4 Ways to Make Continuous Infusions Run More Smoothly

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Five years ago, patients undergoing open rotator cuff and complex ACL repairs required such a high narcotic load that they frequently had to stay overnight in the hospital. Patients undergoing frozen shoulder surgery suffered narcotic "fog" *and* serious pain during rehab. Today, thanks to continuous-infusion regional blocks that control pain at its source for 72 hours or longer, the surgical stay is shorter and the overall experience is more satisfying, more successful, and more economical for many of these patients. Here are four important lessons we've learned for ensuring the best care possible.

Dr. Enneking checks a patient at the Florida Surgical Center.

Screen patients. Patients who receive continuous-infusion blocks must understand the procedure, the post-op management requirements and the fact that this technique is an adjunct to other analgesic modalities (including cold therapy, NSAIDs and oral narcotics), because the extremity will be slightly anesthetized but not insensate. We discuss issues such as pump function, degree of motor block and analgesia over the phone, so language barriers are a relative contraindication, and lack of a working phone an absolute one.

Look ahead. Every day, I review the next day's surgical schedule and determine which patients will need a continuous-infusion catheter. We call these patients in 30 minutes early, because catheters are more complex and take longer to place than single-shot needles, and require more up-front education.

Although perfect predictions are nearly impossible, we can predetermine the approach for about 85 percent of all patients based on factors like age, procedure and surgeon. For example, a 50-year-old undergoing open rotator cuff repair is likely to need a continuous interscalene block for the first 48 to 72 post-op hours. A 70-year-old undergoing arthroscopic rotator cuff repair is likely to do well with a single-injection interscalene block.

We try to schedule patients who require intensive physical therapy early in the working week. This guarantees availability of PT during the infusion period, when patients have the best analgesia.

Educate wisely. As we've taught patients about our regional techniques, we've learned which "talking points" are most important. For instance, patients with continuous-infusion lower extremity blocks need to demonstrate ambulation with an assisted device before leaving the facility. They need to know how to operate the pump, identify infusate leakage and administer their own pain medication. They need to know our call numbers and understand driving and showering restrictions. We give patients extensive written instructions as well as a list of FAQs.

Conversely, we no longer emphasize acute local anesthetic toxicity symptoms. Experience has taught us that catheter dislodgement/migration results in a sudden decrease in analgesia. We now tell patients to turn off their pumps and call us if this occurs. With our low infusion rates and low concentrations of 0.2% ropivacaine, analgesia will disappear before any signs or symptoms of local anesthetic toxicity develop.

Call patients. No matter how much education we offer, patients tend to have lots of questions when they arrive home and begin the transition from the dense surgical block to the lighter, analgesic continuous-infusion block. So we call all continuous-infusion patients the night of surgery to ward off ER visits and patient disappointment.

Today, approximately 15 percent of our regional blocks are continuous-infusion. And while acute pain is still the leading cause of unplanned hospital admissions after ambulatory surgery, these blocks are helping more and more outpatients stay home in relative comfort. What's more, both these and the single-shot regional blocks have made my job more rewarding. I don't just put patients to sleep now; I interact with them. And they see me as a real person who cares about their health and truly alleviates their pain. This has done wonders for their satisfaction—and my own.

Dr. Enneking is Medical Director of the Florida Surgical Center and joint Professor of Anesthesiology and Orthopedic Surgery with the University of Florida.