsants**—gabapentin or pregabalin have become quite popular due to their ease of use: no blood levels to follow, few side effects; but these products are costly. Older drugs such as phenytoin, carbamazepine, valproic acid all have demonstrated analgesic effects, but

need to be monitored carefully by blood levels. Discontinue an anti-convulsant if there is no effect at maximally tolerated doses/optimal blood levels.

**Corticosteroids**--of limited long-term use due to side effects, dosing is empiric: dexamethasone 2-8 mg/day, prednisone 20-80 mg /day.

**Systemic local anesthetics**—IV lidocaine may offer relief for refractory neuropathic pain.

**Local anesthetic**—topical lidocaine as a cream (EMLA) or patch (Lidoderm) can provide local anesthesia. The patch is approved for use in Post-Herpetic Neuralgia and used anecdotally for many other neuropathic pain conditions.

**Ketamine**—anecdotal experience suggests there is efficacy used oral or IV for neuropathic pain.

#### **NON-DRUG THERAPY**

- Physical modalities: heat, cold, massage, physical therapy, stretching, therapeutic touch, TENS, acupuncture;
- Behavioral treatments: relaxation, imagery, education, reframing, biofeedback, psychotherapy;
- Anti-Neoplastic therapies for cancer pain include external beam radiation, radiopharmaceuticals, chemotherapy, or hormonal therapy;
- **OTHER:** discussion of anesthetic/neurosurgical treatments are beyond the scope of this book.

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# DIAGNOSIS AND MANAGEMENT OF PSYCHIATRIC DISORDERS IN PATIENTS WITH PAIN.

## ***SUBSTANCE USE/ABUSE DEFINITIONS***

**Tolerance**-need to increase the amount of drug to obtain the same effect.

**Physical dependence**-development of withdrawal reaction upon discontinuation or antagonism of drug.

**Pseudoaddiction**-behavioral manifestations of addiction occurring as a result of under treated pain; typically in the setting of severe continuous pain when drugs are administered at inadequate doses at excessive dosing intervals.

**Addiction-a.k.a. psychological dependence**-overwhelming involvement in the acquisition and use of drugs for non-medical purposes. It is characterized by one or more of the following behaviors: impaired control over drug use, compulsive use, continued use despite harm, and craving. Tolerance and physical dependence may or may not be present. The presence of tolerance or physical dependence does not prove psychological dependence.

**Criteria suggesting a substance use disorder include:**

- continued use despite negative personal, medical and legal problems;
- frequent intoxication at times when one is expected to fulfill major life roles or when substance abuse is dangerous;
- much time spent in obtaining, using and thinking about drugs;
- reduction in important social, occupational or recreational activities due to substance abuse;

## ***SUBSTANCE ABUSE ASSESSMENT***

Obtain a thorough pain assessment including quantitation, quality, descriptors and impact on activities of daily living. Obtain a complete database of information relative to concerns you may have regarding addiction. Important questions related to addiction assessment include the following: (Note: Multiple clues from the following list are typically present to establish a diagnosis of substance abuse).

### **1. Treatment plan reliability**

- compliance with prescribed drugs
- follow-up with clinic visits and recommended consultations

### **2. Loss of control of drug use**

- partially used bottles of medications at home argues against addiction

### **3. Adverse life consequences**

- loss of job, marriage, children due to drugs
- legal and medical problems due to drugs

### **4. Drug-seeking behaviors**

- "lost medications"
- demands for drugs of high street value
- "allergies" to many opioids
- scripts from many MD's filled at many pharmacies, ER visits for refills

### **5. Abuse of other drugs**

- ETOH, benzodiazepines, cocaine, heroin, amphetamines

### **6. Contact with street culture**

- friends/family who are users

## **OTHER PSYCHIATRIC DISORDERS THAT OFTEN PRESENT AS PAIN**

### **1. Psychiatric co-morbidity—primary psychiatric diagnoses where pain is commonly the presenting complaint**

- depression; panic/anxiety attacks;
- physical or sexual abuse; PTSD.

### **2. Somatization disorder**

- women >> men; begins before age 30;
- history of many physical complaints including—  
    4 pain symptoms: 2 GI, 1 sexual and 1 neuro.;
- complaints either cannot be explained or seem excessive;
- symptoms are not intentional;
- patients feel “pain.

### **3. Pain Associated with Psychological Factors (old term was psychogenic pain, or somatoform disorder)**

- pain in one or more anatomic areas sufficient to seek med. attention;
- pain causes significant distress or impairment with social or occupational function;
- psychological factors have an important role in pain onset, severity and maintenance of the pain;
- symptoms are not intentional;
- patients “feel” pain.

### **4. Hypochondriasis**

- preoccupation with the belief/fear of a serious disease;
- men = women; can occur in later life;
- exaggerated sense of bodily symptoms;
- patients “feel” pain.

### **5. Factitious Disorder**

- primary gain is fulfillment of a psychological need;
- symptoms produced consciously--although motivation may be unconscious;
- purely fictitious problem or a self-created problem (e.g. insulin injection);
- very willing to undergo invasive procedures;
- improvements followed by relapse;
- patient can forecast exacerbation;
- patient resists psychiatric consult;
- poor continuity of care, multiple doctors.

### **6. Malingering (consciously motivated)**

- primary need is a secondary gain;
  - relief from noxious events: work, jail
  - narcotics to abuse or sell (income source)
- monetary award from litigation or disability;
- patients are less willing to undergo invasive procedures

## **MANAGEMENT**

- 1. Establish a diagnosis.** Do you believe the patient is suffering from a) pain due to a physical malady (e.g. bone metastases, nerve root damage, bowel obstruction); b) a psychological/psychiatric disorder; or c) spiritual (aka existential pain)? If you are not sure following completion of a routine pain assessment, complete a thorough psychiatric examination including a substance abuse assessment.

2. **Pain assessment pearls**--there is no reliable indicator of pain, therefore, autonomic signs or physical behaviors (crying, grimacing, etc.) are not useful for deciding when a patient is in pain. Similarly, complaints of pain that appear exaggerated to what we expect is "normal" for a particular condition are likely to reflect cultural differences in pain expression, pseudoaddiction, or worsening tissue damage, and thus, are not a reliable indicator of a substance abuse disorder. Placebos should be avoided as they instill mistrust and are unreliable in establishing a diagnosis of addiction or "true pain".
3. **Seek consultation**--Ask for assistance from a substance abuse/mental health professional if you are not sure of the diagnosis. Remember, a substance use disorder is a treatable condition.
4. **Patient involvement**--Involve the patient in the pain treatment plan, discuss with them what will be available and how you will respond if the pain is not adequately treated.

## 5. Pharmacological options

**Opioids:** Medications to treat pain should be prescribed in appropriate doses and intervals whether or not the patient has a substance use disorder. Restricting doses and prescribing at excessive intervals will encourage behaviors that may suggest pseudoaddiction in the pain patient.

a. choice of drug--for mild to moderate pain the use of NSAIDs, acetaminophen or weak opioid-non-opioid combinations should be used. Note that the combination products (Tylenol #3, Percocet, etc) should be prescribed q4h, not q6h. For moderate to severe pain there is no "best" opioid. However, the drug of choice for moderate to severe pain is morphine. Meperidine use should be discouraged due to its toxic metabolite and short duration of action. Prescribe opioids with a fixed dose and interval that makes pharmacological sense (ex. MS 10 mg PO q4h), using PRN dosing only if pain is truly episodic. Do not specify a wide range of doses, dosing intervals or use pain descriptors (e.g. meperidine 50-75 mg q4-6 h prn severe pain). If the patient is a known addict who also has pain it is best to avoid parenteral dosing and short-acting drugs; use long-acting oral agents when possible.

b. choice of route-- oral drugs are preferred; the IM route should be discouraged as there is no indication for this unnecessarily painful method of drug delivery.

**Non-opioids:** Many alternative drugs can be useful including NSAID's, anticonvulsants, antidepressants, etc. **Note:** The benzodiazepines (e.g. lorazepam (Ativan)) and antihistamines (e.g. Vistaril) are frequently given to patients with pain--these agents are not analgesics, they typically cause sedation but by themselves result in no significant pain relief.

5. **Utilize non-pharmacological treatments**--heat and cold application, TENS, massage, behavioral treatments and more invasive procedures such as nerve blocks or spinal opioids.
6. **Discharge planning**--the transition to the outpatient setting is typically the weakest link in patient management. All patients with frequent episodes of severe acute pain or chronic non-malignant pain, where a decision has been made for long-term chronic opioids, need careful and consistent follow-up. For patients who a known substance abuse problem or those in recovery this is especially true. General principles of management, which should be established prior to discharge, include the following:
  - a. consider using a written treatment plan (opioid contract)--this specifies the physician and patient responsibilities and consequences to the patient of non-compliance;

- b. only one designated physician should prescribe medications, using only one dispensing pharmacy;
- c. seek consultation with an addiction specialist and/or pain management specialist when appropriate;
- d. patients in recovery should be urged to re-start or increase involvement in drug abstinence programs.



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# **PAIN ASSESSMENT AND MANAGEMENT**

## **CASE STUDIES**

### **Faculty Guide**

#### **Case 1. SELECTION AND TITRATION OF OPIOIDS FOR SEVERE PAIN**

##### **Objectives**

1. List barriers to analgesic management.
2. Practice writing analgesic orders for severe pain.
3. Practice equianalgesic conversion calculations.

#### **Case 2. DIFFERENTIATING “REAL” PAIN FROM ADDICTION**

##### **Objectives**

1. Examine personal attitudes towards drug addiction and pain management.
2. Define tolerance, physical and psychological dependence (addiction).
3. Plan a pain management strategy for a patient with a history of substance abuse.

#### **Case 3. RESPIRATORY DEPRESSION**

##### **Objectives**

1. Describe patient and drug risk factors for opioid-induced respiratory depression.
2. Plan a management strategy for avoiding respiratory depression.
3. Plan a management strategy for suspected opioid-induced respiratory depression in a dying patient.
4. Explain the difference between euthanasia, physician-assisted suicide, and good pain management.

#### **Case 4. MANAGEMENT OF SEVERE MIXED SOMATIC AND NEUROPATHIC PAIN**

##### **Objectives**

1. Differentiate between somatic and neuropathic pain.
2. Describe drug and non-drug treatment strategies for somatic and neuropathic pain.
3. Develop a management plan for a common cancer-related pain syndrome.

## CASE 1. SELECTION AND TITRATION OF OPIOIDS FOR SEVERE PAIN

### Objectives

1. List barriers to analgesic management.
2. Practice writing analgesic orders for severe pain.
3. Practice equianalgesic conversion calculations.

A 50 y/o patient with metastatic breast cancer is admitted to the hospital at 1 a.m. because of severe neck pain. She is unable to move her head due to pain which has gradually worsened over two weeks. She has been taking an increasing amount of Percocet with little effect, most recently two Percocet q4h. She is seen by the on-call physician and the following orders are written. Morphine 10-15 mg PO q4-6h PRN severe pain, Tylenol #3 1-2 PO q6h PRN mild-moderate pain. Diagnostic x-rays have been ordered to evaluate for possible spinal cord compression. The next morning (8 hours after admission) she is still in severe pain, no better than she was before admission, none of the diagnostics have been done because the patient was in too much pain. You check the chart and find there have been several one-time verbal orders for IV morphine 2 mg. You discuss the situation with the current nurse who relates that during the night, the physician-on-call was reluctant to increase the medicine out of fear of respiratory depression.

### QUESTIONS:

1. List at least 4 problems with the analgesic orders as written.
2. For the drugs listed below, calculate the 24 hour dose that would be equianalgesic with 2 Percocet q4h. (Each Percocet contains 5 mg of oxycodone and 325 mg of acetaminophen.)
  - oral MSIR (morphine immediate release)
  - oral MS Extended Release
  - IV MS infusion
  - Subcutaneous MS infusion
  - oral hydromorphone
  - Transdermal fentanyl
3. What is a reasonable time frame in which to expect improved analgesia for this patient?
4. What principles would you use to decide how fast and by how much you would dose-escalate the opioid dose?
5. What would have been a better way to write the admission analgesic orders. List two sets of admitting orders, one using oral opioids, the other using parenteral opioids.

## Case 1. Faculty Guide—Case of inadequately prescribed opioids

1. Allow the participants to express their ideas about better admitting orders; when to use PRN vs. around-the-clock dosing; discuss the problems associated with the use of dosing ranges. The problems with the orders as written include a) range of doses, b) range of dosing intervals, c) PRN dosing for continuous pain, d) use of descriptors--mild, moderate, severe.
2. Equianalgesic calculations:

a) 2 Percocet q4h = 10 mg oxycodone q4h = 60 mg oxycodone/24 hours

Look up the equivalent analgesic doses of oral oxycodone and oral morphine in any current equianalgesic table: 30 mg oral oxycodone is equivalent to 20-30 mg oral morphine.

Therefore 60 mg oral oxycodone/24 hrs  $\approx$  60 mg or oral MS/24 hours

**= 10 mg MSIR q4h = 30 mg MS Ext. Release (ER) q12h**

b) Look up the equivalent analgesic doses of oral oxycodone and parenteral morphine in an equianalgesic table: 30 mg PO oxycodone is equivalent to 10 mg parenteral morphine

$$\frac{30 \text{ mg PO oxycodone}}{60 \text{ mg PO oxycodone}} = \frac{10 \text{ mg IV morphine}}{X \text{ mg IV morphine}}$$

**X = 20 mg IV morphine/24 hours or approx. 1 mg IV morphine/hr**

c) and d) Doses of subcutaneous and intravenous morphine are the same.

e) Look up the equivalent analgesic doses of oral oxycodone and oral hydromorphone in an equianalgesic table:

30 mg oral oxycodone is equivalent to 7.5 mg oral hydromorphone

$$\frac{30 \text{ mg PO oxycodone}}{60 \text{ mg PO oxycodone}} = \frac{7.5 \text{ mg PO hydromorphone}}{X \text{ mg IV morphine}}$$

**X = 15 mg PO hydromorphone/24 hours = Dilaudid 2.5 mg q 4h**

f) the manufacturer suggests that a 25 ug fentanyl patch is equivalent to 45-134 mg oral MS/24 hours. Therefore the calculated oral morphine dose of 60 mg/24 hours would suggest an equianalgesic dose of fentanyl would be 25 ug q 72 hours. A more user friendly way to convert morphine to fentanyl is:

**{ 24 hr oral morphine dose in mg/2 = Fentanyl patch size }**

3. Discuss a reasonable time frame in which to expect better analgesia: certainly within the first 1-2 hours a patient in severe pain should be at least 50% improved and have improvement in ADL's. The important point is that the dose of opioid can and should be adjusted frequently within the first few hours if pain is not quickly relieved. If rapid dose adjustments fail to make any impact then other measures will be needed.
4. As a general rule, for moderate-severe pain dose escalate by 50-100%; for mild pain increase by 25% . Always dose escalate by a percentage of the prior dose (no matter what the current basal dose is). Short acting opioids (MSIR, oxycodone, hydromorphone) can be dose escalated q1hr, while MS ER or Oxycontin q 24 hr; the Fentanyl Patch and methadone can be dose escalated no more frequently than q 72h. When IV infusions are increased, a bolus dose should be given to rapidly increase blood levels.
5. Discuss a reasonable set of admitting orders (there is no "right" answer), e.g. calculate appropriate starting doses for oral and parenteral morphine.

**Oral dosing:**

- 1) MS 20 mg PO q4h with MS 10 mg q1h PRN pain or
- 2) MS ER 60 mg q 12 with MS 10 mg q 1h PRN
- 3) Call the MD within 1 hour to report on patients condition

**IV dosing:**

- 1) MS drip 2 mg/hr after a bolus dose of 5-10 mg IV with 5 mg q 15 min PRN
- 2) Call MD with 1 hour to report on patient's condition.

## **CASE 2. DIFFERENTIATING “REAL” PAIN FROM ADDICTION**

### **Objectives**

1. Examine personal attitudes towards drug addiction and pain management.
2. Review definitions of tolerance, physical and psychological dependence (addiction).
3. Plan a pain management strategy for a patient with a history of substance abuse.

A 25 y/o man has been hospitalized for 2 weeks with newly diagnosed lymphoma. He is being treated with combination chemotherapy. Ten days after the start of chemotherapy he develops severe pain on swallowing--upper GI endoscopy reveals herpes simplex esophagitis. He is unable to eat solid foods due to the pain although he can swallow some liquids. The pain is described as "really bad" and is not relieved by acetaminophen with codeine elixir ordered q4h PRN.

The patient repeatedly asks for something for pain prior to the 4 hour dosing interval and is often seen moaning. The physician is concerned about using an opioid of greater potency or administering opioids more frequently because the patient admitted to a history of poly-drug abuse, although none in the last two years. The nurses are angry at the patient because of the repeated requests for medication and have written in the chart that the patient is drug seeking, possibly an addict.

You are asked to see the patient as a "pain consultant". After your assessment you recommend a change to Morphine Elixir 15 mg q4h around-the-clock. The resident calls you after reading your consult note and says: "I appreciate your consult but I really think this patient is drug seeking and I don't feel comfortable with your recommendations--let me think it over, I was thinking of asking a psychiatrist to see him to help with addiction management." The next day you check the chart and find that your suggestion has not been taken but the acetaminophen with codeine was discontinued in place of oxycodone/acetaminophen elixir q4 PRN. Over the next several days the patient is still complaining of pain with no new analgesic orders.

### **QUESTIONS:**

1. Put yourself in the position of the resident physician or staff nurse---what are their major concerns about providing stronger analgesics to this patient? List at least four fears/concerns.
2. Is this patient a drug addict? List criteria you would use to decide that the patient was drug seeking for illicit or euphoric purposes rather than for relief of pain?

3. As the pain consultant what would you? What arguments or educational techniques could you use to help convince the resident to follow your recommendations?

## Case 2. Faculty Guide Pain vs. Addiction

The primary goals of this case are to have participants discuss their own feelings about psychological dependence as a barrier to the prescribing of opioids and to better understand the fears/concerns of their colleagues.

First it will be important to determine that the participants know the meaning of the terms tolerance, physical and psychological dependence (addiction) and then to determine how their concerns about these phenomena affect prescribing, dispensing or administering.

### Questions:

1. common fears that will likely be discussed (if not you should discuss them):
  - ✓✓ fear of making the patient an addict
  - ✓✓ fear of loss of control as the health care provider; fear of being duped
  - ✓✓ fear of malpractice--if patient sues you for making him an addict
  - ✓✓ fear of regulatory review--DEA
  - ✓✓ fear of respiratory depressions
  - ✓✓ fear of negative sanctions by colleagues or hospital
  
2. make a list on the flip-chart that participants come up with as possible criteria for drug addiction--it will likely look something like this:
  - a) body language
  - b) facial grimacing
  - c) clock watching
  - d) demanding behavior
  - e) finding used syringes/needles in the room
  - f) being overly sedated after "friends" visit
  - g) any past history of drug abuse
  - h) asking or demanding specific drugs
  - i) having drug allergies to many opioids (typically to morphine but not to Dilaudid or Demerol)
  - j) admitting to living in an environment where family/friends are actively using drugs

Discuss that items a-d are consistent with either true addiction or pseudoaddiction there is no way to differentiate without further information or a trial of better pain relief. Items e-f are pretty good indicators of true addiction, esp. e). Items h) , i) and j) are suggestive but not diagnostic, item g) only indicates past history but says nothing about the present.

The total pattern of behavior and current and past history is necessary to make the diagnosis of substance abuse. Ensure that everyone understands the definitions and differences between tolerance, physical and psychological



dependence (addiction); if needed, review the DSM IV criteria for substance abuse/substance dependence and pain disorders.

3. Discuss techniques for dealing with reluctant clinicians:

assessment--improve the assessment process so that patients are participating more in their care, review in greater depth the history of drug abuse, any history of drug abuse treatment, and explore patient concerns re: drug use.

reverse role-playing--have one team member play the patient and ask his/her response (what would you do) to inadequate treatment of severe pain.

provide positive information to clinicians--make sure they understand what addiction is and is not; make sure they understand the consequences of untreated pain--provide resource material.

cognitive therapy--have clinicians discuss the worst possible consequences to providing more analgesics--malpractice, respiratory depression, negative sanctions by colleagues or state regulatory authorities and allow them to understand that their fears are generally not based in reality (however, in some states the threat of regulatory scrutiny is real--this issue should not be dismissed lightly).

patient involvement--make sure everyone understands that the patient should be included when establishing a care plan.

### **CASE 3. RESPIRATORY DEPRESSION**

#### **Objectives**

1. Describe patient and drug risk factors for opioid-induced respiratory depression.
2. Plan a management strategy for avoiding respiratory depression.
3. Plan a management strategy for suspected opioid-induced respiratory depression in a dying patient.
4. Explain the difference between euthanasia, physician-assisted suicide and good pain management.

A 76 y/o man is in a home hospice program with end stage metastatic prostate cancer and severe COPD. He complains of back pain secondary to multiple bone metastases. He rates the pain at 9/10, severely limiting his movement. The pain is poorly relieved by 120 mg q8h of Morphine ER and ibuprofen 600 mg q6h. The patient understands his condition is "terminal" and wants maximal pain relief. He does not wish to return to the hospital for any further tests or procedures since he has already had maximal doses of radiation, <sup>89</sup>Strontium, and hormonal therapy.

The home hospice nurse contacts the primary physician and asks to have the dose of opioid increased, the physician agrees--the new order is for Morphine ER 150 mg q8 with MSIR 15 mg q4 for breakthrough pain. Two days later the nurse calls the physician saying that the increased dose has not reduced the severity of pain and the dose of breakthrough MS is not effective either. The nurse suggests increasing the Morphine ER to 300 mg q8h. The physician explains to the nurse that due to COPD the patient is at great risk for opioid-induced respiratory depression and that other, non-opioid, analgesic modalities should be tried rather than increasing the morphine.

#### **QUESTIONS:**

1. What are the patient and drug risk factors for respiratory depression?
2. If the patient's respiratory rate dropped to 6-8 breaths/min while he was asleep what would you do?
3. What would be your legal liability if this patient died soon after a dose of morphine? Would this be euthanasia?

### Case 3. Faculty Guide Respiratory depression

1. Tolerance develops rapidly to the CNS depressant effects of opioids. Risk factors for respiratory depression include: rapid dose escalation, particularly of methadone, fentanyl patch or levorphanol, rapid bolus IV dosing, severe lung disease, or new liver or renal dysfunction.
2. A falling respiratory rate is normal when patients receive opioids, especially while sleeping. The first step in management is to assess level of consciousness. If the patient is not arousable, and it makes sense given the clinical circumstance (i.e. not imminently dying an expected death, Narcan can be administered by IV bolus or by slow IV infusion (dilute one amp in 10 cc of saline, give 1 cc every 60 seconds until level of consciousness increases). The latter is generally preferred in non-emergency situations, as a slow infusion can reverse opioid effects in a step-wise fashion--(coma → sleep → awake with analgesia)—without inducing opioid withdrawal and severe pain.
3. Discuss concerns about a patient dying while receiving morphine: there is nothing ethically or legally inappropriate about a patient dying on a morphine infusion, or after a bolus dose, as long as the *intent* was to relieve pain. However, death directly attributable to opioid-induced respiratory depression should occur very rarely.

#### Definitions

*Euthanasia*—intentionally causing the death of a patient through the direct administration of a drug or device with the intention of causing death.

*Physician-Assisted suicide*—providing the patient with a means to end their life (typically giving the patient a prescription for a lethal dose of a medication, to take at the time/place of their choosing).

*Good pain management*—providing sufficient medication with the intent to relieve suffering; the risk of iatrogenic respiratory depression when managed carefully is extremely small, even shortly before death.

**Reference:** Fohr S. The double effect of pain medication: separating myth from reality. *J Pall Med* 1998; 1:315-328.

## **CASE 4. MANAGEMENT OF SEVERE MIXED SOMATIC AND NEUROPATHIC PAIN**

### **Objectives**

1. Differentiate between somatic and neuropathic pain.
2. Describe drug and non-drug treatment strategies for somatic and neuropathic pain.
3. Develop a management plan for a common cancer-related pain syndrome.

A 50 year old man with squamous cell lung cancer develops progressive right-sided pelvic pain in the region of known pelvic metastases. He describes dull-aching pain rated at 8/10 in the lateral pelvis and sharp shooting pain that radiates down the right leg. The pain limits mobility and awakens him from sleep. He has no focal motor or sensory deficits. An X-ray shows a large lytic metastasis in the lateral pelvis. He is referred to a radiation oncologist who recommends a course of palliative XRT at 300 cGy per day for 10 days (total dose 3000 cGy).

The patient has been taking MS-immediate release, 30 mg every 4 hours, which worked until the past week. He currently takes this dose every 4 hours but his pain only decreases from 8/10 to 6/10 for 1-2 hours at best.

### **QUESTIONS:**

1. Classify this patient's pain type.
2. How soon should analgesia begin from the XRT?
3. When would you expect the maximal benefit from the XRT?
4. How would you change his opioid prescription to provide better analgesia? List three alternative strategies: drug, dose and dosing intervals.
5. If you decide to use an anti-depressant as an adjuvant, what drug and dose would you start with? How fast would you escalate the dose and what end-point would you use to decide if the drug is not effective and should be stopped?
6. If you decide to use an anti-convulsant as an adjuvant, what drug and dose would you start with? How fast would you escalate the dose and what end-point would you use to decide if the drug is not effective and should be stopped?
7. What other adjuvant drugs might you consider? In what dose and schedule?
8. How would you integrate behavioral treatments into the pain management strategy?
9. If oral drug therapy and radiation therapy fail to control his pain, what other strategies could you use? List three in order of preference.

#### Case 4. Faculty Guide

1. Pain type - mixed, both somatic and neuropathic
- 2-3. Analgesia typically begins within a few days, maximal analgesia 2-4 weeks after the completion of XRT.
4. Multiple options: current dose of 30 mg q4 (180 mg/day) should be increased by 50-100%
  - a) increase to MSIR 45-60 mg q4h scheduled; plus same dose q 1-2 h PRN breakthrough pain;
  - b) start MS ER at 150 q12h plus breakthrough MSIR at 45-60 mg q1-2 h;
  - c) start fentanyl patch -  $\frac{1}{2}$  the oral MS 24 hours dose (300 mg/2) = 150ug Fentanyl Patch with MSIR 45-60 mg q 1-2 h for breakthrough pain;
5. Start at 25 mg of Elavil, increase by 25 mg every three days to target dose of 150 mg, if no response in 7 days at that dose then discontinue.
6. Start Gabapentin (Neurontin 300 mg qhs—rapidly dose escalate up to 2400 mg (or higher) as needed, in divided doses.
7. NSAIDs, alternative anti-depressants or anti-convulsants; steroids.
8. Offer training in relaxation techniques or imagery ASAP if patient is interested.
9. Depends on which of the pains is still a problem: the dull aching somatic pain or shooting neuropathic pain;

for somatic pain, options include:

- ✓✓ Strontium-89 or Samarium-153
- ✓✓ epidural infusion of opioid +/- local anesthetic
- ✓✓ spinal neurolytic block

for neuropathic pain options include:

- ✓✓ epidural infusion of opioids +/- local anesthetics
- ✓✓ spinal neurolytic block
- ✓✓ cordotomy

## **PAIN ASSESSMENT**

### **ROLE PLAY EXERCISE - FACULTY GUIDE**

1. Review and discuss the **Pain Management** teaching outline.
2. Ask students to form pairs and distribute the role playing exercise.
3. Students should spend 5-7 minutes role-playing. The "patient" and "physician" should then independently complete an evaluation form and discuss their impressions of the interview. If there is time, have the students switch partners and change roles so everyone has the opportunity to role-play the "physician".
4. Debrief the experience with the entire group--good points, bad points, what worked well, what was less effective, what did they learn that they would apply in their work, etc.
5. You may choose to demonstrate your technique at this type of discussion using the case and choosing one student to play the role of the patient.

### **CASE BLUEPRINT**

**Purpose of Case:** Complete a verbal pain assessment

**Training Level:** Medical students, post-graduate trainee, or faculty

**Simulated patient name:** Mr./Mrs. Smith

**Diagnosis:** Pain, possibly cancer-related

**Setting:** Hospital room

**Time allotted:** 7 minutes

## **PATIENT PROFILE**

### **MEDICAL HISTORY**

You are Mr. Smith, a 35 y/o admitted to the hospital because of severe back pain. You describe the pain as a constant dull aching pain over the mid to lower spine. You occasionally have shooting pain down your left leg. You hurt more if you stand. You have had the pain for 3-4 weeks but it became more severe in the last week. It is now a "10" on a 0-10 point scale. You have not been able to get out of bed the past two days except to go the bathroom. Your left leg feels a little weak, but you have not fallen.

You have been taking Percocet, 2 tabs, off and on when the pain "gets really bad" - about 4-5 times a day for the last 2 days. The Percocet takes your pain partially away (to a 7/10) for about an hour - it takes an hour for you to notice that it has started working at all. You hate taking pills so you are hoping that the physicians can do something to take the pain away. A heating pad has been helpful when the pain gets severe.

You had a localized melanoma removed from your thigh one year ago—you were told "we got it all". You have been working full time since then but have missed the last week of work because of the pain. The pain wakes you at night when you try to turn over in bed. You haven't had much appetite - you think that's because of the pain pills.

You live with your spouse. This is a very scary experience for you. You are beginning to wonder if it is "all in your head", or if it could be related to the melanoma.

You are in the hospital to find out what's going on and to get help with your pain. You would like to have your pain controlled enough so that you can sleep and go back to work. Your pain relief goal is improved mobility.

### **SOCIAL/FAMILY HISTORY**

You are married and have 2 children, age 4 and 8. You work as a real estate agent. Your parents are alive and well, you have no siblings; you do not smoke or drink alcohol.

### **SETTING**

You are in a hospital room sitting in a chair next to your bed. You should appear mildly anxious and uncomfortable, rubbing your back and leg frequently.

### **TASK**

Your partner, in the role of a physician, will perform a verbal pain assessment.

## **INFORMATION FOR PHYSICIAN**

### **MEDICAL HISTORY**

You are a physician caring for a 35 y/o, Mr./Mrs. Smith, admitted to the hospital with increasingly debilitating back pain of unclear etiology. You prescribed Percocet last week when he first called your office about the pain. Today he called saying his Left leg was weak--you arranged for a direct admission to the hospital.

The patient has a history of localized melanoma one year ago, no evidence of local-regional or distant metastases.

### **SETTING**

You are seeing the patient in the inpatient hospital room. The patient will be seated in a chair.

### **TASK**

Complete a verbal pain assessment.



## PAIN ASSESSMENT LEARNER ASSESSMENT FORM

Check off the items completed during the pain assessment interview.

- Pain quality
- Pain location
- Pain temporal pattern/duration
- Exacerbating/relieving activities
- Analgesic history
- Other strategies that help
- Impact on sleep/rest
- Emotional state
- Support systems
- Pt. asked to name goal of pain relief <sup>1</sup>
- Pt. asked what they believe pain is from

**Overall Impression—was the physician able to perform an adequate verbal pain assessment?**

**YES or NO, needs more training**

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<sup>1</sup> Either numerical goal (0-10 scale) or functional goal (improved sleep).