Cataract Surgery: Is an Anesthesiologist Necessary?

Although any surgery carries risks—both medical and legal—some surgeons believe an anesthesia specialist is not always necessary.

Christopher Kent, Senior Editor

3/20/2009

One of the consequences of a tightening economy is that people are forced to consider alternate ways of working that may be faster, simpler and/or more cost-effective. Given that the majority of cataract surgeries are now quick and relatively straightforward outpatient procedures, some surgeons are wondering whether these cases can't be simplified by eliminating the presence of an anesthesiologist or certified registered nurse anesthetist, as surgeons in some countries around the world already do.

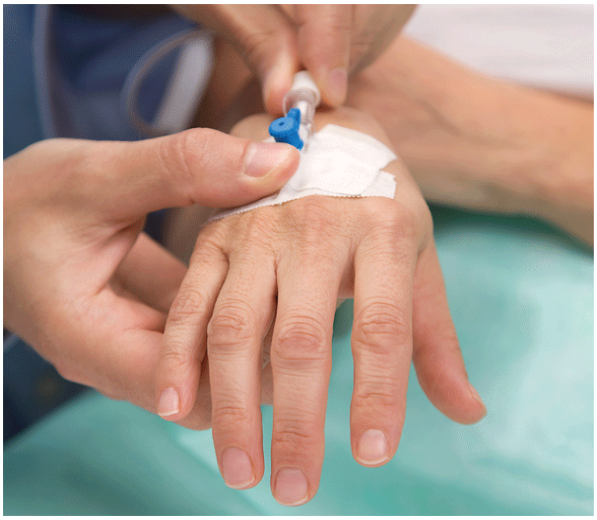
Many complexities previously associated with cataract surgery, such as extensive preoperative medical testing and hospitalization with full anesthesia, have fallen by the wayside for the vast majority of patients. Could minimizing anesthesia supervision be the next step down this road? Here, a number of doctors share their opinions—including one surgeon in the Mid-Atlantic who has performed more than 30,000 cataract surgeries without having an anesthesiologist or CRNA in the OR.

Asking the Question

"In the past five or six years there's been a paradigm shift to performing many outpatient ophthalmic surgeries, especially cataract surgeries, under topical anesthesia," observes Terrence P. O'Brien, MD, a professor of ophthalmology and director of the Refractive Surgery Service at Bascom Palmer Eye Institute c Palm Beaches of the University of Miami in Florida. "This has raised some controversial issues regarding how much medical support you need to safely opera this situation. Unfortunately, experts have disparate views, and we don't have much clinical data upon which to base a decision.
There's also an information gap regarding the benefits and drawbacks of the different anesthesia options that are available.

"Basically, if you're using sedation, you need to at least have a nurse monitoring blood pressure and oxygen levels," he continues. "The surgeon can't be devo his attention to those parameters. On the other hand, if you don't have an IV in and you're not giving the patient drugs that can have an adverse effect, you r be able to just have a nurse monitor the patient's blood pressure.

"How often an anesthesiologist is present during cataract surgery varies in countries around the world," he notes. "In the United States, it's about 80 percent time. In Europe, the situation is highly variable depending on the country, with the presence of an anesthesiologist ranging from as little as 1 percent of the ti more than in the U.S.
The fact that a few countries use so little support of this type suggests that such an approach is at least worth examining. And of course, there are enormous implications to all of this—especially in the United States where Medicare pays for most of these services."



The Benefits of an Expert

Not surprisingly, anesthesiologists are quick to point out the advantages of having an anesthesia expert present during surgery. "An anesthesiologist is the int in the OR," says Steven I. Gayer, MD, associate professor of clinical anesthesiology at the University of Miami's Leonard M. Miller School of Medicine and dire anesthesia services at the Bascom Palmer Eye Institute in Miami. "When a patient comes in, the medical care is primarily managed by the anesthesiologist. T makes sense, because the ophthalmologist is a highly trained specialist whose focus should be the eye during surgery, not on the patient's heart rate or rhyt pain, blood sugar and so forth.

"Many of these procedures are considered to be low risk—particularly cataract surgery," he continues. "However, many cataract surgery patients are elderly. They're fragile and they may have a number of concomitant health issues—cardiac, pulmonary, renal or metabolic—that put them in jeopardy of perioperativ medical complications, independent of the eye surgery. These patients aren't healthy 20-year-olds lying down on a table for LASIK surgery.

"In fact," he adds, "I recently published an article on perioperative management of the elderly undergoing eye surgery that lists a large number of concerns t arise during surgery, such as uncontrolled hypertension, angina, dysrhythmias, hypercarbia from rebreathing under surgical drapes, seizures, delirium and o issues.[1] I don't think the surgeon should have to address these concerns; he or she should be thinking about the eye."

How Great Is the Risk?

Given these concerns, what do the data say about the dangers of outpatient cataract surgery? And is there a difference in safety that accompanies the prese absence of an anesthesia specialist in the OR?

In 2000, Oliver Schein, MD, MPH, Burton E. Grossman Professor of Ophthalmology at the Wilmer Eye Institute and a past author of the American Academy of Ophthalmology's Preferred Practice Pattern for cataract surgery, was lead author of a study designed to determine whether it was really necessary for catara patients to undergo routine, extensive pre-surgery laboratory testing (which was common at that time).[2] "We found that there was no benefit to the testing whatsoever, and we recommended that routine lab tests be dropped," he says. "Meanwhile, we assembled some really good information on how safe catara surgery is.

"It turns out that it's remarkably safe," he continues. "The likelihood of having a medical event that would cause death, hospitalization or require significant intervention is very low. Also, our study participants were provided with different levels of anesthesia care—some surgeons worked with anesthesiologists wh patients lots of medications; other surgeons used little medication and had different levels of anesthesia care and monitoring of the patient. The way anesthe was managed didn't make a big difference as far as medical events. People tended to do very well under any protocol."

Somewhat ironically, Dr. Schein notes that using more complex or intensive anesthesia actually increases the risk of undesirable medical events. "The more anesthesia-related medications a patient receives—hypnotics, benzodiazopenes, narcotics—the greater the risk of a reaction," he says. "These are not terribl medical events; they're things like nausea, vomiting, delay in discharge, changes in heart rate, and so forth. Nevertheless, you could argue that more intense

anesthesia care doesn't improve safety at all; it probably does the opposite. Interestingly, we also found that the use of more intravenous medications did no improve patient assessment of comfort."

Dr. Schein notes that having an anesthesiologist present isn't solely a question of reducing risk. He says the most common reason he's happy to have an anesthesiologist available during surgery is in case of patient discomfort. "I know that the likelihood of needing the anesthesiologist is small," he says. "But pa sometimes become uncomfortable during the procedure. The patient could start having shoulder pain or be claustrophobic, and we may not realize it until th drapes are on. In that situation, you need someone to administer just the right amount of extra sedative, not too much or too little. That kind of situation is w more common than a patient suddenly having an arrhythmia or trouble breathing."

No Anesthesiologist: Would It Undermine Referrals?

One concern some surgeons have is whether performing cataract surgery without an anesthesiologist in the OR would affect their reputation in the medical community, resulting in a reluctance on the part of primary care physicians to refer patients.

"I don't think that aspect of a surgeon's protocol would make a big difference in my decision to refer," says Stacy Chance, MD, a primary care physician practicing at the Oregon Medical Group in Eugene, Ore. "You're referring to a specialist because you trust his expertise and that he has worked out whatever ancillary personnel are needed for the procedure. You expect him to know the standard of care. I consider cataract surgery to be a minimally invasive procedure; if the surgeon says he's comfortable using topical anesthetic, regional anesthesia or sedative medications, and he's comfortable doing the surgery by himself or supported by someone who is not necessarily an anesthesiologist, I'd be fine with that.

"I'm not under any illusion that most ophthalmologists would work that way, but medicine evolves, and the way procedures are done and who is allowed to do them evolves as well," he continues. "We have many mid-level providers and physician's assistants doing jobs that 20 or 30 years ago only an MD would have been allowed to do. It's true that finances play a role in these decisions, and if you're looking to find a more cost-effective way to deliver medicine to more people you have to look at alternatives such as this.

"In general," he concludes, "I'd say that if a specialist has good outcomes, satisfied patients and a good reputation, most primary care doctors would be willing to refer to him even if he does things a little bit differently from the majority of specialists in that category."

—CK

Taking the Alternate Path

Lance Ferguson, MD, in private practice at Commonwealth Eye Surgery in Lexington, Ky., and president-elect of the American College of Eye Surgeons, has performed tens of thousands of cataract surgeries over the course of his career—the vast majority without an anesthesiologist or CRNA in the OR during surg

Dr. Ferguson says that working without an anesthesia expert in the OR wasn't something he began doing by choice. "When I moved from the hospital to the surgicenter around 1987, the standard of practice was to always have an anesthesiologist with you for local monitored anesthesia care," he explains. "Howev anesthesiologists didn't want to be involved at the ASC because the reimbursement was so poor; they didn't feel it was worth the risk they were assuming. I blame them—even today, anesthesiologists should be paid far more than they are. But as a result, I was forced to work without them.
As you'd expect, I was uneasy about it. However, topical anesthesia eventually became popular, and I began using sublingual Versed. That made me a lot m comfortable. Most patients didn't need to be put to sleep and didn't need an IV. At that point I began to realize that there were some benefits to working this

Dr. Ferguson stresses that he does use an anesthesiologist for any cataract surgery where the potential for trouble has been noted. "Some patients clearly n be done under general anesthesia," he says. "Some are claustrophobic, some are high risk, some simply require more local anesthesia than I'm comfortable by myself. We work very hard to identify those patients in the clinic. Then, one or two days a month we have an anesthesiologist in attendance during surger

"As a result of working this way, my anesthesiologists really earn their pay," he notes. "They know I've saved the challenging patients for them. And because patients are identified as being at risk under our guidelines, it's in our interest to use an anesthesiologist rather than a CRNA, even if it's a topical case. It's n question of skill or competence, but of liability. The surgeon assumes much less liability risk with an anesthesiologist than with a CRNA; a CRNA works as an of the surgeon."

Dr. Ferguson says he understands all the empirical and theoretical risks that anesthesiologists point out. "It's true that anything can happen during surgery," h admits. "But the bottom line is that in my clinical experience, if you screen patients well preoperatively, bad things simply don't happen. I've done 35,000 cata surgeries over the past 23 years, and probably 95 percent were done without an anesthesia person in the OR. I haven't had any deaths, cardiac arrests or

significant medical injuries. Any medical difficulties we've seen occurred in the preop area and were identified and treated before entering the OR. The empi data speaks for itself."

Weeding Out Risky Patients

Dr. Ferguson is quick to point out that his practice has taken very specific precautions to minimize any chance of an unexpected problem during surgery. "I be it's reasonable to perform a straightforward cataract surgery without a CRNA or anesthesiologist present," he says, "as long as the following conditions are n

"First, you need a really strict screening system before you even schedule the patient, including dependable reporting of history and physicals to identify thos are at increased risk," he says. "Even if they've passed their H&P, I look them over on the day of surgery; if they have a bad cold or a fever that day I send th home. Also, since they've been worked up in our clinic, we know they will tolerate all the meds they're going to receive in the course of cataract surgery, exc Versed, and we monitor their O2 saturations.

"In addition, we've seen how patients have managed the stress of the exam," he continues. "I believe if a patient has done well during the lengthy exam in th clinic, surgery will be a breeze. They've had their pressure checked and their axial length measured; we've observed their ability to cooperate. We monitor th through their entire time in the ASC. If our RNs pick up on anything we're not comfortable with, we cancel the patient. Our nurses know to blow the whistle i see a diastolic pressure over 100, any type of arrhythmia in the EKG, or if the patient has any difficulty breathing. These problems are caught before the patie admission to the OR.

"In comparison to the preop exam in the clinic, the ASC experience is much less stressful. Patients lie down and get a little medicine under their tongue," he "They don't get a shot behind their eye. They've already had every medicine we're going to give them except Versed, whose effects can be reversed with sul Romazicom [Flumazenil].
We monitor their cardiac activity and oxygen saturation. Compare that to what any patient experiences at the dentist—X-rays, perhaps an injection in the mo gas or gum surgery. They do fine with that. Here, they just lie down on a stretcher and get Versed under their tongue."

Dr. Ferguson says the second condition that makes it reasonable to do straightforward cataract surgery without an anesthesia person in the OR is having a c nursing staff that has experience with both the drug Versed and pulse oximetry. "We put a premium on hiring nurses who have ICU experience," he notes. "C nurses are extremely sharp—I'd let any of them take care of me, and I owe my success to them in many ways.

"Third, as the surgeon you should have resuscitative training," he says. "In fact, all of your staff should have taken basic life support and advanced cardiac lif support training. I've actually taught advanced cardiac life support. Fortunately, I've never had to use that knowledge, other than bagging one patient who ov responded to Versed. When it's a straightforward five- to seven-minute case where we're going to use just a couple of eyedrops and Versed under the tongu have a great support staff working with me, I'm comfortable."

The fourth condition on Dr. Ferguson's list is having a hospital nearby that's willing to accept patients from your surgicenter in case a problem does arise. "W very well-located here," he notes. "We have the fire department across the street and we're about half a mile from a major hospital; the rescue squad arrive pronto. If somebody starts to have problems with breathing, for example, we're prepared to manage them until the rescue team arrives. And that can happe visitor who's just sitting with one of your patients in the waiting room."

Given that there is some increased risk associated with working this way, why even bother? "Not using an anesthesia expert on every case saves both patient the government money," says Dr. Ferguson. "The government pays a lot for anesthesia coverage. Patients save money because their copay is reduced, and t make a big difference to some of them. There's also a savings in time for both the patient and surgeon. The patient deals with fewer doctors and pays fewe and the surgery tends to go a bit quicker. There no real financial saving for the surgeon, but those other savings do make a difference."

The Medico-legal Factor

Obviously a key concern for many American surgeons is a fear of being sued should something go wrong during surgery. "The legal environment in the U.S. forgiving," observes Dr. Schein. "If you're in Holland where the medico-legal environment is much more friendly than it is here, and the standard of care is n

have an anesthesia expert in the room or to give significant sedation, you're on a very different footing. And the reality is, if you take care of people in that ag group, you'll have some medical events sooner or later. Unfortunately, we live in a society in which people look for excuses to sue."

Nevertheless, the data from Dr. Schein's study suggest that the presence of an anesthesiologist, statistically speaking, has little effect on medical outcomes. ' emergency, it's impossible to say how much difference it will make to have an anesthesiologist present; it depends on the situation," notes Dr. O'Brien. "The problem is, if something goes wrong and an anesthesiologist was not present, people will ask why not—even if it wouldn't have made any difference in the m outcome."

Dr. Ferguson is aware of the risk. "Suppose somebody did have a bad result," he says. "Would I be on the hook? Yes. But I'd be on the hook even if the anesthesiologist was there. When a patient sues, his attorney is goes for the deepest pocket. And if you use a CRNA, you're essentially assuming all of the le in any case.

"If you want partial coverage, you have to sacrifice time and cost your patients more money," he notes. "But I don't push my luck; if a patient seems uncomfo during surgery, I schedule the other eye for a day when an anesthesiologist is in attendance.
Again, I learned to work this way because anesthesiologists didn't want to take these cases when I was starting out. I've gradually become comfortable with our results support the idea that this protocol works."

Surgeons' Only focus: The Surgery?

Dr. Ferguson allows that the idea of a surgeon being able to focus solely on the eye during surgery is a good thought, but one that doesn't reflect the realities working in the OR. "In the real world the phone goes off," he says. "Somebody drops a clipboard.
Somebody lets the bottle get close to running dry. Patients wiggle or have a benign tremor. Then there are interruptions: Somebody's having trouble in preo can't get a patient dilated. Someone comes in to tell you a patient cancelled. Someone next door needs you to take a look at a chemical burn between cases.

"In the real world, you're going to have distractions," he says. "You're not going to operate under perfect conditions. Besides, anesthesiologists themselves m mistakes from time to time; they're human like the rest of us. So you can't simply ignore the concerns they are managing. You have to think about everything happening—including how the anesthesia is affecting the patient. On the other hand, even working without an anesthesiologist, your nursing staff will be wat the patient's parameters like a hawk the whole time, and the case is only seven minutes long.

"The most important question is whether you're comfortable with your emergency skills," he adds. "With or without an anesthesiologist, distractions are muc of a concern when you know you're prepared to deal with potential problems."

Wave of the Future?

"There are a lot of important issues here," notes Dr. O'Brien. "The cost-effectiveness of cataract surgery really needs to be looked at from a health-policy perspective, especially since this is one of the most frequently performed procedures in our health system. Of course, there are a lot of barriers to change. Surgeons get into habits; anesthesiologists have their perspective; different people benefit economically depending on which way we go. Patients have expec as well. And the matter is complicated by an information deficit."

"If use of anesthesiologists during cataract surgery were to become less common in the U.S., my bet is that it would only happen because of a relative short them," says Dr. Schein. "Clearly, some surgical procedures require an anesthesiologist more urgently than cataract surgery does. I definitely don't believe Me will suddenly stop paying for anesthesia care. On the other hand, some procedures such as endoscopy have gradually stopped using anesthesiologists, so su trend is possible."

"I would not feel comfortable if an anesthesiologist was not available at all," he adds. "Many years ago I had a conversation with a Danish ophthalmologist wh comfortable not using an anesthesiologist for most of his cataract cases. However, he was doing all of his surgeries in a hospital in which no surgery could ta place unless an anesthesiologist was less than five minutes away."

Dr. Ferguson notes that his approach has not produced any major concerns. "I certainly don't have the expertise and training that anesthesiologists have," he acknowledges. "I just use them selectively, on cases that I believe are high-risk or have special needs. If you're not comfortable working without an anesthesiologist, then don't do it. If you're not comfortable handling basic life support, if you don't have a support team immediately available, if you don't ha crack team of nurses, don't do it.

"Have we lost anyone working this way? No," he says. "Have we admitted anyone to the hospital? Yes, but without exception these were individuals who had difficulty in the preop area, not during surgery.

"I readily admit that there is less medico-legal risk if you use an anesthesiologist, because people can sue you for anything," he concludes. "But for the major cases, if you have an excellent screening system with plenty of observation time before surgery, if you're comfortable with your basic life support skills and if have a good support staff with ICU experience and immediate access to life support, I think you're very safe. For a topical case on a reasonably healthy patie only eyedrops and Versed under the tongue, I haven't seen any need for an anesthesiologist to be involved."

1. Gayer S, Zuleta J. Perioperative management of the elderly undergoing eye surgery. Clin Geriatr Med 2008;24:4:687-700.

2. Schein OD, Katz J, et al. The value of routine preoperative medical testing before cataract surgery. N Engl J 2000;20:342:3:168-75.

3. Katz J, Feldman MA, et al. Injectable versus topical anesthesia for cataract surgery: patient perceptions of p and side effects. The Study of Medical Testing for Cataract Surgery study team.

Ophthalmology. 2000;107:11:2054-60.

Search on This Topic Back to Category

Home | Classifieds | Archive | Business Staff | Editorial Staff | Author Guidelines | Privacy Policy | Calendar | Contact | Su