The Joint Commission on Accreditation of Healthcare Organizations, in an Oct 6 Sentinel Event Alert, called on organizations to develop a policy on anesthesia awareness that includes educating staff, identifying patients at risk, using anesthesia monitoring techniques, and providing follow-up care.

Patients should receive follow-up similar to that for postoperative infections, JCAHO President Dennis O’Leary, MD, said at a press conference.

Experts estimate anesthesia awareness occurs in 1 to 2 of every 1,000 patients having general anesthesia, with about 26,000 cases in the US each year.

Patients who wake up during surgery are mentally aware of what is happening but cannot move or alert their caregivers. Among effects they report are auditory recollections (48%), sensations of not being able to breathe (48%), and pain (28%). More than 50% say they experience postoperative mental distress, and some decide never to have surgery again.

The number of patients who are anxious about waking up in the middle of surgery has increased dramatically in the past 10 years, JCAHO says.

The alert was issued to draw attention to the problem, Dr O’Leary told reporters at the news conference. Joining in the alert were the American Society of Anesthesiologists (ASA) and the American Association of Nurse Anesthetists (AANA).

JCAHO encourages organizations to review the alerts but does not require complying with them. Surveyors may ask organizations if they are familiar with the alerts.

Who is at risk?

Anesthesia awareness is an issue for the entire institution, ASA president Roger W. Litwiller, MD, told reporters, adding that ASA has been educating its members about awareness for years. In the rare case when it occurs, he said patients deserve the support of the entire health care team. Specific recommendations for preventing awareness were published in the February 2000 *Anesthesiology*.

Awareness is most common in patients who must be given a lower dose of anesthetics and have the drugs titrated to reduce side effects. This includes patients having cardiac, obstetric, and major trauma surgery. Often it isn’t safe, for example, to give obstetrical patients the deepest level of anesthesia because of the possible effect on the baby.

Monitoring patients to prevent awareness is challenging, and awareness is difficult to recognize while it is occurring. Indicators of awareness, such as high blood pressure, fast heart rate, movement, or hemodynamic changes, are often masked by use of paralytic agents to achieve muscle relaxation, Dr Litwiller said.

“The nature of the surgeries we do today often requires that the patient be motionless, and there is really only one way to guarantee that: giving them enough of a drug to make sure they are paralyzed,” he said. In delicate surgery, it would be a catastrophe if the patient moved at a critical time.

Patients react differently to anesthesia, which makes preventing awareness challenging. Muscle relaxants are given in relation to the patient’s weight and illness as well as the type of surgery.

Patients need follow-up

A key point of the alert is to make sure patients who have an awareness experience get attention postoperatively.

“One of the most critical issues we are trying to raise is to manage the patient who has had the experience,” noted Dr O’Leary.
The alert calls on organizations to have a policy to identify patients at high risk, discuss the potential for an awareness experience with them before surgery, and provide for follow-up. Follow-up should continue for a week because patients have more recall about awareness a week after surgery than 24 hours after surgery—with the frequency of recall going up by a third to a half, he said.

“If we don’t follow up with these patients at the right time, we are missing information, and we are not fully serving the patient,” Dr O’Leary said.

Staff must be educated so they can give compassion and support. Staff in all areas that care for postoperative patients need to be educated, he noted, because patients may remember the experience while in the ICU, medical-surgical unit, obstetrical unit, nursing home, or at home. The more time passes before the patient reports the experience, the greater the risk that caregivers will discount the patient’s concern, he said.

For ambulatory surgery patients, Dr Litwiller suggested a follow-up call from the anesthesia provider’s office 2, 3, or 4 days after surgery. Surgeons can also discuss the matter during the patient’s postoperative appointment.

“If we can make the whole medical community aware that this is a potential problem, we have a possibility to pick up cases that might slip through our fingers,” he said.

**A patient’s concern**

Carol Weihrer, who says she still suffers the traumatic effects of being awake during surgery to remove her eye in 1998, is waging a campaign to educate physicians, hospitals, and the public about her experience and that of others. She is founder of the Anesthesia Awareness Campaign (www.anesthesiaawareness.com).

Weihrer told OR Manager she took her concerns to JCAHO in late 2003 and later sent them her recommendations.

During her surgery, she says, “I tried screaming, but I knew nothing was coming out.” Since then, she says she has not slept through the night and sleeps in a recliner because she cannot stand to be supine. She says her concerns were treated dismissively by the anesthesiologist and nursing staff. Since then, she says she has spoken with more than 2,000 patients who have had similar experiences.

In addition to education, Weihrer advocates psychological support for patients who’ve had an awareness experience. She adds, “Every patient who has had this experience deserves an apology.”

**What is the role of technology?**

New technology is being developed to aid in detecting anesthesia awareness. These devices measure brain activity rather than physiological responses. They include the Bispectral Index (BIS), spectral edge frequency (SEF), and median frequency (MF) monitors.

Dr O’Leary said there is not enough evidence yet to clearly define the role of these devices, and more studies are being conducted. The Food and Drug Administration cleared the BIS monitor in 2003 for monitoring to reduce the risk of anesthesia awareness. The device was originally cleared in 1996.

Two major studies on monitoring have been reported this year. In a prospective study of 5,000 patients in Sweden who were compared with 7,800 control patients, BIS monitoring was associated with a significantly reduced incidence of awareness—0.04% versus 0.18%. A prospective, randomized multicenter study of 2,500 patients published in *Lancet* found BIS monitoring reduced the risk of awareness by 82%; there were 2 reports in the monitored group and 11 in the unmonitored group. The researchers estimated the cost of preventing one case of awareness in a high-risk patient at about $2,200.

ASA and AANA have created a task force to analyze the research and plan to issue a report in the next year.

Dr O’Leary noted: “We want hospitals and surgery centers to monitor more
closely whether patients are regaining consciousness, either by being more diligent or using brain monitors or both.”

Dr. Litwiller noted that the technology presents some difficulties, and “there will never be a replacement for the vigilant anesthesiologist or the vigilant nurse anesthetist.

“The problem is being able to accurately interpret the data that the device gives us. You can have one of these brain wave monitors on a patient, and the vital signs are stable, and all of a sudden the monitor gives you a different reading from your vital signs. The question then becomes, do you treat the machine or do you treat the patient?”

AANA's immediate past-president, Tom McKibban, CRNA, MS, added that he has used the monitors for several years and thinks they are useful but has gotten false numbers at times.

“Even with the monitor, you have to be vigilant and understand all of the processes, not just one monitor,” he said.

The ASA and AANA provide guidelines for administering and monitoring anesthesia, which include:

- using premedication with amnesic drugs when light anesthesia is anticipated
- administering more than a “sleep dose” of induction agents if they will be followed by tracheal intubation
- avoiding muscle paralysis unless absolutely necessary and avoiding total paralysis
- conducting periodic maintenance of anesthesia machines and vaporizers and checking the machine and ventilator before administering anesthesia.

—Judith M. Mathias, RN, MA

References


The Joint Commission’s Sentinel Event Alert recommends that organizations performing procedures under general anesthesia:

1. Develop and implement an anesthesia awareness policy that addresses:
   - education of clinical staff about awareness and how to manage patients
   - identification of patients at high risk of an awareness experience and discussion of the potential for awareness with these patients before surgery
   - application of anesthesia monitoring techniques, including timely maintenance of anesthesia equipment
   - postoperative follow-up of all patients who have undergone general anesthesia, including children
   - identification, management, and, if appropriate, referral of patients who have experienced awareness.

2. Ensure access to counseling and other support for patients who experience post-traumatic stress syndrome or other mental distress.

Source: Joint Commission on Accreditation of Healthcare Organizations.
www.jcaho.org