The most common procedures in ambulatory surgery centers (ASCs) used to be known by 3 characters—ENT, T&A, D&C, and the like. They were mostly short cases, and most patients were healthy, in anesthesia class P1 or P2.

Today, the list of procedures is longer and more complex—spinal surgery, complex shoulder repairs, and vascular procedures, to name a few. Patients have more complicated conditions, including heart disease and diabetes, with anesthesia class P3s and even some P4s not uncommon.

All of this makes preoperative screening more important than ever.

“It’s critical for ASCs to obtain a thorough preoperative assessment. We have patients presenting with many more comorbidities. This is affecting our entire industry,” says Lee Anne Blackwell, RN, BSN, EMBA, CNOR, director of clinical resources and education for Birmingham, Alabama-based Surgical Care Affiliates, with about 130 surgical centers nationwide.

Though ambulatory surgery is very safe, not many studies have looked specifically at complex patients. A retrospective 4-year study by Ansell and Montgomery found class P3 patients had unplanned admission and complication rates similar to class P1 and P2 patients. But previous reports found unplanned admission rates were higher for higher anesthesia classes. Recent reviews by Qadir and Smith and Bryson, et al, look at the issues.

ASC nurse managers offered their suggestions for managing the more demanding screening process.

**Start with a checklist**

ASCs depend on 2 sources for most of their preoperative information—the physician’s office and the patient. Getting complete information is challenging.

“We rely on getting as much information from the patient as possible,” Blackwell notes. “That depends on verbal communication—making sure the patient understands our questions and that we communicate on a level patients understand.”

Her suggestion—develop a standard communication tool or checklist to make sure required information is collected consistently.

“The checklist has grown from 1 page to 3 pages in some environments,” she notes.

A basic preoperative health assessment for ambulatory and office surgery by Plauntz is in the *Nursing Clinics of North America*.

For Surgical Care Affiliates’ ASCs, preop screening is conducted by licensed nurses, either RNs or licensed practical/vocational nurses (LP/VNs). They have the training and skill set to collect the appropriate information, identify comorbidities, and respond to patients’ questions, Blackwell notes. If comorbidities are identified, the chart can be referred to an anesthesia provider for a more extensive phone interview.

Medication reconciliation is a recent addition to the preop process. This involves listing all of a patient’s medications so drug interactions and other harmful effects can be avoided. Med reconciliation is a Joint Commission National Patient Safety Goal. The Accreditation Association for Ambulatory Health Care also has a standard calling for review and reconciliation of all medications, including over-the-counter products and dietary supplements.

**STOP screen for OSA**

A simple, validated tool to screen for obstructive sleep apnea has 4 questions:

**S** Do you snore loudly?

**T** Do you often feel tired, fatigued, or sleepy during daytime?

**O** Has anyone observed you stop breathing during sleep?

**P** Do you have or are you being treated for high blood pressure?

Patients who answer yes to 2 or more of the questions are ranked as being at high risk for OSA. Combined with other known risk factors for OSA, high BMI, age over 50, large neck circumference, and male gender, the sensitivity of predicting OSA was even greater.

(An article about the Joint Commission’s requirements was in the March 2008 OR Manager.)

**Paging ‘Alice’**

Even with a more complex caseload, cancellations because of screening problems are rare—only 5 or 6 cases a year, at Lakeview Surgery Center in Des Moines, Iowa. Typically, the reason is that the patient has not followed NPO instructions, not because of missing information, says Rikki Knight, RN, MHA, clinical director. The 6-OR multispecialty center, a joint venture between a hospital system and a medical group, performs about 7,000 cases a year.

Making 2 phone calls to patients before surgery is a major success factor, Knight says. The first call is made by an RN 7 to 10 days before surgery, or the day before for add-ons. The second call is made by a unit coordinator the day before surgery.

“Typically, the reason is that the patient has not followed NPO instructions, not because of missing information, says Rikki Knight, RN, MHA, clinical director. The 6-OR multispecialty center, a joint venture between a hospital system and a medical group, performs about 7,000 cases a year.

““This is the best thing we have done—the nurses are on top of the preop phone calls,” says Knight.

The calls are made by RNs in the pre- and postoperative areas as they have time during the day. If they need to leave a message for a patient, they use the code name “Alice.” Then when a patient calls and asks for “Alice,” the nurses know it’s about preop screening, and they treat it as a priority.

Nurses take a health history, including the patient’s weight and medications. They also give all instructions about NPO status, time to arrive, and so forth. If there are anesthesia issues, the nurse refers the chart to the center’s medical director or assistant medical director, who decides whether the patient is a candidate for outpatient surgery. Though there are guidelines, “every patient is looked at individually,” Knight says.

She says the biggest challenge is getting the history and physical (H&P) from the family physician.

After the nurses’ phone call, unit secretaries assemble the charts. A checklist helps track what pieces are missing.

**Who is excluded?**

The most common reasons for excluding patients at Lakeview are obstructive sleep apnea (OSA) or weight over 325 pounds. Many obese patients have complicated medical conditions, such as OSA, hypertension, congestive heart failure, and diabetes, which may be harder to manage in an ASC. Still, the literature reports that patients with a BMI of 40 or even 50 are considered acceptable for outpatient surgery, notes the review by Qadir and Smith.

OSA is linked with difficult airway management and an increased number of perioperative adverse events. From 2% to 26% of the population has OSA. But about 80% of men and 93% of women are unaware they have it. The American Society of Anesthesiologists (ASA) recommends that surgeons and anesthesiologists screen patients preoperatively for OSA.

A quick new evidence-based screening tool called the STOP questionnaire has been published by noted researcher Frances Chung, MD, and her colleagues from Canada (sidebar). Two other questionnaires have been validated: Dr Chung’s 11-question Berlin Questionnaire and the ASA’s checklists for adults and children.

**The day before surgery**

On the day before surgery, the unit coordinator calls patients again to review NPO instructions, time of arrival, any other teaching, and asks if there are any questions. Questions are referred to a nurse.

The preop form is kept simple—1 page for the nursing and anesthesia assessment. An update on the day of surgery allows clinicians to catch information that might have been left out, such as a medication.

Among Lakeview’s other success factors:

- Little preop testing is required. All testing is performed through the physicians’ offices. P3 and P4 patients often have their procedures performed under local anesthesia or moderate sedation early in the morning. “We work hard not to have to cancel these cases, because it so convenient for the patient,” she says.
Tuning up preop process for on-time starts

As a large hospital-owned outpatient surgery center, the Sharp Outpatient Pavilion in San Diego has a foot in both camps. “We have the challenges of a high volume with high-acuity patients along with the expectations to perform like a freestanding center,” says the pavilion’s manager, Jan Lee Kwai, RNBC, MSN, CNOR.

To boost performance, the pavilion started a reengineering project in January 2007. An initial goal was to reduce the number of late cases for the 7:20 am start time. The reengineering team found the preop process was critical to timely starts. “We had to somehow simplify our processes for these very sick patients, which was not easy,” Lee Kwai says.

The pavilion, with 10 ORs, performs an average of 900 to 1,000 cases a month, including anesthesia class P3 and P4 patients. Examples of complex procedures are laminectomies, major orthopedic surgery, and 7- to 8-hour plastic surgery cases. About 3 to 5 patients a day have planned overnight stays and are transferred to the nearby hospital. “We get all of the patients our freestanding centers can’t do because they are not close to a hospital,” Lee Kwai notes.

Preop screening centralized

Patients are screened through Sharp’s Preanesthesia Evaluation Service (PAES), which serves the pavilion and 2 other surgical sites. About 99% of patients are screened by phone by RNs who follow a script. Ophthalmology patients having local anesthesia are screened by physicians’ offices, using a script prepared by Sharp.

Anesthesiologists had a large role in developing the script so the information they need is gathered, Lee Kwai notes. Occasionally, the PAES flags a chart for an anesthesiologist to review. Some patients are ruled out before the case is scheduled. About once every other week a case is cancelled after it is on the schedule because of anesthesia concerns.

Patients who have a body mass index over 48, or 100% over their ideal weight, are not candidates for the outpatient pavilion. Patients with obstructive sleep apnea are not ruled out, however, and many are referred from the freestanding centers.

Show stoppers

The reengineering project identified “show stoppers”—factors that lead to a delay in 7:20 am starts, such as missing histories and physicals (H&Ps), lack of orders, or unclear orders.

Some steps that have helped with H&Ps:

• A reminder letter was sent to the surgeons by the pavilion’s medical director.
• The pavilion is using a new electronic documentation system for charting and transcription of dictated physician orders. The physicians must dictate far enough in advance for the transcription to be available.
• A log is kept of the “show stoppers,” notes Nadine Kalmonson, RN. Show stoppers that involve physicians are addressed by the surgery supervisory committee and the medical director.

Day of surgery

Other changes that help surgery start on time include:

• The preop nurses’ station was expanded to accommodate more staff and computers. Two long-term nurses donated paid time off to help with the renovation effort.
• An electronic patient tracking system keeps the staff up to date on patients’ status, saving time and reducing phone calls.

• An IV nurse was hired to help start IVs.
• There is a strict late-surgeon policy. Surgeons who are late 3 times lose their block time for 7:20 am starts for 3 months, which is enforced by the medical directors.
• A concierge was hired for the lobby to greet patients, communicate with families, and initiate some of the documentation that is still on paper.

“We originally had a volunteer doing this, but it became overwhelming as we got larger, and it became a paid position. Now we can’t imagine doing without it,” says Lee Kwai. In hiring, the pavilion looked for a person with a customer service background who was bilingual in English and Spanish. (She formerly worked for a physicians’ practice.)

“It was important that she is kind, patient, and able to be in touch with the patients and families,” she says. If a surgeon is running ahead of schedule, the concierge can prioritize which patients are called. To protect privacy, she keeps a list of what family members are wearing so she can direct the physician to the family without calling out a name.

Keeping on track

To keep the program on track, Lee Kwai and Kalmonson analyze the show stopper log, compiling a report of the reasons for late starts, which she takes to supervisory committees so they can examine common factors and trends.

A new item on the to-do list is a booth in the lobby where a nurse can begin patient interviews on the day of surgery in preparation for the pavilion’s 11th OR, scheduled to open in June.
What are the risks of complex patients?

With more elderly patients and patients with chronic conditions coming to ASCs, you may want to look at a review by Lermitte and Chung. Highlights of their findings:

Age
- The risk of ambulatory surgery is low for elderly patients.
- Elderly people are predisposed to intraoperative cardiac events.
- The evidence on age and unplanned admission rates is inconsistent.

Hyper-reactive airway disease
This category includes conditions such as asthma and chronic obstructive pulmonary disease.
- Hyperactive airway disease and smoking are predictive for perioperative respiratory events.
- Delaying surgery and stopping smoking have been shown to improve outcomes.

Coronary artery disease
- Patients with coronary artery disease can safely have ambulatory surgery, usually without further investigation.
- Though hypertension predicts intraoperative cardiac events, there is little evidence that delaying surgery reduces risk.

Diabetes
- Patients with diabetes are at increased risk for perioperative cardiac and respiratory events. But diabetes is not an independent predictor of major morbidity in the ambulatory setting.

Obesity
Many obese patients have associated medical conditions.
- Obesity predisposes patients to an increased rate of perioperative respiratory events, but they do not have increased rates of unplanned admissions.

Obstructive sleep apnea
The evidence is difficult to assess because as many as 80% of cases are undiagnosed.
- Patients with obstructive sleep apnea (OSA) may be more difficult to intubate and have higher rates of complications in the postanesthesia care unit.
- There is little research on patients with OSA having anesthesia, and more studies are needed.

Ex-premature infants
- The risk of postoperative apnea, which occurs in 25% of premature infants, declines to less than 5% when the postconceptual age is over 60 weeks.
- The evidence on choice of anesthetic technique and length of monitoring is not well defined.


Office of the Month
The Sharp Outpatient Pavilion in San Diego, a large hospital-affiliated center with 10 ORs, has an Office of the Month program.

“One physicians’ office is targeted each month, and we perform marketing, customer appreciation, or discuss physician and office satisfaction,” says Jan Lee Kwai, RNBC, MSN, CNOR, the pavilion’s manager.

“We check up on what we are doing well and what we can do better. It’s improved our preop process because of what we learn.” she says. “They also learn more about us and our needs. Then we come back and make changes.”

For example, one physician’s eye surgery cases were not moving at the expected pace. When visiting his office, the Sharp staff learned he needed time in the schedule to go to the hospital’s laser center to perform his LASIK cases. His general surgery cases were scheduled to allow time for the LASIK procedures.

(More about Sharp’s preop process is in the sidebar.)

Gathering the H&Ps
To coordinate paperwork and make sure H&Ps are in the charts before the day of surgery, Ellen Schmidt, RN, clinical coordinator of the postanesthesia care unit at the Surgicenter of Baltimore, works 3 days ahead. The center, located in Owings Mills, Maryland, has 4 ORs and 2 treatment rooms and performs about 400 cases a month.
Every morning, she runs the surgical schedule for the next 3 days. For the 2 days closest to the day of surgery, most H&Ps will already have been matched to the schedule. She reviews the schedule for the third day, checking for H&Ps that have been faxed to the center and matching them to the schedule.

“Every morning, I call the surgical offices to review the times of surgery and what preop work is still needed,” says Schmidt, who finds this process works well.

If paperwork is still missing the afternoon before surgery, a nurse calls the necessary offices.

“Sometimes paperwork does not reach us until the day of surgery, even with our best efforts,” she says.

**Staying in touch with office staff**

Schmidt makes a point to recognize office staff when they call with a question or think a patient may need a further workup.

“Talk to and encourage the staff in the offices whose job it is to get this information to you,” she advises. “No one tells them they are doing a good job. It leaves the communication open, and they try hard to help you in return.”

The center sends a nurse to the offices to teach them what the center needs and why. “We have been well received,” she says. This isn’t too burdensome because the center deals with a limited number of offices.

In the beginning, the surgeons did not see the importance of this function, but Schmidt says anesthesia providers appreciate the work done ahead of time, and it has minimized cancellations on the day of surgery.

**The answer is automation**

The paper chase is likely to continue until more ASCs and physicians’ offices use electronic medical records and are able to communicate clinical information online.

“Until we have a more electronic process, the challenge is going to be using the phone and paper process,” Blackwell says. “We are going to be burdened with this until we have a more efficient way to collect the information.”

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**References**


