

Eye center switches to all oral sedation

The anesthesiologists said their reimbursement wasn't adequate for cataract surgery. They approached the administrator of Elmira ASC and said the surgery center would either need to supplement their payments or they would leave.

In 2004, more than 90% of the ambulatory surgery center's (ASC) cataract patients were Medicare recipients. The Medicare reimbursement for anesthesiologists was about \$100 per case, compared to about \$400 from private insurers, says the center's administrator, Thomas Friedrich, RN, BS, CMPE.

Friedrich and medical director Richard Rosenberg, MD, an ophthalmologist, convened a quality improvement (QI) committee to discuss options—subsidize the anesthesiologists or find other sedation solutions. When they began their study, no one anticipated the process would lead to a total change in the center's sedation protocol and elimination of anesthesiologists' services altogether.

Exploring alternatives

Elmira ASC is located in Elmira, NY. Three surgeons perform approximately 2,000 ophthalmology cases a year, primarily cataract procedures. Most patients are in their 70s and 80s, Friedrich says.

The QI committee began with a literature and benchmarking search. The literature search found 2 relevant studies. The first, by Katz et al, showed that oral sedation for cataract surgery had fewer risks for patients than intravenous (IV) sedation and anesthesia. The study also showed the risks of IV sedation increased with IV-narcotic administration.

The second study by Reeves et al showed substantial savings were possible in cataract sedation, but physicians more often preferred the more costly measures.

Despite the physician preference noted in the Reeves study, Elmira's QI committee searched for other ASCs using oral rather than IV sedation. They could find only surgery centers that used oral sedation combined with other methods that required anesthesiologists to monitor patients.

"Our search for a role model was fruitless," Friedrich says. "We found facilities that used oral sedation 80% of the time, but they used conscious sedation for patients who were more anxious. These didn't fit for us because we needed a solution that was all or nothing—we either had the anesthesiologists here or not."

Advantages of oral sedation

The QI committee concluded that the advantages of switching to oral sedation far outweighed the disadvantages and decided to pilot the new method with a select group of patients.

The advantages included:

- Fewer complications. Despite a low anesthesia complication rate for cataract surgery, IV sedation risks include bradycardia, hypertensive and hypotensive episodes, and postoperative drowsiness—almost always the result of IV sedatives and/or narcotics. "The anesthesiologists were here to manage complications, but almost all the complications were caused by the anesthesia," Friedrich says.
- Decreased need for preoperative assessment. Oral anxiolysis (light sedation) using diazepam eliminated the need for a history and physical and electrocar-

diogram by a primary care physician. "Patients frequently complained about having to make these appointments prior to surgery," Friedrich says.

- Lower costs. The study by Reeves et al estimated that IV sedation with an anesthesiologist costs \$325 per procedure. Oral sedation without an anesthesiologist costs \$17 per procedure. Friedrich calculates that Medicare would save about \$500 million annually if all cataract procedures performed at ASCs used oral sedation, and the primary care history and physical and ECG were eliminated.

The American Society of Anesthesiologists guidelines for sedation and analgesia do not cover anxiolysis because it entails minimal risk. The guidelines state that with anxiolysis, cognitive function and coordination may be impaired, but ventilatory and cardiovascular functions are unaffected.

Friedrich says 2 questions emerged after the QI study: If a safer and less costly approach exists, how could they not use it? And why isn't everyone else using it?

Nurses uncomfortable

Dr Rosenberg was enthusiastic about trying the oral sedation protocol and carefully selected patients he believed were calm and easygoing for the pilot.

But the nurses were not as enthusiastic, Friedrich says. Some nurses were concerned that the absence of an anesthesiologist would increase their responsibility for handling medical crises or that patients would be traumatized if they had the surgery with only oral sedation.

"Telling the nurses about the oral sedation did not go as well as we had hoped," Friedrich says. "Some even threatened to quit."

To address their concerns, the medical director and nurse manager reviewed the research with the OR nurses. They assured them that a nurse certified in advanced cardiac life support (ACLS) always would be on site, and patient discharge and monitoring criteria would remain the same. Almost all of the nurses are ACLS certified. In addition, the center bought an upgraded 12-lead electrocardiograph with interpretation and defibrillation. All nurses received training on the new equipment.

Nurses could opt out of the trial cases, but only one nurse chose to.

Dr Rosenberg performed the first 6 pilot cases in the afternoon after the anesthesiologists had left for the day. The procedures went so well he decided no more test cases were needed.

"I knew after 6 cases that this was the way we should be doing these procedures," Dr Rosenberg says. "There was little difference in patient anxiety levels when only Valium was used."

In addition to the diazepam (Valium), a staff member holds the patient's hand as a form of "social sedation" and is there to assist in the event of a crisis.

"I think hand-holding does more than the Valium to calm the patient," Friedrich says. "If I had to remove one or the other, I'd remove the Valium."

The first case with oral anxiolysis took place at Elmira ASC on Jan 25, 2005. By April 2005, the center cancelled its contract with the anesthesiologists.

The OR nurses are now supportive of the new sedation approach. "Without exception, all the nurses are happy with how things are going and are comfortable with the change," Friedrich says.

Patient selection

Regarding patient selection, there were 3 issues, Friedrich notes:

- Is the patient healthy enough to tolerate the surgical removal of the cataract? There is little, if any, systemic risk from the surgery itself. The only patients who would be screened out are those who are either acutely ill or have serious chronic illnesses such as heart failure or advanced chronic obstructive pulmonary disease.
- Is the patient healthy enough to tolerate the sedation? Because oral sedation is safer than the drugs used for conscious sedation, the question is almost always yes if the answer to the first question is also yes.
- Is the patient a candidate for surgery using light sedation (anxiolysis)?

"Our experience is that most patients do fine with anxiolysis," Friedrich says. "But if we have a patient with a strong preference for deeper sedation, those patients are

scheduled at the hospital by the surgeons. Also, if we have a patient with an anxiety disorder, those cases will be done at the hospital.

"The surgeons are responsible for making that decision. The surgeons re-evaluate the patient immediately prior to surgery with a limited history and physical."

Measuring outcomes

Since implementing the oral anxiolysis, Elmira ASC has collected these findings:

- Patient satisfaction scores remain high.
- Physician satisfaction is the same or higher. Because patients are fully conscious, the surgeon must interact with them more, Friedrich says. "It's positive because the patients can cooperate by looking up and down as needed."
- Despite eliminating preoperative tests, exams, and anesthesiologists, Elmira ASC's costs have increased slightly from the new sedation method. The surgeons perform a brief history and physical before surgery because it is no longer required by the primary care physician. As a result, preoperative time is about 10% longer, which has increased staff costs. But this is offset by not subsidizing the anesthesiologists, Friedrich says. "On balance, it probably costs us a bit more to do the procedures this way."
- Because of the cost savings to the insurer—no history and physical by a primary care physician and no anesthesiologist—Blue Cross/Blue Shield has agreed to pay the center slightly more per procedure.
- Preadmission cancellation rates have decreased from 17% to 8%. Friedrich believes this is because anesthesiologists are not canceling cases for scheduled patients who were inappropriate candidates for IV sedation at a freestanding surgery center.
- Vitreous loss rates decreased from 1.3% to 0.3%. Because patients are less sedated and better able to cooperate with the surgeon's directions, there is less chance for accidental puncturing of the capsular bag, which can result in loss of vitreous gel. ❖

—Leslie Flowers

Leslie Flowers is a freelance writer in Indianapolis.

References

- American Society of Anesthesiologists. Practice guidelines for sedation and analgesia by non-anesthesiologists. www.asahq.org.
- Katz J, Feldman M A, Bass E B, et al. Adverse intraoperative medical events and their association with anesthesia management strategies in cataract surgery. *Ophthalmol.* 2001;108(10): 1721-1726.
- Reeves S W, Friedman D S, Fleisher L A, et al. A decision analysis of anesthesia management for cataract surgery. *Am J Ophthalmol.* October 2001;132(4):528-536.

Savings with oral sedation

Savings for cataract surgery at Elmira ASC:

Medicare patients: \$200/case

- \$100 anesthesiologist
- \$100 physical exam and electrocardiogram (ECG)

Patients with commercial insurance: \$575/case

- \$400 anesthesiologist
- \$175 physical exam and ECG

Quality award winner

In December, the Accreditation Association for Ambulatory Health Care's Institute for Quality Improvement (AAAHC Institute) gave its second annual Innovations in Quality Improvement Award to Elmira ASC for its quality improvement study, which led to a new sedation protocol.

"Elmira ASC really went out on a limb," says Naomi Kuznets, PhD, AAAHC Institute director. "They couldn't find this protocol anywhere else, but they made it safe under regulatory and accreditation requirements."

She notes that there was a cost—slightly longer procedures, and a staff member holding the patient's hand—"but they found a way to make it work financially and make cataract surgery safer for the patient."

The center's administrator, Thomas Friedrich, RN, BS, CMPE, says the keys to the success of the new sedation protocol are:

- surgeon communication and patience in working with a conscious patient
- "social sedation," in which the nurse provides support by holding the patient's hand
- extensive communication with the staff about the rationale for the change
- preparation for handling emergencies.