ASC safety begins with patient selection

How do physicians determine which cases are safe to perform in the ambulatory surgical setting? As procedures become safer to perform in ambulatory surgery centers (ASCs) and private insurers and Medicare encourage them, patient selection has become a front-burner issue for anesthesiologists.

“The topic is raised at every ambulatory anesthesia meeting,” says anesthesiologist Raymond Borkowski, MD, medical director of the Carnegie Ambulatory Surgery Center, one of 5 ambulatory surgery centers owned by The Cleveland Clinic Foundation (CCF). “There’s an adage that there is no patient whose surgery can’t be performed in an ASC. I don’t think that’s true. Yes, we are seeing more ASA 3s and even ASA 4s with minor procedures, but there are definitely limitations,” he said, referring to the physical status classification system developed by the American Society of Anesthesiologists.

Cleveland Clinic guidelines

Because there are no hard-and-fast rules for patient selection at ASCs and little research to support decision making, CCF anesthesiologists created their own guidelines. Dr Borkowski convened the medical directors of CCF’s ASCs to write the guidelines. Their overriding safety considerations were the:

• patient’s medical condition
• type of procedure
• type of anesthesia required.

The first CCF guideline is that patients have a thorough preoperative health assessment to determine if they are appropriate candidates for ambulatory surgery.

At the initial surgical evaluation at CCF, each patient takes a computerized presurgical assessment called HealthQuest. HealthQuest is a computerized questionnaire with about 140 interactive questions. Patients can answer the questions on a touch screen in the surgeon’s office or over the Internet. The computer program has built-in algorithms that process the answers to give a summary of the patient’s health status, which is given a score of 1 to 4. (This scale is different than the ASA physical status classification.)

The second step in patient selection is to classify the type of surgery, using the Johns Hopkins Surgical Classification System developed by L. Reuven Pasternak, MD, MBA, MPH. Procedures are classified from category 1—minimal risk, minimally invasive with little or no blood loss, such as a breast biopsy or vasectomy—to category 5—major risk, highly invasive, and blood loss greater than 1,500 mL, such as cardiothoracic or intracranial procedures.

The surgeons or their designee, such as a resident or physician assistant, consult a grid with the HealthQuest score and the surgery classification (grid, page 26). The intersection of these values determines which preoperative evaluations are recommended prior to surgery, Dr Borkowski says.

For example, a patient with a HealthQuest score of 3 or 4 and a procedure that is a category 2 or higher requires an evaluation in both:

• the IMPACT (Internal Medicine Preoperative Assessment, Consultation and Treatment Center), staffed by hospitalists, and
• the PACE (Preoperative Assessment, Consultation and Evaluation Clinic), staffed by anesthesiologists.
For a patient with a HealthQuest score of 1, no evaluations are suggested for any surgical category. These patients are placed in an “express group” and have an anesthesia assessment only on the day of surgery. This is also the case if patients need only preoperative evaluations in the IMPACT clinic.

Getting set for day of surgery
The PACE anesthesiologist ensures the anesthesia provider has the necessary information and test results for the day of surgery.

“This greatly decreases, although I can’t say eliminates, cancellations and delays on the day of surgery,” Dr Borkowski says, adding that these evaluations should be performed a minimum of 2 weeks prior to surgery. This allows time to obtain tests from other institutions or for patients to have studies to optimize their medical condition prior to surgery.

“If the evaluation isn’t performed until the day before surgery, we sometimes can’t get the appropriate information, and surgery is postponed,” he says.

CCF has more influence in enforcing patient selection guidelines than other organizations might because the surgeons who operate at the foundation’s ASCs are CCF employees. There have been few if any compliance problems, Dr Borkowski says.

“We told the surgeons this is what we expect, and this is how the patients will be evaluated at our centers,” he says. “I can and will say no to a patient who is not appropriate for the ambulatory surgical setting. Since we’re all Cleveland Clinic employees, the surgeons aren’t taking their business to another center if they don’t like the decision.”

Facility limitations
Another guiding issue in ambulatory surgery patient selection is the type of surgery center—freestanding or freestanding with a relationship to a hospital that is in safe patient-transfer distance. Surgery at an independent, freestanding surgery center may carry more risk for patients with higher ASA classifications, Dr Borkowski says.
“I have a friend who was the medical director of a freestanding surgery center,” he says. “He was the sole anesthesiologist and has no hospital affiliation. He had to be much more careful about the types of cases he was willing to do.”

Another limitation of an ASC is the amount of surgical equipment and instruments on site.

“ASCs are only so big, and that is a surgical and safety constraint,” Dr Borkowski says. “We can’t have everything a hospital has.”

**A matter of clinical judgment**

Little research has been done to guide recommendations for patient selection in ASCs, Dr Borkowski says.

“This situation reflects the not-uncommon phenomenon of rapid diffusion of a technology without an evidence-based analysis to determine appropriate risk factors,” wrote Dr Pasternak in the *Canadian Journal of Anesthesia*. “The ability to truly determine the relative risk of ambulatory surgery is, at best, ambiguous despite over 20 years into its rapid growth phase.”

The Canadian Ambulatory Anesthesia Research and Education Group conducted extensive literature reviews on conditions that may make patients unsuitable for ambulatory surgery (sidebar). They found few trials available to guide decisions.

Morbid obesity is an important issue for patient selection at ASCs, Dr Borkowski notes.

“A colleague told me his center used to have a limit of 350 pounds because the OR table could only hold 350 pounds,” he says. “Then his surgery center bought tables that could hold 500 pounds. But the issue isn’t how much weight the table can hold. The issue is that obese people have a higher incidence of medical conditions such as diabetes, sleep apnea, cardiac disease, and difficult airways—all conditions that factor into our decision of ASC appropriateness.”

Dr Borkowski says much of his determination is based on physicians’ clinical judgment.

“We’re not going to do a thoracic aneurysm repair or a colectomy in a freestanding surgery center,” he says. “It’s a patient safety issue, and you need to be able to say to your surgeons, ‘I won’t do it.’”

—Leslie Flowers

Leslie Flowers is a freelance writer in Indianapolis.

**References**


**Contraindications for ASC procedures**

Though patients with significant medical histories may undergo surgical procedures at ASCs, there are a few absolute contraindications, according to patient selection guidelines established by The Cleveland Clinic Foundation:

- highly suspected or a history of known difficult intubation
- cases in which blood or blood products may be required
- total care nursing home patients or uncooperative patients
Evidence on patient selection

Canadian researchers reviewed the evidence on the risk of ambulatory anesthesia for patients with significant coexisting diseases. In many cases, there is little evidence on outcomes, and they suggested more trials. Their findings:

- **Elderly patients**: May safely undergo ambulatory surgery but are at increased risk for hemodynamic variation in the OR.
- **Heart transplant recipients**: At increased risk of coronary artery disease and renal insufficiency and should undergo careful preoperative evaluation.
- **Reactive airway disease patients**: At increased risk of minor respiratory complications and should be encouraged to quit smoking.
- **Coronary artery disease and recent myocardial infarction patients**: May undergo ambulatory surgery without stress testing if functional capacity is adequate.
- **Obstructive sleep apnea patients**: At increased risk of difficult tracheal intubation, but the likelihood of airway obstruction and apnea following ambulatory surgery is unknown.
- **Diabetes mellitus**: Has not been linked with adverse events following ambulatory surgery.
- **Morbid obesity patients**: At increased risk for minor respiratory complications in the preoperative period, but these events do not increase unanticipated hospital admissions.
- **Ex-premature infants**: May be considered for ambulatory surgery if postconceptual age is > 60 weeks and hematocrit is > 30%.
- **Children with upper respiratory infection**: At increased risk for perioperative respiratory complications, particularly if endotracheal intubation is required.
- **Malignant hyperthermia patients**: May undergo outpatient surgery but require 4 hours of postoperative temperature monitoring.
- **Meperidine and indirect acting catecholamines in combination with monoamine oxidase inhibitors**: Ambulatory surgery is safe if these drug combinations are avoided.