Opioids in the Acute Care Setting: Safety is Within Our Reach

Opioids in the Acute Care Setting: Safety is Within Our Reach

This non-accredited webinar is sponsored by Fresenius Kabi.

Matthew Grissinger, RPh, FISMP, FASCP
Director of Error Reporting Programs
Institute for Safe Medication Practices

Maria Foy, PharmD, BCPS, CPE
Patient Care Coordinator, Palliative Care
Department of Pharmacy
Abington Memorial Hospital

Objectives

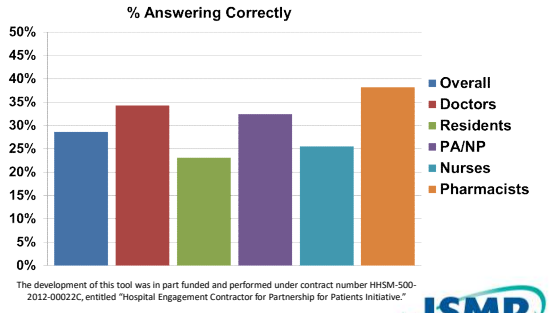
- Identify system-based causes of medication errors associated with the use of opioids.
- Describe methods to identify risk associated with the use of opioids in their organization.
- Prioritize strategies and actions to prevent harm and improve opioid therapy for effective pain management.
- Select appropriate opioid therapy for severe pain based on chronicity/source of pain and co-morbid medical conditions.

Contributing Factors Not Identified through Voluntary Reporting

- Prescribing
  - Lack of knowledge about equianalgesic potency among opioids
  - Improper prescribing – multiple opioids, with multiple doses, via multiple routes, long acting products
  - Order sets listing multiple opioids
  - Failure to consider patient information
    - Age, co-morbidities, renal status, opioid status, incomplete reconciliation process

Opioids in the Acute Care Setting: Safety is Within Our Reach

HAP PA-HEN Knowledge Assessment



The development of this tool was in part funded and performed under contract number HHSM-500-2012-00022C, entitled "Hospital Engagement Contractor for Partnership for Patients Initiative."

4

ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

HAP PA-HEN Organization Assessment

#	Item	Asthma/ COPD	Sleep Apnea	Opioid Status
7	Patients are screened for the following elements which might affect the dose, monitoring parameters, or appropriateness of opioid use.	35%	29%	47%
36	Patients are screened for the following elements which might affect the dose, monitoring parameters, or appropriateness of PCA use.	25%	25%	31%

The development of this tool was in part funded and performed under contract number HHSM-500-2012-00022C, entitled "Hospital Engagement Contractor for Partnership for Patients Initiative."

5

ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

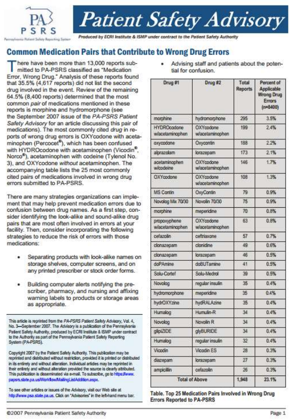
Contributing Factors Not Identified through Voluntary Reporting

- Dispensing
  - Look-alike drug packaging and labeling
  - Distribution of a unfamiliar product, concentration, or vial size
  - Pharmacy information systems that do not alert the provider against higher doses/frequencies
  - Access to opioid status

6

ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Opioids in the Acute Care Setting: Safety is Within Our Reach



PA PSRS

Pennsylvania Patient Safety Reporting System

Patient Safety Advisory

Produced by ECRI Institute & ISMP under contract to the Patient Safety Authority

Common Medication Pairs that Contribute to Wrong Drug Errors

There have been more than 13,000 reports submitted to PA-PSRS classified as "Medication Error, Wrong Drug." Analysis of these reports found that 35.5% (4,617 reports) did not list the second drug involved in the event. Review of the remaining 64.5% (8,400 reports) determined that the most common *pair* of medications mentioned in these reports is morphine and hydromorphone (see the September 2007 issue of the *PA-PSRS Patient Safety Advisory* for an article discussing this pair of medications). The most commonly cited *drug* in reports of wrong drug errors is OXYcodone with acetaminophen (Percocet®), which has been confused with HYDROcodone with acetaminophen (Vicodin®, Norco®), acetaminophen with codeine (Tylenol No. 3), and OXYcodone *without* acetaminophen. The accompanying table lists the 25 most commonly cited pairs of medications involved in wrong drug errors submitted to PA-PSRS.

There are many strategies organizations can implement that may help prevent medication errors due to confusion between drug names. As a first step, consider identifying the look-alike and sound-alike drug pairs that are most often involved in errors at your facility. Then, consider incorporating the following strategies to reduce the risk of errors with those medications:

- Separating products with look-alike names on storage shelves, computer screens, and on any printed prescriber or stock order forms.
- Building computer alerts notifying the prescriber, pharmacy, and nursing and affixing warning labels to products or storage areas as appropriate.
- Advising staff and patients about the potential for confusion.

Drug #1	Drug #2	Total Reports	Percent of Applicable Wrong Drug Errors (n=8400)
morphine	hydromorphone	295	3.5%
HYDROcodone w/acetaminophen	OXYcodone w/acetaminophen	199	2.4%
oxycodone	Oxycontin	188	2.2%
alprazolam	lorazepam	173	2.1%
acetaminophen w/codeine	OXYcodone w/acetaminophen	146	1.7%
OXYcodone	OXYcodone w/acetaminophen	108	1.3%
MS Contin	OxyContin	79	0.9%
Novolog Mix 70/30	Novolin 70/30	75	0.9%
morphine	meperidine	70	0.8%
propoxyphene w/acetaminophen	OXYcodone w/acetaminophen	63	0.8%
cefazolin	ceftriaxone	57	0.7%
clonazepam	clonidine	49	0.6%
clonazepam	lorazepam	46	0.5%
doPAmine	doBUTamine	41	0.5%
Solu-Cortef	Solu-Medrol	39	0.5%
Novolog	regular insulin	35	0.4%
hydromorphone	meperidine	35	0.4%
hydrOXYzine	hydRALAzine	35	0.4%
Humalog	Humulin-R	34	0.4%
Novolog	Novolin R	34	0.4%
glipiZIDE	glyBURIDE	34	0.4%
Humalog	regular insulin	32	0.4%
Vicodin	Vicodin ES	28	0.3%
diazepam	lorazepam	27	0.3%
ampicillin	cefazolin	26	0.3%
Total of Above		1,948	23.1%

Table. Top 25 Medication Pairs Involved in Wrong Drug Errors Reported to PA-PSRS

This article is reprinted from the *PA-PSRS Patient Safety Advisory*, Vol. 4, No. 3—September 2007. The *Advisory* is a publication of the Pennsylvania Patient Safety Authority, produced by ECRI Institute & ISMP under contract to the Authority as part of the Pennsylvania Patient Safety Reporting System (PA-PSRS).

To see other articles or issues of the *Advisory*, visit our Web site at http://www.psa.state.pa.us. Click on "Advisories" in the left-hand menu bar.

Page 1

PA Patient Safety Authority. Common Medication Pairs that Contribute to Wrong Drug Errors. PA PSRS Patient Saf Advis. 2007; 4(3):69-108.

ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Contributing Factors Not Identified through Voluntary Reporting

- Administration
  - Pain management guidelines or policies are ambiguous
  - Concentrated opioid solutions (oral, injectable) available in the clinical areas
  - Knowledge of equianalgesic dosing; unclear references for dose limits
  - Drug name confusion
  - Lack of use of smart pumps and drug libraries with hard stops for PCA use

 9

ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

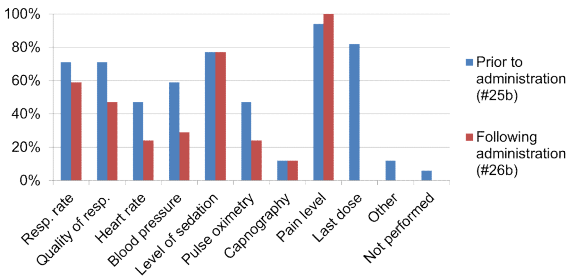
Opioids in the Acute Care Setting: Safety is Within Our Reach

Contributing Factors Not Identified through Voluntary Reporting

- Monitoring
  - Variability in the frequency of re-assessment
  - Staff competency with assessment parameters
  - Limited equipment availability and functionality
  - Location of patient
  - Lack of structured handoffs between departments
  - Patient discharge after HYDROmorphone administration before monitoring is complete

ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Assessments Performed by Nurses Prior to and Following Administration of Parenteral Opioids



The development of this tool was in part funded and performed under contract number HHSM-500-2012-00022C, entitled "Hospital Engagement Contractor for Partnership for Patients Initiative."

11

ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Pennsylvania Patient Safety Advisory

Adverse Drug Events with HYDROmorphone: How Preventable are They?

ABSTRACT

Introduction

PA Patient Safety Authority. Adverse Drug Events with HYDROmorphone: How Preventable are They? Pa Patient Saf Advis 2010 Sep;7[3]:69-75

12

ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Opioids in the Acute Care Setting: Safety is Within Our Reach

Table 1. Predominant Medication Error Event Types Associated with the Use of HYDROmorphone (n = 1,135, 67%), January 2008 to October 2009

EVENT TYPE	NUMBER	% OF TOTAL REPORTS (N = 1,694)
Wrong dose/overdosage	287	16.9%
Wrong drug	185	10.9
Monitoring error/ documented allergy	137	8.1
Wrong route	131	7.7
Wrong dose/underdosage	106	6.3
Other (specify)	289	17.1

Pennsylvania Patient Safety Reporting System. *PA PSRS Patient Saf Advis.* 2010;7(3):69-75.

13

ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Table 2. Predominant Medications Associated with Wrong Drug Errors involving HYDROmorphone (n = 146, 78.9%), January 2008 to October 2009

MEDICATION PRESCRIBED	MEDICATION ADMINISTERED	NUMBER	% OF TOTAL REPORTS (N = 185)
HYDROmorphone	morphine	66	35.7%
morphine	HYDROmorphone	63	34.1
HYDROmorphone	lorazepam	6	3.2
HYDROmorphone	meperidine	6	3.2
oxycodone	HYDROmorphone	5	2.7

Pennsylvania Patient Safety Reporting System. *PA PSRS Patient Saf Advis.* 2010;7(3):69-75.

14

ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Adverse Drug Reaction (ADR) Reports Mentioning HYDROmorphone

- Analysts reviewed ADR reports submitted to the Authority to determine if there were cases that may have been preventable
  - i.e., due to an excess dose of HYDROmorphone
- There were 937 ADR reports submitted to the Authority between June 2004 and October 2009.
  - Almost 90% (n = 842) of the ADR reports discussed events that were considered to have *not* harmed patients

Pennsylvania Patient Safety Reporting System. *PA PSRS Patient Saf Advis.* 2010;7(3):69-75.

15

ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Opioids in the Acute Care Setting: Safety is Within Our Reach

Table 3. Predominant Adverse Drug Reaction Categories Associated with the Use of HYDROmorphone, June 2004 to October 2009

EVENT TYPE	NUMBER	% OF TOTAL REPORTS (N = 937)
Central nervous system and/or respiratory depression	449	47.9
Allergic reactions	361	38.5
Nausea/vomiting	39	4.2
Unknown/reaction not specified	34	3.6

Pennsylvania Patient Safety Reporting System. *PA PSRS Patient Saf Advis.* 2010;7(3):69-75.

ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

ADR Reports Mentioning HYDROmorphone

- Evaluated CNS/respiratory depression reports for preventability
  - Adult patient received > 1mg of HYDROmorphone
  - Elderly patient received 1 mg or more
  - Patient received multiple medications with sedative properties
  - Contraindications, i.e., sleep apnea
- Of the reported CNS and respiratory adverse reactions, **65%** (n=292) appear to have been preventable events

Pennsylvania Patient Safety Reporting System. *PA PSRS Patient Saf Advis.* 2010;7(3):69-75.

17

ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Examples of "Preventable" ADR Reports

- An adult patient was admitted with abdominal pain and received
  - Demerol® (meperidine) 25 mg IV push at noon and 1 p.m., followed by
  - Dilaudid 2 mg IV push at 2 p.m., 3 p.m., 4 p.m., and 6 p.m.
- At 7 p.m., the patient was found with shallow respirations and was difficult to arouse
- The patient responded to Narcan, and the orders were changed to Dilaudid 1 mg IV every 2 hours prn

Pennsylvania Patient Safety Reporting System. *PA PSRS Patient Saf Advis.* 2010;7(3):69-75.

ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Opioids in the Acute Care Setting: Safety is Within Our Reach

Recommendations

- Strategies can be employed to address the problems with HYDROmorphone m1
  - Appropriate patient assessment
  - Establish internal guidelines/resources for the safe use of HYDROmorphone
  - Support safe communication of drug information
  - Place barriers around distribution and drug selection
  - Enhance differentiation of HYDROmorphone from other opioids

Recommendations

- Employ technology and manual redundancies as appropriate
- Provide resources and expectations for appropriate monitoring
- Create policies, required education on equianalgesic dosing, creating critical awareness of the issues with HYDROmorphone MF1
- Identify risks associated with opioids in your organization
- Use metrics to evaluate the reliability of processes and success with any changes

Identifying Risk with Opioids

- What internal methods are being used to identify the problem?
  - Voluntary error reports; sentinel events
  - Reported adverse drug reactions
  - Pharmacy interventions
  - Use of triggers
  - Rapid response team information
  - Data from technology
  - Fall data
  - External sources of information

Slide 19

m1 AND OTHER OPIOIDS??
mfoy, 6/29/2017

Slide 20

MF1 Do you want to add "and other opioiods" just so it doesnt look like you're just focosing on hm
Maria Foy, 6/25/2017

Opioids in the Acute Care Setting: Safety is Within Our Reach

Safe Prescribing of Opioids

Maria Foy, PharmD, BCPS, CPE
Pharmacy Care Coordinator, Palliative Care
Abington Hospital Jefferson Health
Maria.foy@jefferson.edu

22
ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Pain and Opioid Prescribing

- Approximately 116 million people are affected by pain each year
- Increase in prescribing of opioids has fostered an opioid epidemic
  - Opioid prescribing increased four-fold since late 1990's
  - Opioid deaths have matched increase in prescribing
  - Diversion and improper use contributing to the crisis
  - OPIOIPHOBIA becoming common
    - Fear and bias regarding opioid prescribing and use

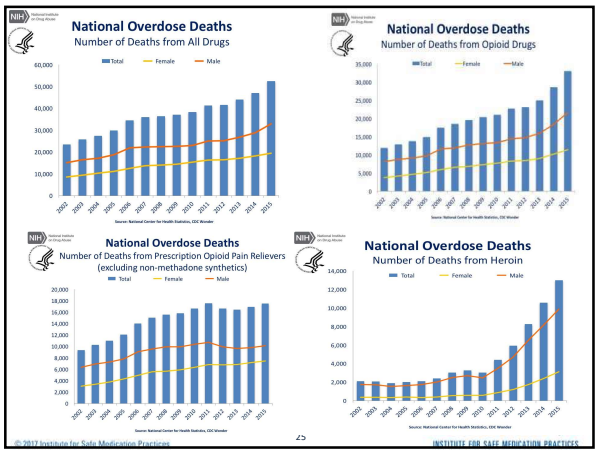
23
ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

The Pendulum is Swinging

- Number of patients in pain remain high despite increased opioid use
- As opioid prescriptions increased, so did inappropriate use
  - Of the 34000 opioid deaths in 2013, 37% were from prescription medications
  - Approximately 19% of deaths were due to heroin
- The number of opioid related deaths (including heroin) have quadrupled in last 15 years

24
ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Opioids in the Acute Care Setting: Safety is Within Our Reach



Proposed TJC Standards: Medical Staff and Hospital

- Active involvement in pain assessment, management, and safety of prescribing opioids
- Criteria defined to screen, assess, and reassess pain based on patient specific factors
- Screening during ER visit and at admission
- Involvement of the patient by communicating realistic expectations, objectives of treatment, treatment options, safe use
- Monitor for high risk patients for adverse reactions
- Education of patient and family at discharge on plan, side effect management, ADL's, and storage issues

26
ISMP
INSTITUTE FOR SAFE MEDICATION PRACTICES

Proposed TJC Changes: Leadership

- New standards in effect January 2018
- Pain management recommended to be an institutional priority
  - Monitoring of performance improvement activities
  - Provide educational resources and programs
  - Resources available for complex patients
  - Facilitates access to PDMP
  - ID treatment programs for needed referrals

27
ISMP
INSTITUTE FOR SAFE MEDICATION PRACTICES

Opioids in the Acute Care Setting: Safety is Within Our Reach

Polling Question

- True or False
  - The majority of opioid deaths are in patients prescribed opioids.

28
ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Creating a Safe Pain Management Strategy

- Patients in pain deserve treatment, even those with current or history of substance use disorder (SUD)
- Comprehensive SUD risk assessment needed
  - Identify risks for substance use disorder
- Develop treatment program based on risk
- Multi-modal treatment needed for chronic pain
  - Use of non-opioid analgesics
  - Use of complimentary therapies
  - Increase monitoring if opioids indicated

29
ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Polling Question

- What is the first step in assessing pain?
  1. Perform a urinary toxicology screen
  2. Complete a pain assessment
  3. Obtain CT imaging
  4. Order blood work to rule out infection

30
ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Opioids in the Acute Care Setting: Safety is Within Our Reach

Risk Mitigation Strategies

- Screen patients for addiction risks
  - Opioid risk tool (ORT)
  - Screener and Opioid Assessment for Patients with Pain (SOAPP and SOAPP-Rev)
- Prescription Drug Monitoring Program (PDMP) data review
- Random urine drug screening
- Treatment agreements

Risk Factors for SUD

- Family history of inappropriate substance use
- Personal history of addiction or "chemical coping" behaviors
  - All patients with SUD are "chemical copers"
  - BUT…not all chemical copers suffer from SUD
- Current inappropriate substance use can increase future risk
  - Excessive alcohol use
  - Cigarette smoking

Multimodal Interventions

- Utilization for more than one treatment approach for pain management
  - Pharmacologic
  - Non-pharmacologic
  - Interventional
  - Complimentary
  - Psychological

- Multimodal medication treatment approach utilizes therapies based on targeted areas along the pain pathway

Opioids in the Acute Care Setting: Safety is Within Our Reach

Treatment Characteristics

	ADVANTAGES	DISADVANTAGES
Acetaminophen	Recommended for mild pain Minimal side effects Part of multimodal therapy	Can cause liver damage In many OTC's – can easily unknowingly exceed ceiling dose
NSAIDS	Recommended for mild, inflammatory pain Good for bone metastasis, sickle cell pain Part of multimodal therapy	Can precipitate acute renal failure Risk of gastrointestinal bleed Dosage ceiling
Tramadol	Recommended for moderate pain, neuropathic pain Many drug-drug interactions	Many drug interactions Adverse reactions common
Opioids – pure mu agonists	Recommended for severe pain	Lack of understanding of different potencies ADR's common Hyperalgesia development
Tapentadol	Recommended for severe pain, neuropathic pain	Ceiling dose New medication Expensive

Polling Question

- True or False
  - Every opioid will effect everyone the same way and will provide equivalent levels of pain control among different individuals

35
ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Safe Opioid Use for Acute Pain

OPIOIDS FOR PAIN — Be smart. Be safe. Be sure.
A Public Health Advocacy Program from the Pennsylvania Medical Society

- Assess opioid tolerance status
- Understand opioid equivalencies
- Be aware of options that should not be used for acute pain without specialist approval
  - Fentanyl patch
  - Methadone
- Highest risk for OD is during the 24 hours after surgery
  - Understand risk factors for respiratory depression
  - Assess for both pain and sedation

36
ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Opioids in the Acute Care Setting: Safety is Within Our Reach

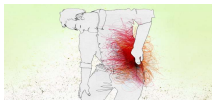
Prescribing Opioids

- Pain management needs individualization!
  - Opioids are NOT a one size fits all therapy
- Treatment selection for severe pain based on
  - Chronicity of pain
  - Pain source
    - In absence of physical findings, consider central sensitization
  - Co-morbid medical conditions
    - Respiratory, renal, liver issues
    - Anxiety, depression, PTSD
    - Opioid naïve vs. tolerant

37
ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Patient Characteristics

- History and physical
  - Establish a diagnosis
- Age
- Evaluate risk for substance abuse
- Check for co-morbidities that may affect choice and dosing
- Past opioid use
  - Evaluate for response to codeine, if previously used



38
ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Additional Considerations

- Type of pain
  - Neuropathic pain responds better to co-analgesics
    - Antidepressants
    - Anticonvulsants
    - Topical products
- Chronicity: acute vs. chronic pain
- Cancer vs. non cancer pain
- Caution with opioid use in non-cancer pain
  - Improvement of function is the goal
  - Assess co-morbidities and risk of abuse

39
ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Opioids in the Acute Care Setting: Safety is Within Our Reach

Opioid Choice Considerations

- Codeine and morphine should be avoided in severe kidney disease
  - Accumulation of metabolites can cause toxicity
- Fentanyl drug of choice for patients with severe renal/liver disease
  - Fentanyl PCA often restricted or not available
- Methadone good option in renal disease
  - Dosing is complicated – specialist initiation and monitoring needed
- Hydromorphone/oxycodone relatively safe in renal disease
- Caution with ER medications in end stage liver disease

ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Is Morphine for Everyone?

Positives	Negatives
• Ability to control intense pain and suffering •Most studied • Inexpensive • Many formulations • Good choice for shortness of breath at end of life	• Not recommended in renal failure due to toxic metabolites • Most histamine release • Possibly higher incidence of GI related adverse reactions • Addiction potential •Delayed plasma response an issue with titration for acute pain – stacking may occur

ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Is Hydromorphone for Anyone?

Positives	Negatives
• More potent than morphine • Quicker distribution into plasma and BBB than with morphine • Better for acute pain titration as plasma response is not delayed • Safer than morphine in dialysis dependent renal failure, but may be neurotoxic in acute renal failure	• Neuro-excitatory effects are increased with higher dosing, seen with end stage disease • Potency often mistaken as equivalence with morphine, potentially causing an overdose situation

ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Opioids in the Acute Care Setting: Safety is Within Our Reach

Is Fentanyl Safe?

- Fentanyl is 100 x stronger than morphine
- Drug of choice in renal and liver failure
  - Only available as transmucosal formulation for cancer pain
  - REMS requirement prior to prescribing
- Often restricted to practitioners familiar with use
  - Dosed in mcg – errors in conversions seen
  - Patch recommended only in opioid tolerant* patients
    - Not indicated for acute pain
    - Delayed onset (12-16 hrs) with patch
    - Delayed offset can be problematic with overdose

* 7/12/17- Updated slide post-live webinar.

Communicating with Patients About Opioids

Sample Phrases:

- *"Opioids work well for acute pain, such as just after surgery or a serious injury."*
- *"There is not a lot of evidence that they work well or that they are safe for chronic pain, especially at the higher doses."*
- *"As you have probably seen in the news, many people are accidentally overdosing and dying from prescription opioid use."*
- *"I need to carefully weigh the possible benefits that might come from prescribing these medications against the known risks that exist."*

How to Say "YES"

"I am willing to try some opioid medication to see if it helps you and does not cause you too many problems.

- *This will be on a trial basis and we will re-evaluate often to see how you are doing.*
- *I may decide very soon or at future date several months or years from now that the benefits of this medication are not enough to justify the risks involved.*
- *We need to be realistic from the start: these medications cannot be expected to make you free of pain or to give you complete pain relief. Instead, we are aiming to help to take the edge off of the pain."*

Opioids in the Acute Care Setting: Safety is Within Our Reach

How to Say "YES"

- *"Most importantly, we want to see if we can get you to do things that are important to you -- maybe you will do more exercise or other activities with the same amount of pain, or maybe you can have less pain doing what you already do."*
- *"Also, these medications do not work well when they are the only tool that we are using. It will be important for you to get regular exercise, to get regular sleep, to eat a good diet, and to manage your stress well. We also need to make sure that you are: (using your CPAP regularly for your apnea, that your blood sugars are controlled well, etc.)"*

46
ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

How to Say "NO"

I am not comfortable prescribing opioids to you because it seems to me that the risks are too high compared with the benefits; I am concerned that these medications can harm you more than help you because of:

- *your recent history of (current use of) alcohol (opioids, methamphetamine, etc.)*
- *your current problems with depression (or memory or emotional stability)*
- *your sleep apnea, COPD, heart disease, etc.*

There are some other treatments and self-management options for pain management that we can pursue, including

47
ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Patient and Family Education

- Realistic expectations are key!
  - Patient education and engagement essential for success
  - No pill alone can control chronic pain
- Provide information and written instructions regarding potential risks of adverse reactions and substance abuse
  - Differentiate addiction, dependency, tolerance and withdrawal
- Review proper storage and disposal
- Highlight benefits of non-pharmacologic therapies
  - PT, massage, acupuncture
  - Water therapy
  - Mind/body techniques
  - Cognitive behavioral or acceptance therapies

48
ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Opioids in the Acute Care Setting: Safety is Within Our Reach

References

- Nora D. Volkow, M.D., and A. Thomas McLellan, Ph.D. *Opioid Abuse in Chronic Pain — Misconceptions and Mitigation Strategies*. N Engl J Med 2016; 374:1253-1263
- NIDA. (2017, April 24). *Trends & Statistics*. Retrieved from https://www.drugabuse.gov/related-topics/trends-statistics on 2017, June 3
- Kreimer S. *Serious Complications from Opioid Overuse in Hospitalized Patients Prompts Nationwide Alert.* The Hospitalist. 2013 February
- Smith HS, Peppin JF. *Toward a systematic approach to opioid rotation.* J Pain Res. 2014: 7: 589-608
- Felden L, Walter C, Harder S, et.al. *Comparative Clinical Effects of Hydromorphone and Morphine. A Meta-analysis.* Br J Anaesth. 2011;107(3):319-328.
- *Proposed Standards Revisions Related to Pain Assessment and Management.* The Joint Commission. Issued June 19, 2017. Accessed June 30th, 2017

49

ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES

Questions??

50

ISMP INSTITUTE FOR SAFE MEDICATION PRACTICES