Factors For Safe Use of Opioids

- Opioid monotherapy is no longer acceptable
  - High incidence of adverse events
  - Poor outcomes
- Accurate and thorough pain assessment is a must. With this information, develop an appropriate, multimodal pain regimen
- Multimodal pain regimen includes: nonopioids, adjuvant analgesics, opioids, and nonpharmacologic interventions


Safe Use of Opioids in Hospitals
Opioid analgesics rank high among the drugs most frequently associated with adverse drug events

Causes for Opioid-Related Adverse Events

• Lack of knowledge about potency differences among opioids
• Improper prescribing and administration of multiple opioids and modalities of opioid administration
• Inadequate monitoring of patients on opioids

A System’s Approach to Safety: Actions suggested by TJC

• Effective processes
• Safe technology
• Appropriate education and training
• Effective tools

Effective Processes

• Policies and procedures for ongoing clinical monitoring of patients receiving opioid therapy
• Most effective monitoring of a patient receiving opioids is systematic, serial assessment
Respiratory assessment

Requires:
• Respiratory rate (count for at least 30 seconds) **AND**
• Quality of respirations—depth, effort and sound
• ALL patients should be assessed upon admission for snoring and/or diagnosed sleep apnea
• Adequate respiratory assessment should be performed by a registered nurse—not a delegated task

Sleeping?

• It is acceptable to allow a patient to sleep who has been receiving stable opioid doses and demonstrates optimal respiratory status
• If giving opioids or sedatives, wake pt to assess—consider peak effect and duration
• HOWEVER!!! If there is any concern about sleeping vs sedation, the pt must be aroused
• Most people who have adequate pain control will fall back to sleep easily

Monitoring oxygenation vs ventilation

• Pulse oximetry is useful for assessing changes in **oxygenation only**
• Pulse oximetry is a late indicator of ventilatory depression
• SpO2 readings may be normal or near normal for minutes after a patient stops breathing
• Supplemental oxygen obscures the effectiveness of SpO2 for a respiratory assessment
Pulse Oximetry

- **Advantages:**
  - Noninvasive
  - Alerts nurse to downward trends in oxygen saturation
  - Can be continuous or intermittent

- **Disadvantages:**
  - Technical issues
  - Values are affected by many variables
  - Delay between hypoxia and detection
  - No indication of ventilatory status
  - Misleading in patients receiving supplemental oxygen

Capnography (ETCO2)

- **Advantages:**
  - Noninvasive
  - Alerts nurse and patient
  - Counts respirations based on CO2 levels
  - Visual monitoring available

- **Disadvantages:**
  - Does not measure oxygenation
  - Compliance
  - Rapid RR may prove inaccurate reading

Capnography (ETCO2)

- Monitors carbon dioxide
- Expensive and not always available
- More sensitive indicator of hypercapnia
- Especially useful in patients on supplemental oxygen
- Could be the ideal technologic assistant—
- ***NOTHING REPLACES A NURSE’S ASSESSMENT***

Effective Processes (continued)

• Policies and procedures that provide for consult of pharmacist or pain management professional for high-risk opioids such as methadone or IV hydromorphone
  – Ex: methadone dose check notes
• Policies and procedures for tracking and analyzing opioid-related incidents for quality improvement purposes.
  – Ex: Narcan surveillance

Safe Technology

• Use information technology to monitor prescribing of opioids
  – Build red flags or alerts into e-prescribing of opioids
  – Separate sound-alike and look alike opioids, tall man lettering or other techniques
  – Conversion support systems for dose calculations
  – PCA to reduce the risk for oversedation – smart pump technology with dosage error reduction software

Appropriate Education and Training

• Use both pharm and nonpharm interventions
• Educate and assess understanding of:
  – Potential for opioid induced sedation or respiratory depression
  – Difference between ventilation and oxygenation
• Educate on how to assess patients for ADRs and advancing sedation and how to make timely adjustments to plan of care
Appropriate Education and Training

- Patient and caregiver (verbal and written)
  - Opioid names, side effects
  - Potential for interaction with alcohol and other CNS depressants
  - Definitions of tolerance, addiction, physical dependency
  - Safe and secure storage at home
    - Opioid Teaching sheets
    - Opioid Discharge Education

Opioid Safety Education is available for discharge instructions:

At The University of Kansas Hospital, approximately 75 percent of hospitalized patients receive an opioid (narcotic) during their hospitalization. It is our goal to provide adequate pain management, while focusing on safety, both for inpatients as well as after discharge. Our service has put together education to provide to patients if they receive an opioid medication at discharge. Simply ‘click’ on the opioid safety information box, and the education will be printed on the patient’s discharge instructions. Please note—it is important for all patients who will be receiving opioid medications at discharge to have this education, even if the patient has been on chronic opioid therapy for many years.

Here is the information that will appear on the DC instructions:

OPIOID (NARCOTIC) PAIN MEDICATION SAFETY

We care about your comfort, and believe you need opioid medications at this time to treat your pain. An opioid is a strong pain medication. It is only available by prescription for moderate to severe pain. Usually these medications are used for only a short time to treat pain, but sometimes will be prescribed for longer. Talk with your doctor or nurse about how long they expect you to need this medication.

When used the right way, opioids are safe and effective medications to treat your pain, even when used for a long time. Yet, when used in the wrong way, opioids can be dangerous for you or others. Opioids do not work for everyone. Most patients do not get full relief of their pain from opioid medication; full relief of your pain may not be possible.
For your safety, we ask you to follow these instructions:

*Only take your opioid medication as prescribed. If your pain is not controlled with the prescribed dose or the medication is not lasting long enough, call your doctor.

*Do not break or crush your opioid medication unless your doctor or pharmacist says you can. With certain medications, this can be dangerous, and may cause death.

*Never share your medications with others, even if they appear to have a good reason. Never take someone else’s pain medication—this is dangerous, and illegal (a crime). Overdoses and deaths have occurred.

*Keep your opioid medications safe, as you would with cash, in a lock box or similar container.

*Make sure your opioids are going to be secure, especially if you are around children or teens.

*Talk with your doctor or pharmacist before you take other medications.

*Avoid driving, operating machinery, or drinking alcohol while taking opioid pain medication—this may be unsafe.

*Pain medications cause constipation. You should take something to make your bowels move every day that you are on opioid pain medication.

*If you have not required any pain medicine for three days, dispose of any leftover medication by flushing down the toilet or returning to a pharmacy that participates in drug takeback practices.
Opioid Taper Example

Medication: Morphine SR (MS Contin)
Dosage: 10 mg
Morphine SR 10 mg, Sig 1 q 6 hours and taper, Est # 10 days

<table>
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<td>Day 7</td>
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Effective Tools

• Pasero Opioid-Induced Sedation Scale (POSS)
  – Validated specifically for opioid induced sedation
• Richmond Agitation-Sedation Scale (RASS)
  – Developed in adult critical care for titration of sedatives
  – Can be modified for use with opioids—caution as nurses may equate agitation with need for pain intervention when may not be the case

Pasero Opioid-Induced Sedation Scale (POSS)

• S= Sleep, easy to arouse
• 1= Awake and alert
• 2= Slightly drowsy, easily aroused
• 3= Frequently drowsy, arouse, drifts off sleep during conversation (Add nonopioid and ↓ opioid dose 25% to 50%; ↑ monitoring until sedation level is less 3)
• 4= Somnolent, minimal or no response to physical stimulation (Stop opioid, stimulate, consider naloxone; restart opioid at 50% of original dose when sedation level is less than 3 and respiratory status is satisfactory)

Take home points...

• Respiratory depression is rare in opioid tolerant—but can happen
• At-risk populations: Infants < 6 months old, opioid naive elders, patients receiving other sedating drugs or with coexisting conditions
• Sedation precedes opioid-induced respiratory depression
  – Use multimodal approach
  – Monitor sedation with a sedation scale and respiratory status q1 h x 12 h, q2 h x 12 h, then q4 h if stable (risk ↑ first 24 h)
• Use basal rates cautiously; decrease dose if excessively sedated
• Assess risk factors; capnography in high risk

Discharge Checklist for Patients Going Home with Long-term Opioid

✓ Identify outpatient provider who is willing to prescribe opioids
✓ Run a Prescription Drug Monitoring Program (PDMP) report to identify concerning fill patterns, e.g., multiple providers, multiple pharmacies
✓ Ensure that outpatient provider is comfortable with discharge regimen
✓ Check that an appointment is scheduled with outpatient pain provider

✓ Ensure that pain is stable on discharge regimen for at least 24 hours
✓ Ensure that insurance will cover any new medications
✓ Check with pharmacy where patient plans to fill prescription to ensure that it has sufficient supply to fill the discharge prescription
✓ Give the patient a follow-up number where patient or pharmacy can call the prescribing provider for any problems with the discharge prescription
✓ Use the teach-back method to ensure that patient understands how to take medications after discharge
✓ Give the patient a phone number to call for questions about how to take medications or increased pain
Prior to initiation of opioids:

– Documentation of the patient’s pain condition, general medical condition, psychosocial history, psychiatric and substance use history will be completed in the Progress Note.
– A screening tool (see appendix) will be used to determine the patient’s risk for opioid addiction.
– Treatment goals such as function improvement and pain reduction will be established with the patient and documented in Progress Note.

Prior to initiation of opioids: (con’t)

– Avoid prescribing benzodiazepines and opioids concurrently. For patients taking benzodiazepines, particularly elderly patients, a trial of tapering will be initiated. If a trial of tapering is not indicated or is unsuccessful, opioids should be titrated more slowly and at lower doses.
  • Taper benzodiazepine according to the proportional dose remaining. Taper by 10% of the dose every 1-2 weeks until the dose is at 20% of the original dose; then taper by 5% every 2-4 weeks.
– Urine drug screening (UDS) (see appendix) will be done at baseline on all patients prior to prescribing chronic opioid therapy.
Initiation of Opioids

- Assessment of uncontrolled pain despite use of non-pharmacologic methods and non-opioid medications will determine a need for trial of opioid.

- A controlled substance treatment agreement (informed consent) (see appendix) will be reviewed with patient to include potential benefits, risks, side effects and complications of opioid therapy. The agreement will be signed and documented in Progress Note.

- Immediate release opioids will be used initially and will be prescribed at the lowest effective dosage.

Initiation of Opioids (con’t)

- Decision making for opioid determination:
  - First-line
    - codeine, tramadol
  - Second-line (individualize choice based upon assessment, allergies, ability to afford, etc.)
    - Oxycodone, Morphine, Hydrocodone, Hydromorphone, Tapentadol, Oxymorphone

- Daily morphine milligram equivalents (MME) (see Equianalgesia table- appendix) will be documented in Progress note and monitored routinely for each increase in dose.

Titration

- Opioid effectiveness will be monitored by an improvement in function and pain according to the PEG scale (see appendix).

- Patients will be carefully assessed for individual benefits and risks before increasing opioid dose to >50 morphine milligram equivalents (MME) per day. If ≥ 50 mg MME/day, increase frequency of follow up; consider offering naloxone.

- Doses greater than 90 MME per day will be carefully titrated or avoided. Consider specialist referral.

- Adverse events and complications will be reviewed prior to each dose increase and documented in Progress Note.
Monitoring

- Benefit versus harm and attainment of treatment goals will be evaluated by the clinician within 1-4 weeks of starting opioid therapy for chronic pain or dose escalation.
  - Self-report can be prompted by asking about work, household activity, mood, walking ability, sleep and social activities.
  - Continue use of PEG scale at every visit.
  - Consider use of PADT at every visit. (see appendix)
  - Monitor continued use of non-opioid therapies.
- For patients experiencing unacceptable side effects or insufficient pain management from one particular opioid, a different opioid or discontinuation of therapy will be considered.

Monitoring (con’t)

- Evaluate risk of harm or misuse with every office visit (signs of over-sedation, difficulty controlling medication use). If indicated, consider dose reduction or referral for treatment.
- Continuing therapy will be assessed every 3 months or more frequently as needed.
- If benefits do not outweigh harms of continued opioid therapy, authorizing providers will optimize other therapies and work with patients to taper opioids to lower dosages or to taper and discontinue opioids.

Monitoring (con’t)

- Patients requiring longer than 3 months of chronic pain medications may require referral to a pain management specialist for further care.
- Patient’s history of controlled substance prescriptions using Kansas prescription drug monitoring program will be monitored when starting opioid therapy for chronic pain and then every month or office visit thereafter.
- Urine drug testing will be done at least annually on all patients on chronic opioid therapy to assess for prescribed medications. (see appendix)
Discontinuation

- Opioids will be stopped or switched when side effects or risks are unacceptable or opioid effectiveness is not sufficient.
- Opioids will be discontinued with a tapering protocol (see appendix) documented in the Progress Note.

How is your institution/health system doing?

<table>
<thead>
<tr>
<th>NAME OF INSTITUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person completing checklist (Name)</td>
</tr>
</tbody>
</table>
Future Needs

• Implementation of effective tools, standard policies, and staff training. The development of an approach to acute pain management utilizing algorithms should be considered for further research in the safety of opioid use in hospitals.
• Customization of the available technology, whether it be electronic records, infusion pumps, or oxygenation/ventilation monitors, is essential for safe use.
• Improving health care professionals’ ability to screen for patients at high risk for opioid-induced respiratory depression should be a priority – early training of health care professionals in the safe and effective approach to pain management is essential.

References


References

PCSS-O Colleague Support Program

- PCSS-O Colleague Support Program is designed to offer general information to health professionals seeking guidance in their clinical practice in prescribing opioid medications.
- PCSS-O Mentors comprise a national network of trained providers with expertise in addiction medicine/psychiatry and pain management.
- Our mentoring approach allows every mentor/mentee relationship to be unique and catered to the specific needs of both parties.
- The mentoring program is available at no cost to providers.

For more information on requesting or becoming a mentor visit: www.pcss-o.org/colleague-support

- Listserv: A resource that provides an “Expert of the Month” who will answer questions about educational content that has been presented through PCSS-O project. To join email: pcss-o@aaap.org

PCSS-O is a collaborative effort led by American Academy of Addiction Psychiatry (AAAP) in partnership with: Addiction Technology Transfer Center (ATTC), American Academy of Neurology (AAN), American Academy of Pain Medicine (AAPM), American Academy of Pediatrics (AAP), American College of Physicians (ACP), American Dental Association (ADA), American Medical Association (AMA), American Osteopathic Academy of Addiction Medicine (AOAAM), American Psychiatric Association (APA), American Society for Pain Management Nursing (ASPMN), International Nurses Society on Addictions (InNSA), and Southeast Consortium for Substance Abuse Training (SECSAT).

For more information visit: www.pcss-o.org
For questions email: pcss-o@aaap.org

Funding for this initiative was made possible (in part) by Providers’ Clinical Support System for Opioid Therapies (grant no. 1H79TI025595) from SAMHSA. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.
# PAIN MANAGEMENT PRACTICES
## INSTITUTIONAL ASSESSMENT CHECKLIST

Name of institution: __________________________________________________________

Person completing checklist/date: __________________________________________

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<thead>
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<th>ASSESSMENT QUESTIONS</th>
<th>YES</th>
<th>NO</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the hospital have a multidisciplinary pain committee? What disciplines and how often do they meet? If no formal pain committee, do any other councils or committees focus on pain?</td>
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<tr>
<td>Does the hospital have a pain service/team? If so, who coordinates it and who are team members? If no formal pain service or team, is there an individual(s) who evaluates patients’ pain other than the primary nurses?</td>
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<td>Does the hospital have a pain resource nurse (PRN) program? Describe the requirements to be a PRN and how they are utilized.</td>
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<tr>
<td>Does the hospital have a quality improvement process in place for pain management? What aspects and outcomes are monitored?</td>
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<tr>
<td>Does the hospital have a multidisciplinary high-risk medication safety oversight committee? What disciplines and how often do they meet? If no high-risk medication committee, how does the hospital identify and monitor risk/safety issues related to high-risk medications?</td>
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<tr>
<td>Does the hospital have an opioid safety committee? If not, how is opioid adverse event risk and prevention identified and addressed?</td>
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<tr>
<td>Is there multidisciplinary support to improve/change pain management practices? Give examples.</td>
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<tr>
<td>ASSESSMENT QUESTIONS</td>
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<td>NO</td>
<td>COMMENTS</td>
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<tr>
<td>Does the hospital administration support pain management practice improvements/changes? Give examples.</td>
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<tr>
<td>Are there major obstacles to improving pain management? Give examples.</td>
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<tr>
<td>Are decision-making tools such as pain management decision trees, algorithms, or scripting used?</td>
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<td>Is pain management education provided regularly for all disciplines? What is taught, who teaches it, and how often? Is it mandatory?</td>
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<tr>
<td>Are patients taught about pain assessment management techniques? What is taught, who teaches it and when?</td>
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<tr>
<td>Are patients taught about opioid side effects and how these can be minimized and treated? What is taught, who teaches it and when?</td>
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<tr>
<td>Are patients given the option of not taking an opioid to avoid opioid side effects?</td>
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<tr>
<td>Is the concept of multimodal analgesia understood by most nurses, physicians, and pharmacists? If not, what are the barriers to increasing understanding?</td>
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<tr>
<td>ASSESSMENT QUESTIONS</td>
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<tr>
<td>Do multimodal practices/order sets exist? If not, what are the barriers to implementing them?</td>
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<tr>
<td>Does the hospital formulary allow orders for a variety of nonopioid options, such as acetaminophen, NSAIDs, local anesthetics, ketamine, clonidine, muscle relaxants?</td>
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<tr>
<td>Are non-opioids (see above examples) given before opioids are given, i.e., are they used as a foundation of pain management therapy?</td>
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<tr>
<td>Are nonpharmacological methods, such as ice, heat, massage, music, TV comfort channel, used routinely? Which methods are used and who provides them most often?</td>
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<td>Are all patients screened for risk for opioid-induced respiratory depression on admission?</td>
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<tr>
<td>Are all patients screened for risk for opioid-induced respiratory depression during opioid therapy, such as with changes in patient condition, introduction of iatrogenic risk?</td>
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<tr>
<td>Is documentation of risk screening and ongoing opioid risk assessment for opioid-induced respiratory depression audited? What tool is used? How is the staff informed of audit findings?</td>
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<tr>
<td>Is unwanted sedation assessed during opioid administration assessed in the post anesthesia care unit (PACU)? If yes, what scale is used?</td>
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<td>Is unwanted sedation assessed during opioid administration on the clinical units?</td>
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<td>Is a scale used for sedation assessment? If yes, what scale is used?</td>
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<td>Is pulse oximetry (oxygen saturation monitoring) used? Is it used in continuous or</td>
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<td>intermittent mode? Is it limited to certain clinical units or patients?</td>
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<td>Is capnography (end-tidal CO₂ monitoring) used? Is it limited to certain clinical</td>
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<td>units or patients?</td>
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<td>Is centralized capnography and pulse oximetry utilized whereby all monitoring of</td>
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<td>these parameters can be seen from the nurse’s station? If yes, on which units?</td>
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<td>Does the hospital own an adequate number of pulse oximetry and capnography monitors</td>
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<td>or have plans to purchase an adequate number?</td>
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