

PRN Program: Acute Pain



Prior to session: *Select cases provided by participants in their program applications or from your organization to illustrate the guidelines. If you do not have access to cases, you may use the cases in these slides. Provide participants access to the case backgrounds before this session so they can read or reference case background during discussions.*

To focus on the clinical application of knowledge in the participant materials, review the highlights of the case rather than reading entire backgrounds.

Materials: Flip chart or whiteboard and Markers

Provide participant guide at least one week in advance

Room Setup: In tables of 4 or 6-8 depending on number of participants

- Display slide as participants walk in
- This session is 45 minutes

Welcome and Introductions: *Introduce facilitator if necessary*

READ: This section is case-based. The learning outcomes for this session are to:

- Explore the diversity of acute pain experienced by children using at least 5 examples acquired from your clinical and personal experiences.
- Compare the efficacy and risk of different methods of managing children's acute pain in hospitals, including: patient-controlled analgesia, nurse-controlled analgesia, authorized agent controlled analgesia, epidural analgesia, patient controlled epidural analgesia, continuous nerve blocks and other forms of regional analgesia.
- Synthesize knowledge of pediatric acute pain assessment and management in order to formulate care plans appropriate for all developmental levels and at least three different cases of acute pain experienced by children.

PRN Program: Acute Pain

Why Do Children
Experience
Acute Pain?

READ: What is acute pain?

ASK: Does anyone have a personal story about when they have experienced acute pain?

Select one participant willing to share their answer to this question.

[Limit discussion to 2 minutes]

ASK: How is acute pain different in children versus adults – or is it?

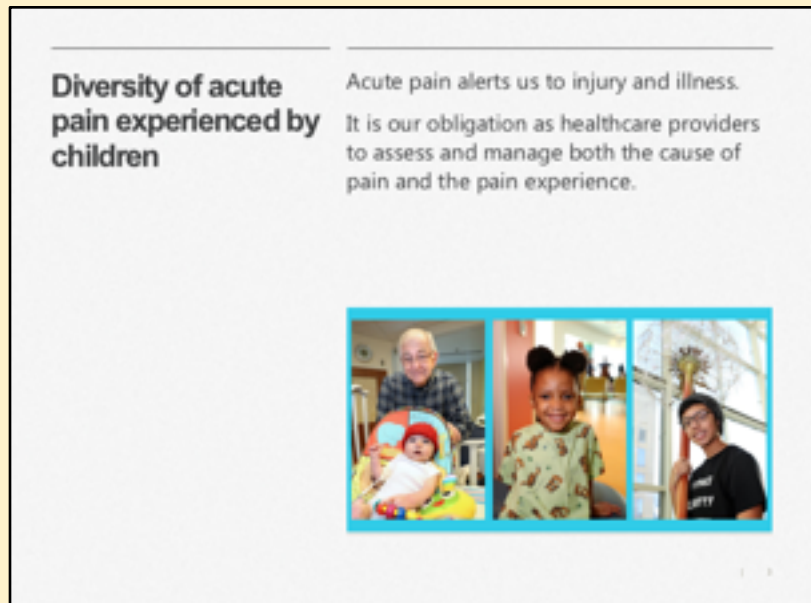
Select participants willing to share their answers to this question

Write on flipchart or whiteboard

[Limit discussion to 2 minutes]

[5 MINUTES of 45 minute session is complete]

PRN Program: Acute Pain



READ: To develop a shared understanding of the treatment plan and realistic outcomes, it is important to discuss past experiences and expectations for acute pain treatment, as well as risks and benefits of treatments.

ASK: What acute pain experiences can not be relieved? Why?

Select participants willing to share their answers to this question

*Write on flipchart or whiteboard **[Limit to 2 minutes]***

ASK: What treatment expectations for these acute pain experiences would be appropriate to share with patients and families?

Select participants willing to share their answers to this question.

[Limit discussion to 2 minutes]

[10 MINUTES of 45 minute session is complete]

PRN Program: Acute Pain

Postoperative Guidelines

READ:

- Next, we will apply acute pain management principles to a series of cases.
- Be prepared to share answers from your pre-session preparation.

PRN Program: Acute Pain



Muhammed

What signs would you look for in the child as an indication of pain?

What would you recommend to "catch up" on the pain medicine?

Muhammed is a 2-day-old who has had abdominal surgery. During your assessment, you observe obvious signs of pain. As you review the anesthesia record, you see that the baby received minimal analgesics during the surgery and you confirm the medication doses given with the anesthesiologist to confirm the charting.

READ: You and your team must now put together a plan designed to catch up on the baby's pain medicine.

With your **table** discuss your answers to the questions on the slide, and be prepared to share them with the group. This is a 5 minute case.

[Give groups 4 minutes to discuss the case & 1 minute to share their answers to each question]

Select a participant willing to share their groups' answers.

[Limit discussion to 1 minute]


READ:

- Unless the documentation indicated **no** analgesics were given, it is impossible to conclude that a patient has been undertreated for pain during anesthesia.
- While the phrase "catch up" may be common, the true goal is to ***provide optimal pain management.***

[15 MINUTES of 45 minute session is complete]

PRN Program: Acute Pain

**American Pain Society (APS)
Postoperative
Guidelines**




The panel recommends that facilities in which surgery is performed:

1. have an organizational structure in place to develop and refine policies and processes for safe and effective delivery of postoperative pain control (*strong recommendation, low-quality evidence*).
2. provide clinicians with access to consult pain specialist for patients with inadequately controlled postoperative pain or at high risk of inadequately controlled postoperative pain (e.g., opioid tolerant, history of substance abuse) (*strong recommendation, low-quality evidence*).

READ:

- Recall that the American Pain Society Postoperative Guidelines may be appropriate for acute pain too.
- Have you implemented an organizational structure designed to develop and refine policies and processes for safe and effective delivery of pain management?
- Does your organization provide patient access to consultation with pain specialists if they experience inadequately controlled pain?

PRN Program: Acute Pain



David

David, a post-op cardiac patient, arrives still sedated. While re-taping his endotracheal tube, you noticed tearing, high blood pressures and high heart rate. He is on a dexmedetomidine drip and HYDROMorphone PCA basal + demand.

- Doses of midazolam and morphine are ordered.
- You then provide PCA and pain education with his parents.

Why are tearing, blood pressure and heart rate significant?

How do midazolam and morphine add to the treatment plan?

When should the patient and parents be educated about PCA?

READ: With your **table** discuss your answers to the questions on the slide, and be prepared to share them with the group. This is a 5 minute case.

[Give groups 4 minutes to discuss the case & 1 minute to share their answers to each question]

Select a participant willing to share their groups' answers.

[Limit discussion to 1 minute]

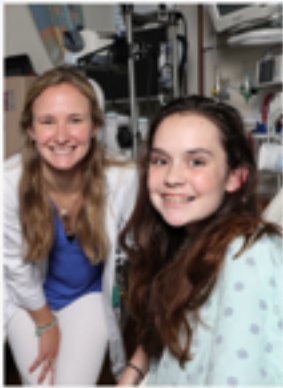
READ: Vital Signs are not sensitive or specific indicators of pain, but tearing and elevated vital signs **are** indicators of distress and may indicate David is in pain.

- There is really no reason to give a different opioid
- Education should be provided before surgery

[20 MINUTES of 45 minute session is complete]

PRN Program: Acute Pain

APS Postoperative Guidelines



The panel recommends that clinicians:

- offer neuraxial analgesia with opioids, local anesthetics, or both for major thoracic and abdominal procedures, particularly in patients at risk for cardiac complications, pulmonary complications, or prolonged ileus (*strong recommendation, high-quality evidence*).
- consider surgical-site specific peripheral regional anesthetic techniques in adults and children for those procedures with evidence indicating efficacy (*strong recommendation, high-quality evidence*).
- use continuous, local-anesthetic based peripheral regional analgesic techniques when the need for analgesia is likely to exceed the duration of effect of a single injection (*strong recommendation, low-quality evidence*).

READ: Recall the American Pain Society Postoperative Guidelines recommended neuraxial and regional anesthetic techniques

PRN Program: Acute Pain



David

Which may have helped treat David's surgical pain?

Consider these interventional techniques:


- Local infiltration
- Peripheral regional blocks
- Epidural analgesia
- Spinal analgesia

READ: Take a moment to read over and think of responses to the questions on the slide. Be prepared to share your answers.

[continue on next slide]

PRN Program: Acute Pain

Questions to ask




- What kind of nerve block or other technique was used?
- What is the extent of the motor and sensory block?
- Will this block affect blood pressure, heart rate, bowel function, ability to ambulate?
- How long will the effect last?
- Is it likely that other nerves were blocked too, (e.g., diaphragm, bladder)?
- Do I need to restrict use of systemic analgesics or anti-coagulants?
- Whom do I contact for more information or help?

Select participants willing to share their responses to each question.

[Limit discussion to 5 minutes, less than 1 minute per question]

[25 MINUTES of 45 minute session is complete]

PRN Program: Acute Pain



Nicole

Nicole is a 16-year-old female who had a spinal fusion for scoliosis repair. She had a HYDROMorphone PCA (both continuous and demand), along with a naloxone and ketamine drip. She also had pregabalin, diazepam and IV acetaminophen scheduled around the clock. However, she consistently rated her pain at a 6-7 out of 10.

Based on her procedure, what is the lowest pain score you would expect her to report?

Why was each medicine ordered?

READ:

- Nicole consistently rated her pain at a 6-7 out of 10.

ASK:

- Based on her procedure, what is the lowest pain score you would expect her to report?

Select participants willing to share their answers to this question

Write on flipchart or whiteboard


[Limit discussion to 3 minutes, 1 minute per question]

ASK:

- Why was each medicine ordered?

PRN Program: Acute Pain

APS Postoperative Guidelines



The panel recommends that clinicians:

- offer **multimodal analgesia**, or the utilization of a variety of analgesic medications and techniques combined with non-pharmacological interventions, for the treatment of perioperative pain in children and adults (*strong recommendation, high-quality evidence*)
- adjust the postoperative pain management plan based on adequacy of pain relief and presence of adverse events (*strong recommendation, low-quality evidence*)
- consider use of **gabapentin** or **pregabalin** as a component of multimodal analgesia (*strong recommendation, moderate quality evidence*).
- consider **intravenous ketamine** as a component of multimodal analgesia in adults (*weak recommendation, moderate-quality evidence*)

READ: Recall the American Pain Society Postoperative Guidelines recommend the multimodal analgesics

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Nicole

Review the list of analgesics, co-analgesics and adjuvants.

Based on what you know about Nicole's case, what other medications may be helpful?

Analgesics, Co-analgesics and Adjuvants

- ✓ Acetaminophen
- ☐ NSAID
- ✓ Opioids
- ☐ Antidepressants
- ✓ Anticonvulsant
- ☐ Steroids
- ✓ NMDA receptor antagonists
- ☐ Alpha2-Adrenergic agonists
- ☐ Local anesthetics
- ✓ Muscle relaxants and anxiolytics
- ☐ Antispasmodics
- ☐ Capsaicin
- ☐ Cannabis

READ: Take a moment to formulate a response to the questions on the slide. Be prepared to share your answer

*Select participants willing to share their responses to each question. **[Limit discussion to 2 minutes]***

[30 MINUTES of 45 minute session is complete]

PRN Program: Acute Pain

APS Postoperative Guidelines

The panel recommends that clinicians:

8. provide adults and children with acetaminophen and/or NSAIDs as part of multimodal analgesia for management of postoperative pain in patients without contraindications (*strong recommendation, high-quality evidence*)



READ:

- Acetaminophen and NSAIDs are not just for mild pain.
- These effective analgesics provide an opioid-sparing effect.

PRN Program: Acute Pain



Nicole

Consider local infiltration, peripheral regional blocks, epidural analgesia, and spinal analgesia.

What interventional techniques may help treat Nicole's surgical pain?

READ:

Take a moment to formulate a response to the questions on the slide. Be prepared to share your answers

Select participants willing to share their answers to this question

Write on flipchart or whiteboard

[Limit to 2 minutes]

PRN Program: Acute Pain



READ:

Take a moment to formulate responses to the questions on the slide. Be prepared to share your answers.

Select participants willing to share their responses to each question.

[Limit discussion to 3 minutes]

[35 MINUTES of 45 minute session is complete]

PRN Program: Acute Pain



Kyle

What do you want to do now?

Kyle is being given:

- Epidural with ropivacaine.
- Morphine PCA 1mg every 10 minutes with a lockout of 6mg per hour
- Valium 2mg IV every 4 hours PRN for muscle spasm or anxiety.

READ: Kyle is a 15-year-old male with pectus excavatum and no other significant health problems. It's his first time in hospital. His family is at his bedside and are very attentive.

- You discuss pain and function expectations, making sure that Kyle understands how to use the PCA button and stressing to his parents/family that he is the only one allowed to push it.
- Kyle rates his pain at 8/10 right after surgery and states that is really hurts to breathe, and he feels like he can't. He describes the pain in his chest as tight with lots of pressure.
- You encourage him to press the PCA button and give IV valium for his anxiety and pain and to help him relax. You also tell him that the medicine will probably make him sleepy.
- You check on him in 15 minutes and his pain is down to a 6/10.
- What do you want to do next?

Select participants willing to share their responses to this question.

[Limit discussion to 3 minutes]

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READ:

- You continue to assess Kyle's sedation and pain levels, and he eventually rates his pain a 4/10 –which meets his expectations and allows him to rest comfortably.
- It's important to remember that medicines are started at the low range for kids, allowing us room to increase the amounts of medicine they get if we need to.
- In this case, the team decided that they ***didn't*** need to increase the epidural rate or the PCA dosing.


Select participants willing to share their responses to each question.

[Limit discussion to 2 minutes]

[40 MINUTES of 45 minute session is complete]

PRN Program: Acute Pain

APS Postoperative Guidelines



The panel recommends that clinicians:

- AVOID using the intramuscular route for the administration of analgesics for management of postoperative pain *(strong recommendation, moderate quality evidence)*.
- use oral over intravenous administration of opioids for postoperative analgesia in patients who can utilize the oral route *(strong recommendation, moderate quality evidence)*

READ:

- The American Pain Society provides guidelines for route

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Kyle

Do you agree with this plan?

Orders received in the morning:

- DC epidural this am
- DC PCA
- HYDROcodone 5/325 1 to 2 tabs PO q 4 hrs PRN pain
- Ibuprofen 600 mg PO q 6 hours PRN pain
- DiazePAM 2 mg PO q 4 hours PRN pain/spasm

READ:

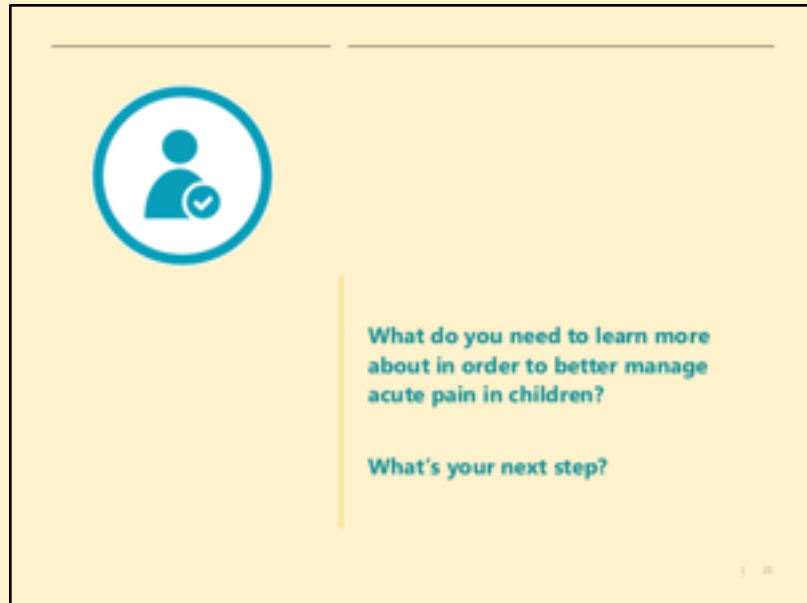
- On post-op day 3 when both the epidural and PCA are DC'd, if his pain is well-controlled with all oral meds, Kyle will go home.
- After discussing the orders with both Kyle and his mom, the plan is to give hydrocodone with breakfast and then to alternate the valium and ibuprofen with the hydrocodone so he receives something for pain every 2 to 3 hours.
- It is important to involve Kyle's mom in this process so she can monitor Kyle's medications and his response to them.
- Do you agree with this plan?

Select participants willing to share their response to this question.

[Limit discussion to 3 minutes]

[43 MINUTES of 45 minute session is complete]

PRN Program: Assessment of Pain



ASK: Are there any questions?

[Limit discussion to 2 minutes]

[45 MINUTES SESSION COMPLETE]