

■ Follow Basic Rules of Geriatric Anesthesia

- Use smaller doses of medications, as they will have a more profound effect.
- Use shorter acting drugs (i.e., remifentanyl).
- Don't rush! Drugs take longer to work.
- Decreased organ function may increase risk of complications; therefore, choose drugs with fewer side effects.
- Use drugs with less accumulation (i.e., propofol).

Summary

America is experiencing a great challenge, facing the effects of the graying of the population and its impact on our health care system. The preoperative evaluation of the elderly patient is usually more complex. This complexity with increasing age is possibly due to the greater number and severity of coexisting illnesses. The functional status can be difficult to predict, making it a challenge to sufficiently evaluate the patient's ability to respond to the stresses associated with surgery.

CHAPTER 23

Regional Anesthesia

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Regional anesthesia is the subspecialty of anesthesiology that focuses on the local anesthetic blockade of peripheral nerves and the neuraxis. This is a subspecialty that overlaps acute and chronic pain medicine, in addition to pediatric, obstetric and ambulatory anesthesia. Moreover, regional anesthesia is an essential component of surgical anesthesia, where its applications range from simple plexus blocks for ambulatory hand surgery, to femoral nerve block for analgesia following total knee replacement, to the placement of a thoracic epidural as a key contribution to the multimodal management of colon surgery.

Why Regional Anesthesia?

The regional anesthesia practice of many anesthesiologists is limited to placing lumbar epidurals for labor analgesia. They are missing all the fun! Performing spinal and epidural anesthesia, placing continuous perineural catheters, or anesthetizing the brachial plexus with a single injection is technically challenging and, yes, fun. It breaks the tedium of managing each and every patient with general anesthesia. However, professionalism dictates we have better reasons for choosing an anesthetic technique than our own entertainment. Indeed, regional anesthesia has a number of advantages as either an isolated technique or an adjunct to general anesthesia. Compared to fast-track general anesthetic techniques, upper extremity regional techniques promote faster hospital discharge, fewer opioid-related side effects, and better analgesia during the first 24 hours after surgery. A spinal or epidural anesthetic for knee arthroscopy allows the patient to watch the surgeon repair his or her knee, while epidural anesthesia allows a mother to be awake during the cesarean delivery of her child. As a component of multimodal analgesia, thoracic epidurals play a critical role in perioperative management by promoting faster return of bowel function and fewer pulmonary complications following major abdominal or chest surgery. In short, regional anesthesia is a valuable, enjoyable and ever-broadening facet of anesthesiology practice.

So Why is Regional Anesthesia Not a Part of Everyone's Practice?

Despite its advantages, the actual practice of regional anesthesia can be challenging. The most important impediment to its widespread acceptance is the lack of quality training of residents by well-qualified faculty. This situation is improving. In 1980, most residents' exposure to regional anesthesia was limited to obstetrics. Training in the subspecialty varied widely, ranging from hundreds of spinal anesthetics in some programs, to only three spinal anesthetics in other programs.¹ By the year 2000, the vast majority of residents exceeded the Anesthesiology Residency Review Committee's minimal caseload experience for spinal and epidural anesthesia (50 each), and their experience included not only obstetrical indications but also pain medicine and surgical anesthesia uses. Inter-program variation in regional anesthesia training had narrowed. Despite these gains, 40 percent of residents still failed to attain minimal experience in performing peripheral nerve blocks (n=40).² As would be expected, the more training residents receive in regional anesthesia, the more likely they are to actually perform blocks in practice.³ Indeed, a survey of regional anesthesia fellowship graduates found that regional anesthesia remains a significant part of their caseload, whether in academic or private practice.⁴



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There are other self-imposed barriers to regional anesthesia practice. Many anesthesiologists are concerned about what they perceive as increased liability associated with regional anesthesia; the American Society of Anesthesiologists' Closed Claims database suggests that nerve injury claims have increased as major respiratory claims have decreased over the past two decades.⁵ Yet overall, regional anesthesia remains an extraordinarily safe practice that is linked only rarely to major morbidity. Another challenge that regional anesthesia enthusiasts often face is bringing their techniques to a practice where performing the blocks is perceived to "slow things down." However, after experiencing the advantages afforded by regional anesthesia, surgeons typically become strong advocates of these techniques.

Who Practices Regional Anesthesia?

Regional anesthesiologists are in some ways just a bit different from those who deliver only sedative hypnotic drugs and volatile gases. Regional anesthesiologists tend to be good with their hands, they like handling needles, and they enjoy the challenge of finding the epidural space in a 450-pound patient. They are committed to the belief that their extra efforts, at the very least, provide their patients with superior analgesia as compared with traditional opioid-based modalities.⁶ Regionalists generally have great communication skills and enjoy chatting with an awake patient during arthroscopic knee surgery. Finally, because regional anesthesia carries the risk of not being as effective as expected, it presents a challenge. The job of the regional anesthesiologist is to make the imperfect perfect, and then to research ways to make it even better.

What is the Future of Regional Anesthesia?

In the last decade, the practice of regional anesthesia has experienced advances not witnessed since the introduction of local anesthetics at the end of the 19th century. Regional anesthesia and acute pain medicine research is vibrant, particularly in the area of peripheral nerve blockade. Outcome studies have further defined the benefits of regional anesthesia in selected subgroups of patients, both those undergoing relatively minor ambulatory procedures and those having more complicated operations. Improvements in the technology of peripheral nerve stimulation and ultrasonography have the potential to revolutionize how we localize nerves destined for blockade. Technical and material improvements in perineural catheters have opened new doors for postoperative analgesia that were previously closed by concerns regarding neuraxial anesthesia during concomitant anticoagulation. Contemporary anesthesiologists believe that regional anesthesia will become an increasingly important part of their future practice,⁷ surgical and postoperative analgesia indications are growing, and residents and Fellows are becoming better trained.⁸ The future of regional anesthesia is bright. No matter what subspecialty of anesthesiology you eventually choose, regional anesthesia will likely be a much larger part of your daily practice than it was for the generation before you.

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