

Ask the Experts: Issues Related to the Management of Postoperative Pain

This activity is located at <http://symposia.ashp.org/lms/content/14-postoppain-002/>

ASSESSMENT TEST



This assessment test has been provided as a study aid only. When you reach the end of the presentation, follow instructions to complete the online process and obtain CE credit. You may print your CE statement immediately after successful completion of the online assessment test and evaluation.

1. The surgeon is considering including acetaminophen in AH's preoperative pain management regimen and has asked the pharmacist for advice about the comparative efficacy of intravenous and oral acetaminophen. Which of the following statements would be the most appropriate response?
 - a. If AH can take medications orally, oral is generally the preferred route because the maximum concentration is higher after oral administration compared with intravenous.
 - b. If AH can take medications orally, oral is generally the preferred route because evidence does not support one route over the other and oral acetaminophen is less expensive than intravenous.
 - c. Intravenous is generally the preferred route regardless of the patient's ability to take oral medications because of superior pain scores after intravenous administration compared with oral.
 - d. Intravenous is generally the preferred route regardless of the patient's ability to take oral medications because of documented less opioid use following intravenous administration compared with oral.
2. Which of the following is a valid concern with postoperative use of nonsteroidal anti-inflammatory agents in patients undergoing total knee arthroplasty?
 - a. Impaired tissue healing.
 - b. Non-union of joint.
 - c. Cardiovascular event in patient six months post myocardial infarction.
3. Which of the following local anesthetic agents has a fast onset and duration of 1-3 hours?
 - a. Bupivacaine.
 - b. Bupivacaine liposome.
 - c. Lidocaine.
 - d. Ropivacaine
4. Which of the following best describes the rationale for including epinephrine as an additive with local anesthetics?
 - a. Prolongs duration of peripheral nerve block.
 - b. Slows systemic absorption of local anesthetic.
 - c. Shortens duration of lidocaine and mepivacaine.
 - d. Reduces bleeding at epinephrine concentrations less than 5 mcg/mL.

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5. As shown in a study by Kelley et al. (2013), ketorolac added to a periarticular injection of ropivacaine and epinephrine following total knee arthroplasty compared with ropivacaine and epinephrine alone resulted in
 - a. No significant difference in pain scores, range of motion, inpatient walking distance, and mean postoperative opioid consumption.
 - b. No significant difference in pain scores but improved range of motion, inpatient walking distance, and mean postoperative opioid consumption.
 - c. Significantly lower pain scores and improved range of motion, inpatient walking distance, and mean postoperative opioid consumption.
 - d. Significantly lower pain scores but no difference in range of motion, inpatient walking distance, and mean postoperative opioid consumption.
6. Which of the following agents can be safely mixed with liposome bupivacaine before administration?
 - a. Lidocaine, ropivacaine, mepivacaine.
 - b. Lidocaine and bupivacaine.
 - c. Epinephrine.
 - d. Morphine and ketorolac.
 - e. Preservative-free 0.9% sodium chloride injection.
7. Patient NW experiences systemic toxicity (e.g., seizures, cardiac arrhythmia) following local infiltration of bupivacaine as part of a multimodal pain management regimen following colorectal surgery. When treating NW for local anesthetic systemic toxicity (LAST), which of the following options best describes the primary treatment priority?
 - a. Airway management and seizure suppression with propofol.
 - b. Airway management and seizure suppression with benzodiazepines.
 - c. Lipid emulsion 20%.
 - d. A calcium channel blocker.
8. The Enhances Recovery after Surgery (ERAS) program can be a useful resource for
 - a. Identifying factors throughout the entire surgical process for specific types of surgery that can shorten the time to hospital discharge.
 - b. Outlining postoperative pain regimens for specific types of surgery that result in increased patient satisfaction.
 - c. Comparing the incidence of postsurgical infection among institutions.
 - d. Identifying surgeons who adopt multimodal postoperative pain management strategies.

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9. Following major abdominal surgeries, a surgeon currently infuses bupivacaine through a continuous wound catheter for analgesia. This technique provides good analgesia but the surgeon would like to try a single injection of liposome bupivacaine instead of placing a catheter and infusing bupivacaine through an elastomeric infusion device. As the pharmacy and therapeutics committee considers this request, all of the following actions would be appropriate EXCEPT
- Conduct a thorough evaluation of the literature to identify documented evidence of safety and effectiveness of liposome bupivacaine after major abdominal surgery.
 - Evaluate the current state of postoperative pain management in the institution, including use of multimodal analgesia, adherence to institutional pain management protocols, and enhanced recovery pathways for major abdominal surgery.
 - Conduct a limited trial that is focused on safe use and measures meaningful outcomes, such as pain intensity, opioid requirements, incidence of adverse effects, and length of stay.
 - Add liposome bupivacaine to the formulary and plan to conduct a retrospective analysis of drug cost and patient satisfaction in one year.
 - Conduct a medication-use evaluation to gather data that will help determine how best to use liposome bupivacaine and other local anesthetics to improve patient outcomes.
10. AH is a 75-year-old woman with normal renal function who is undergoing total knee arthroplasty. She has not been receiving opioids prior to surgery and has a history of delirium with pain medication. Which of the following medications should be avoided preoperatively as part of AH's postoperative pain management plan because of her history of delirium?
- Acetaminophen.
 - Naproxen.
 - Pregabalin.
 - Long-acting oxycodone.