New data, research suggest tactics for improving on OR turnover time

Turnover time between cases is one of the most-discussed issues in OR management. “What are you doing about turnover time?” is a common question when OR managers get together.

For years, OR managers have been asked to measure their turnover time and shorten it. The pressure isn’t letting up.

The reason? Turnover time is a key satisfier for surgeons, the OR’s major customers. With pressure on their time and reimbursement, surgeons need to make the most of their time in the OR. They feel frustrated when they wait for what they perceive as a long time between cases.

Though reducing turnover time is a satisfier for surgeons, in most cases it is unlikely to provide enough time to add another case to the schedule and thus bring in more revenue. Studies by Franklin Dexter, MD, PhD, and colleagues have shown that under most conditions, reducing turnover time will not free enough time to allow for additional cases nor save much on labor costs.

Special focus: Turnover time

This issue examines new information about turnover time:
- Page 7: Data from recent studies by OR Benchmarks, with strategies of better performers.
- Page 10: How Massachusetts General Hospital improved throughput in its OR of the Future project.
- Page 12: The Cleveland Clinic reduces turnover time by 50% for some total joint procedures.

Medical staff

OR managers’ role as gatekeepers for MD credentialing, privileging

A sales rep arrives in the OR with a new piece of equipment, saying a surgeon plans to use it on a case that day.

A surgeon’s office calls to schedule a procedure, but it is not listed in your OR’s scheduling system.

A call team arrives during the night to learn a surgeon plans to perform a procedure, and they are not sure he has privileges for it.

All of these are reasons why OR nurse leaders play a role in physician credentialing.

“I believe OR managers and directors are key gatekeepers for physician credentialing,” says Suzanne Moss Richins, MBA, DHA, FACHE. “You and your staff are where the action is—you’re there when physicians schedule cases or request a new piece of equipment.

“You also are the keeper of information needed for physician recredentialing. There is a lot of information in OR software and from events that happen in the OR that no one else knows about.”

Many nurses think the medical staff is responsible for credentialing. “They are the screening mechanism, but credentialing and privileging are the responsibility of the governing board,”
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Editorial

A

h, turnover time. Will there ever be an end to projects to reduce the time between surgical cases? OR committees have probably spent more time on this than on any other topic.

In this special-focus issue, we take a new look at turnover time. We report on new projects both from Europe and the US that have radically redesigned patient flow and improved throughput for cases.

We also describe what more typical ORs are doing to expedite between-case activities.

Why is there so much focus on turnover time? It’s a key surgeon satisfaction issue.

Surgeons see turnover time as downtime when they can’t be seeing patients or performing surgery. Increasingly, turnover time is a competitive factor. If surgeons aren’t satisfied, they can vote with their feet and take cases to ambulatory surgery centers, where the schedule is not interrupted by emergencies and complex, unpredictable cases.

Another goal of turnover time projects, saving enough time to add a case to the schedule, is elusive—one physician calls it the Holy Grail.

Research has shown that under most conditions, reducing turnover time will not free enough time to allow adding a case. Nor will it reduce overtime enough to save much on labor costs.

New wrinkles

But there are new wrinkles. The new studies from Europe and Massachusetts General Hospital in Boston describe new approaches that can reduce the time between cases enough that more cases can be added to the schedule. They’ve achieved their results primarily by using separate spaces for induction of anesthesia and early emergence. We thank Franklin Dexter, MD, PhD, researcher at the University of Iowa, for keeping us up to date on these new results.

Massachusetts General built an experimental OR suite to test these principles. We talked with the lead researcher and perioperative nurse leaders about their experience with the new model and the impact on nursing.

We also report on The Cleveland Clinic, which dramatically reduced turnover time for some of its total joint replacement cases, and MetroHealth in Cleveland, which introduced a series of steps to tighten the process.

We present data from studies by OR Benchmarks, a service of OR Manager, Inc, on turnover times for 11 types of surgical procedures. And we share some of participants’ best ideas for managing turnover time.

It’s true most ORs can’t rebuild their OR suite to add induction and emergence areas. Nor can most afford (or find) the extra staffing to make it possible.

Most OR leaders will focus on incremental changes that can help tighten up the process and improve patient as well as surgeon satisfaction.

“You always have to be working on turnover time,” says one perioperative nursing manager, Gail Avigne, RN, BA, CNOR, of Shands Hospital at the University of Florida, Gainesville. Getting to 100% surgeon satisfaction with turnover time may be unrealistic—but it’s a dissatisfier if you’re not working on it, she says.

One strong caution—don’t forget the impact on nursing. Will nurses be satisfied if they have to move at a breakneck speed all day? Will patients be safe if circulating nurses have less time to perform a preoperative assessment? Will nurses miss the patient contact if they must focus solely on cleaning the room and getting it ready for the next case?

Leaders need to make sure nursing care doesn’t lose out in the relentless drive to reduce turnover time.

—Pat Patterson
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The Joint Commission on Accreditation of Healthcare Organizations is seeking input on proposed 2007 National Patient Safety Goals and requirements. Comments are due by Jan 8 through the JCAHO web site at www.jcaho.org. Look under Top Spots, then Field Reviews.

The goals are proposed for hospitals and critical access hospitals. Goals 3, 15, 16, 17, and 19 are also proposed for ambulatory care centers and office-based surgery.

JCAHO says it likely will recommend several new goals for 2007 in addition to most of the 2006 goals. One existing goal for hospitals, reducing the risk from falls, might become a requirement under a broad new goal for risk assessment.

The final 2007 goals are expected to be released in the summer.

Highlights of proposed additions:

Goal 3
A new requirement is proposed for the existing medication safety goal to reduce the likelihood of patient harm associated with anticoagulation therapy. Strategies would include use of premixed heparin solutions, pharmacy-prepared heparin doses and solutions, and use of programmable pumps and independent double checks for IV anticoagulants, among others.

Goal 15
A new goal is proposed to identify safety risks inherent in the patient population.
- Three proposed requirements for hospitals and critical access hospitals:
  - Reduce the risk of patient harm from falls (currently a separate goal)
  - Prevent health care–associated decubitus ulcers
  - Identify patients at risk for suicide.
- One proposed requirement for ambulatory care and office-based surgery: Identify patients at risk for respiratory comorbidities such as obstructive sleep apnea before surgery.

Goal 16
A proposed new goal would discourage disruptive behavior. A study conducted by the Institute for Safe Medication Practices found that 88% of respondents had encountered some form of disruptive behavior. JCAHO notes the behavior is not limited to physicians but also involves members of the staff.
- One proposed requirement: Have guidelines for acceptable behavior and to identify, report, and manage behaviors that cause disruption to patient safety. One expectation would be to develop a code of behavior embraced by the organization’s governing body, managers, and medical and clinical leaders.

Goal 17
A new goal is proposed to require orientation for temporary and agency workers. Temporary workers who are not familiar with the organization are more prone to making errors.
- One proposed requirement: Have an orientation program that includes general organization, department, and job-specific topics.

Goal 18
Does not apply to ambulatory care and office-based surgery centers.
A new goal would be added to improve recognition and response to changes in patients’ conditions. Research shows a large percentage of critical patient events are preceded by warning signs.
- One proposed requirement: Adopt processes to empower staff to request assistance from a response team when a patient’s condition appears to be worsening.

Goal 19
A new goal is proposed to prevent patient harm associated with health care worker fatigue.
- One proposed requirement: Identify conditions and practices that may contribute to health care worker fatigue, implement processes to identify fatigue that poses a threat to patient safety, and take action to minimize that risk.

For questions, contact Jennifer Hoppe in the JCAHO Division of Standards and Survey Method at 630/792-5936 or jhoppe@jcaho.org.
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Since 2002, OR Benchmarks, a service of OR Manager, Inc, has studied turnover time for 11 types of surgical procedures. The studies have found a great deal of variation in turnover times.

“It is a myth that there is a universal benchmark for turnover time,” says OR Benchmarks director, Judy Dahle, RN, MS.

“Many facilities collect turnover times from a variety of types of procedures and average them,” she says. Though this provides a way for monitoring turnover time within one facility, it doesn’t work well for benchmarking because there is so much variability among types of procedures, she notes. Some procedures require more setup and cleanup time than others. Total hip arthroplasty, for example, typically has a longer setup and cleanup time than hernia repair because it requires a larger amount of instrumentation and equipment.

Turnover time also varies from one facility to another because of different caseloads. A facility that performs a larger proportion of orthopedic and cardiac cases, for instance, will have longer turnover times than one that performs primarily shorter, less complex cases.

For these reasons, OR Benchmarks defines turnover time as the setup and cleanup time for the same procedure. For example, turnover time for a total hip arthroplasty is measured as the setup and cleanup time for that procedure only.

“OR Benchmarks believes it is important to compare like procedures with similar setup and cleanup requirements to help participants better understand their turnover process,” Dahle says.

In collecting data, participants record setup and cleanup times for 5 cases of each procedure type they are benchmarking. The times are averaged and compared with those of other facilities for the same procedure.

**Turnover practices vary**

Variations in turnover time for the same procedure can be explained by a number of factors. There is no one method for setting up or cleaning an OR, she notes. Setup time varies with the staff’s experience, the department’s practice for when the patient is brought into the OR, the team process, completeness of preference cards, and supplies and equipment required.

Surgical volume does not make a difference in turnover time, Dahle says. There was no evidence that facilities performing a higher volume of total hip replacements, for example, have a shorter turnover time than those with a lower volume of these cases.

Use of endoscopic equipment seems to have an effect. Endoscopic procedures had similar turnover times, with a mean turnover time of 64 minutes for Total hip arthroplasty, 58 minutes for Lumbar laminectomy implants, and 56 minutes for Lumbar laminectomy simple.

**Mean turnover by procedure**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inguinal hernia repair</td>
<td>33</td>
</tr>
<tr>
<td>Total hip arthroplasty</td>
<td>50</td>
</tr>
<tr>
<td>Total knee arthroplasty</td>
<td>53</td>
</tr>
<tr>
<td>CABG</td>
<td>55</td>
</tr>
<tr>
<td>Knee arthroscopy</td>
<td>55</td>
</tr>
<tr>
<td>Carotid endarterectomy</td>
<td>56</td>
</tr>
<tr>
<td>Laparoscopic gastric bypass</td>
<td>58</td>
</tr>
<tr>
<td>Lumbar laminectomy simple</td>
<td>64</td>
</tr>
<tr>
<td>Lumbar laminectomy implants</td>
<td>74</td>
</tr>
</tbody>
</table>

**OR Benchmarks turnover time data**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Range</th>
<th>Median</th>
<th>Mean</th>
<th>Cases reviewed</th>
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</thead>
<tbody>
<tr>
<td>Inguinal hernia repair</td>
<td>18-65 min</td>
<td>26 min</td>
<td>33 min</td>
<td>35</td>
</tr>
<tr>
<td>Total hip arthroplasty</td>
<td>25-161 min</td>
<td>71 min</td>
<td>74 min</td>
<td>77</td>
</tr>
<tr>
<td>Total knee arthroplasty</td>
<td>20-98 min</td>
<td>55 min</td>
<td>58 min</td>
<td>73</td>
</tr>
<tr>
<td>CABG</td>
<td>28-85 min</td>
<td>65 min</td>
<td>64 min</td>
<td>42</td>
</tr>
<tr>
<td>Knee arthroscopy</td>
<td>35-99 min</td>
<td>50 min</td>
<td>55 min</td>
<td>43</td>
</tr>
<tr>
<td>Carotid endarterectomy</td>
<td>21-65 min</td>
<td>43 min</td>
<td>44 min</td>
<td>46</td>
</tr>
<tr>
<td>Laparoscopic gastric bypass</td>
<td>39-83 min</td>
<td>52 min</td>
<td>55 min</td>
<td>30</td>
</tr>
<tr>
<td>Lumbar laminectomy simple</td>
<td>23-65 min</td>
<td>26 min</td>
<td>33 min</td>
<td>35</td>
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<tr>
<td>Lumbar laminectomy implants</td>
<td>26-125 min</td>
<td>41 min</td>
<td>56 min</td>
<td>25</td>
</tr>
</tbody>
</table>

Notes: Turnover time is defined as setup time plus cleanup time for the same procedure. Setup time is measured from the start of setup to the time the patient enters the room. Cleanup time is measured from the time the patient leaves the room until the room is ready for the next case setup.

Population represents teaching and non-teaching hospitals ranging from 4 OR suites to 38 OR suites. Data collected from 2002 to 2004.
of 50 to 55 minutes for knee arthroscopy, laparoscopic cholecystectomy, and laparoscopic gastric bypass.

**Strategies of better performers**

Interviews with better performers in the benchmark studies identified 4 strategies they use to manage turnover time:

*Parallel processing*

“Most of those who do better on turnover time are using parallel processing,” says Dahle, meaning they overlap activities. During setup, for instance, the patient is brought into the room while the staff is still setting up instruments for the case. Similarly, during cleanup, one person mops the floor, if necessary, while another person removes used instruments, and another cleans the table and other surfaces.

*Team processes are identified*

Better performers identify a specific process for setup and cleanup rather than letting activities occur haphazardly.

“A good team process reinforces parallel processing,” she says. “This doesn’t mean there has to be a ‘turnover team.’” But it does mean the turnover process is planned and duties assigned. For example, the scrub person and circulating nurses may have specific duties for setup and cleanup. If others such as housekeepers are involved, they also have specific tasks to perform.

“There is no ideal number of personnel for setup and cleanup,” she adds. “It is more important that each person has a role and knows what needs to be accomplished so there is not a need for rework.”

*Preference cards are accurate*

Accurate, up-to-date preference cards aid efficient case setup.

“If your preference cards aren’t accurate, you may have a longer setup time because the staff has to hunt for needed supplies,” Dahle says.

*Standardization among physicians*

If surgeons who perform the same procedure standardize their instrument sets and room setups, turnover time is quicker because the staff has fewer variations to manage.

“The team knows the setup, and it organizes the process better,” she says.

**Battle of perceptions**

“The turnover time issue often is a battle of perceptions—surgeons, nurses, and anesthesia providers see turnover time differently,” says Dahle.

The surgeon thinks of turnover time as the downtime between finishing with one patient and making the decision on the next patient.

OR nurses typically define turnover time as the time needed to clean the room following one case and prepare the room for the next case. For the anesthesia provider, turnover time includes time needed to transfer the patient to the postanesthesia care unit and prepare and induce anesthesia for the next patient.

“It’s important to address these different points of view and try to gain consensus on the definition,” she says.

It’s also important to analyze all of the turnover time activities and how each team member contributes to the activities. That can lead to a better understanding of how to coordinate these activities.

**Analyzing care events**

One tool for analyzing turnover time is the OR Manager Standard for Costing Surgical Procedures. OR Benchmarks studies are consistent with the cost standard. The standard divides a surgical procedure into phases of care, each with activities called “care events” (illustration).

The “OR Committed” phase of care includes 8 care events that start with the time room setup begins and end when room cleanup is completed.

Why measure 8 care events?

“We know collecting this data takes time,” Dahle says. “But when teams look at these time segments and benchmark, they get a better picture of what is going on. For example, they may find they have a long induction time, and that affects surgeons’ perceptions of turnover time. Then they can address that particular segment of care.

“It is important for the surgeons and staff to understand the impact of all these events on turnover time,” she adds. “Understanding where delays may be occurring opens opportunities for improvement.”

Performance improvement

Turnover strategies from better performers

Ideas to improve turnover time from best performers in recent studies by OR
Benchmarks, a service of OR Manager, Inc.

A turnover crew
At a NASCAR race, pit crew members know what to do when a car comes in. One takes care of the tires and gas, another washes the windshield, and someone else changes the sparkplugs. “The race crew is a perfect concept for OR turnover teamwork,” notes Heather Carelock, RN, director of surgical services at Mary Washington Hospital, Fredericksburg, Va. The hospital has 10 rooms in its main OR and performs about 9,000 cases annually.

At Mary Washington, when a case is finished, 2 support associates go to the room. (Support associates combine positions of orderly and housekeeper.) Support associate 1 wipes down surfaces while support associate 2 empties the linen, trash, and suction bottles. Support associate 1 returns and washes the floor, and support associate 2 pushes in equipment for the next case. Meanwhile, the scrub nurse takes out the dirty instruments, and the circulating nurse begins opening supplies for the next case.

Other strategies that help:
- The hospital provides RN first assistants (RNFAs) for each case. The RNFAs accompanies the patient to the postanesthesia care unit (PACU), allowing the circulating nurse to start setting up for the next case. RNFAs also help with turnover after returning from the PACU. The extra staffing is a big benefit but also a big cost, Carelock notes.
- Accurate preference cards make a difference. The hospital created new preference cards when implementing a new information system. The preference cards are detailed so the nurses know exactly what is needed. Nurses write on a white board outside each OR what equipment the support associate needs to bring for the next case.

These tactics have helped shave turnover time by an average of 5 to 10 minutes per case. Turnover time is defined as the time from when one patient exits the room until the next patient enters.

Hamper organizes supplies
A “turnover hamper” helps reduce turnover time at Poudre Valley Hospital in Fort Collins, Colo. The hamper is wheeled into the OR as the patient is being moved off of the OR table.

The hamper has a wet mop, wiper, towels, and bags. While the circulating nurse helps the anesthesiologist with the patient, the scrub nurse cleans the instruments, and orderlies wipe down the prep tables and start bagging trash, says Steve Stout, RN, OR business associate at Poudre Valley, which has 13 ORs and performs about 11,400 cases a year, about 28% of that in orthopedics.

After the patient leaves, orderlies finish disassembling the back table, wipe down the equipment, and mop the floors. Then they place the trash, mops, and dirty linens in the hamper and move it out, saving trips.

By that time, the scrub nurse is rolling in the case cart and preparing to open for the next case. The patient is brought in while the scrub nurse is setting up the back table. The circulating nurse is counting and readying prep solutions while keeping an eye on the patient and helping the anesthesiologist when needed.

Other strategies that help:
- Orderlies are assigned to 2 rooms for a 3-month period then rotate to 2 different rooms. They watch so they know when the cases will be finishing.
- In orthopedics, left-sided procedures are scheduled in the morning and right-sided procedures in the afternoon so the staff doesn’t have to flip the rooms between cases. This way, an orthopedic surgeon can complete 7 or 8 total knee replacements in an 8-hour day, using 2 rooms back to back. Poudre Valley’s average overall turnover time for August was 23.9 min, including orthopedic, cardiac, and trauma cases.

A group effort
Decreasing turnover time by 2 minutes is a goal of every OR staff member at Bryn Mawr Hospital, Bryn Mawr, Pa—it’s part of their performance appraisal, says Lynne McGrath, RN, nurse manager, surgical services.

Turnover time is measured each month, and results are posted throughout the OR. McGrath writes notes, such as, “Keep up the good work. Our goal is 22 minutes.” She also announces turnover times each month at OR business and staff meetings.

The average time for August was 24.4 minutes, excluding cardiac surgery. Turnover time is defined as the time from when the previous patient left the OR until the next patient enters (cleanup plus setup time). Bryn Mawr has an annual surgical volume of 7,000 patients a year.

McGrath has introduced a team concept she calls “herd cleaning.” When an OR is ready to break, all OR assistants and anyone else available goes to the room to assist with turnover activities. If more than one room finishes at once, the group breaks up and goes to separate rooms.

The concept is also used for the first cases of the day. At 7:15 am, all OR assistants go to the preoperative holding area and accompany surgeons and anesthesiologists to the rooms with the patients.

The circulating nurse does not go to the preoperative holding area. Instead, the anesthesiologist waits with the patient in the holding area until the surgeon arrives and takes the patient to the room with the orderly.

“We definitely have a good team approach and a cooperative relationship with anesthesia, surgeons, nurses, and support staff working side by side,” says McGrath.

—Judith M. Mathias, RN, MA
Do you want to have a major impact on turnover time? Use separate areas to induce anesthesia and care for patients emerging from anesthesia. That’s what recent studies suggest (summary, p 11). One report is from the OR of the Future at Massachusetts General Hospital (MGH) in Boston.

In August, MGH published a report on improved throughput, including shorter turnover time, achieved in its OR of the Future. The project is testing a number of innovations in a patient care environment (www.cimit.org/orfuture.html).

The OR of the Future was created by converting a storeroom into a surgical suite with a separate induction room and early recovery area. The workflow was redesigned and is supported by additional personnel.

The researchers collected data and assessed the impact of the new process with matched cases performed by the same surgeon in the standard ORs. The results, which showed a decrease in non-op time and turnover time, have held up for 3 years, says the report’s lead author, Warren Sandberg, MD, PhD, assistant professor of anesthesia at Harvard Medical School and an anesthesiologist at MGH. MGH has 51 ORs and performs 35,000 cases a year.

The patient flow is as follows:

1. The patient is brought into the induction room and placed on the transportable OR table top, and anesthesia is induced. Nursing care in the induction room is provided by a perioperative nurse from MGH’s Surgical Day Care Unit, who also cares for the patient in the early emergence area.
2. Meanwhile, nurses in the OR set up for the case. When the instrument setup is complete, the anesthetized patient is transported into the OR, where the table top is docked. Generally, 2 circulating nurses are assigned to the case in addition to a scrubbed person.
3. After surgery, the table top is un-

The OR of the Future has separate induction and early emergence areas, plus a work space for surgeons to use between cases.

**OR of the Future highlights**

- A 1,300 sq ft storeroom was converted into a 4-room suite with an OR, induction room, early recovery room, and surgeons’ work space.
- The new workflow was supported by additional anesthesia and OR personnel.
- The project used a mobile OR table with a mobile table top, transporter, and fixed post in the OR floor.
- The redesign reduced nonoperative time from 67 minutes to 38 minutes and turnover time from 36 minutes to 22 minutes.
- Though hospital and anesthesia costs per case were higher, increased revenue from improved throughput and additional cases resulted in the overall net margin being unchanged. The anesthesia group has a net negative margin.
New turnover studies from Europe

Overlapping induction

German researchers studied the effect of overlapping anesthesia induction by having an additional anesthesia team available, using an induction area, and having patients emerge from anesthesia in a separate area before going to the postanesthesia care unit (PACU). The study was conducted for 60 days with 335 cases, including a control group.

By overlapping induction, the number of cases performed increased, nonsurgical time was reduced from 68 minutes to 57 minutes, and turnover time decreased from about 38 minutes to 25 minutes.

The authors concluded that overlapping induction can improve the number of cases performed during the regular work day. The hospital where this study was performed already used induction areas. All patients in the study were inpatients who were already in the facility and had surgery only when the turnover time was reduced.


Inducing anesthesia outside the OR

Researchers in Finland studied the effect of moving anesthesia induction and positioning out of the OR for cases completed during the regular work day from 7:45 am to 3 pm. They compared traditional induction with the new out-of-the-OR model.

In the new model, patients were positioned and induced on a mobile OR table, which has 3 parts: a mobile top, a transporter, and a fixed dock in the OR. The patient is positioned and has anesthesia induced on the mobile top in the induction area and is wheeled into the OR where the top is transferred to the dock, saving transfer of the patient in the OR. The new arrangement required more staffing, with 6.25 anesthesia providers compared with 4.75 for the traditional model.

Mean nonoperative time was reduced by 46%. About half of the time savings was from concurrent anesthesia induction, with the rest from reducing delays during the surgical process. The new model allowed an additional case to be performed during regular hours.

The study was conducted in an orthopedic and trauma OR; all cases were urgent, and patients were available in the hospital to start earlier in the day if necessary.

The researchers estimated potential yearly savings are greater than the cost of additional staff involved.


Docked and returned to the transport vehicle, and the patient is transferred to the early emergence area.

4. After about 15 minutes, the patient is taken to the postanesthesia care unit (PACU) by the perioperative nurse. The OR of the Future has a dedicated OR assistant to aid with turnover activities.

The advantage of separate work spaces is built-in parallel processing, which improves throughput, Dr Sandberg notes. The anesthesia provider can work in tandem with the nurses in the induction room. The nurses signal when they’re ready, and within 60 to 120 seconds, the patient is rolled into the OR.

Impact on nursing

On Fridays when the OR of the Future is in full swing with 8 to 9 cases, the room requires 4 to 6 hours of additional nursing resources, estimates the manager of the main operating rooms, Marion Freehan, RN, MPA/HA, CNOR. The second circulating documents care and provides extra assistance. Also, because supply locations are decentralized and MGH does not have a case cart system, nurses must gather supplies and equipment from several locations before the day begins to expedite turnover time.

Nursing satisfaction with the OR of the Future is mixed. In a staff survey about a year ago, nurses generally said they liked working in the room and with the new technology.

“A lot of them saw it as an opportunity, and they like the teamwork,” says Freehan.

But some intraoperative nurses missed the preoperative contact with patients. Some were concerned about keeping track of patient information because cases move so quickly—they might be unpositioning one patient as they are receiving information about the next patient. Other nurses found it no different from working with the same surgeon in a standard OR.

For nurses in the immediate preop and postop phase, the experience has been positive, says Janet Quigley, RN, MSN, manager of the Surgical Day Care Unit. “From a patient-satisfaction and patient-safety perspective, it has been excellent,” she says. “The nurse knows the patient well, and the patient wakes up to the same nurse.”

There is a logistical advantage because, with the early emergence area, patients are not held in the OR if the postanesthesia care unit (PACU) is full.

Overall, it’s hard to assess whether the increased throughput is due to the redesigned suite or other factors, the nurse leaders noted.

“What I would say from an administrator’s perspective is that we don’t know,” says Dawn Tenney, RN, MSN, associate chief nurse for perioperative nursing at MGH. “If we assigned the same resources to a regular OR—if every OR had a dedicated OR assistant, and if every circulating nurse had an extra pair of hands when needed, for example—perhaps we could move more volume through all of the ORs that would offset the cost for the additional staff.”

The nurses also thought improved supply logistics could contribute to greater efficiency in turnover for all rooms.

The findings are being considered in planning for MGH’s new construction. The next step is to try a pod concept by converting an existing 4-OR unit to 3 ORs with 1 early-recovery room. The results of the pod trial will then be considered in design of a new tower with 16 to 25 procedure areas slated to open in 2011.

Reference

A project at The Cleveland Clinic has reduced turnover time for total joint replacement cases by 50%—enough to add another case to the OR schedule.

Adding a case has been the Holy Grail of turnover time—an elusive goal.

The project is called QuEST—Quality based on Efficiency, Satisfaction and Teamwork—emphasizing quality while expediting cases, says Michael Smith, MD, MSEd, physician manager of the project. The name also represents the “quest” for the grail.

QuEST involves 1 orthopedic OR and a smaller adjacent OR that was converted to an induction space. The room is reserved for cases performed under spinal anesthesia that generally can be completed in under 2 hours (sidebar).

Reorganizing the work flow reduced:
• turnover time from 30 minutes to an average of 12 minutes (patient out to next patient in)
• patient-in-room to incision time from 50 minutes to an average of 32 minutes.

For more than half of cases, the patient-out-of-room to incision-on-next-patient time is about 35 minutes compared to 80 minutes for historical controls.

Dr Smith explains that if 4 cases are performed in the QuEST room, and 30 minutes are saved on turnover time for each case, the total savings is 1 1/2 hours, enough to perform an additional case, adding that these are rough numbers.

Surgeons can perform as many cases before 5 pm or 5:30 pm as they used to perform by 8 pm or 9 pm, he says. One surgeon can perform 6 joint replacements in 5 patients (one a bilateral) by 5:30 pm. Six of the 58 orthopedic surgeons are participating, and the room is used 14 to 16 days a month.

How the process works

Staffing for each case consists of a certified registered nurse anesthetist (CRNA), a circulating nurse, a scrubbed person, and a postanesthesia care unit (PACU) nurse who transports the patient to recovery.

This is how the patient flow works:
• About 20 minutes before the end of a case, the PACU nurse comes to the OR to accompany the patient to the PACU. If there are any questions about a patient’s condition, an anesthesia provider transports the patient to the PACU.
• The CRNA then goes to the induction area to prepare the next patient.
• The OR is cleaned, and the instrument tables are rolled in. The tables have been preset and covered. An experienced environmental services technician aids cleanup.
• Two circulating nurses rotate between cases. While 1 circulator is in the OR for the current case, the second circulator is in the preoperative area assessing and preparing the next patient.
• To aid communication, staff members carry walkie-talkies.
• An automated supply station in the OR gives anesthesia providers ready access to medications.

At least 4 joint replacements need to be scheduled in the QuEST OR to justify the additional staffing, Dr Smith says.

Instrument setups

QuEST is the best example of teamwork he has seen in his nearly 30 years at the clinic, says Robert Lovequist, RN, nurse manager for the orthopedic ORs. Last year, the orthopedic team won the clinic’s World Class Service Award.

“The physicians are open to suggestions, and it is nice to see everyone working together,” says Lovequist. One example was his suggestion to have the PACU nurse transport the patient to recovery rather than the circulating nurse, which has worked well.

Most of the orthopedic nursing staff rotate through the QuEST room, giving the RNs an opportunity to scrub as well as circulate. Lovequist would like to see a program to reward the nursing staff for productivity. For example, if they finish 5 joint cases by 4 pm or before, they might be able...
Focusing on what is essential helps tighten up turnover time

MetroHealth Medical Center, a county hospital in Cleveland, has adopted some principles of Massachusetts General’s OR of the Future without building separate work spaces.

The new process has reduced nonoperative time by 30% (the time from when the dressing is applied on one patient until the incision is made on the next patient).

There was “tremendous cooperation” from the project team, says the surgeon in chief, Mark Malangoni, MD, FACS, with representation from surgeons, anesthesiologists, nurses, surgical technologists, environmental services staff, central service, information services, and the hospital administration. The hospital has 17 to 18 staffed ORs.

Rather than having a separate induction room, patients at MetroHealth are prepared for induction in the holding area. Like the OR of the Future, MetroHealth uses a transportable OR table top.

The new process involves a number of steps—“and you need all of the steps,” Dr Malangoni emphasizes.

Before the day of surgery

- All patients are seen for a preoperative assessment to ensure they have had a history & physical and appropriate lab tests.
- All operative permits are scanned into the computer system so they will not be misplaced.
- Orders are initiated for prophylactic antibiotics, anticoagulants, and any other medications so they are available when the patient comes to the OR.

On the day of surgery

- When a case is finishing, the circulating nurse signals the anesthesia provider in the holding area to prepare the patient for the next case. The patient is placed on a transportable OR table top (Jupiter, Trumpf Medical), monitors are applied, and the patient is prepared for induction.
- While nurses are setting up for the case, the patient is wheeled in, and the OR table top is docked to its base. Anesthesia is induced, and the case begins.
- Room cleanup begins as soon as the bandage is applied.
- At the end of the case, an anesthesia provider accompanies the patient to the PACU with the patient still on the transportable table top, and the patient is transferred to a PACU bed. A second anesthesia provider prepares the anesthesia machine for the next case and goes to the holding area to prepare the next patient.

Initially, the project focused on cases of less than 2 hours where shorter turnover times would make the most difference. MetroHealth plans to expand the process to more cases.

“We embarked on this project to improve patient satisfaction, and we have been able to do a better job of getting patients in at the scheduled time,” Dr Malangoni says. “It’s also been a surgeon satisfier because they are getting their cases done more quickly. “But it would be wrong not to admit that this process puts a lot of stress on everyone” to keep things moving, he adds. “We have continued to emphasize patient safety, and we have found we can continue to do that while reducing time.

“It requires effort to focus on what is essential while eliminating what is extraneous.”

to go home but receive the same pay.

A controversial practice is setting up the instrument tables in advance. The tables are set up in a separate closed room by surgical technologists. The setups are generic and latex free. The tables are covered with cloth and plastic. The tables generally are set up one case in advance, used within 4 hours, and monitored at all times.

“We’ve been doing this for quite a few years, and our infection rate has not increased,” Lovequist said, adding that the orthopedic surgeons do not have a problem with the practice. Representatives from the Association of peri-Operative Registered Nurses (AORN) and the Joint Commission on Accreditation of Healthcare Organizations have questioned the practice but “were satisfied” when it was explained, he says.

AORN cautions about setting up sterile fields in advance. An AORN recommended practice says sterile fields “should be maintained and monitored continuously” and prepared as close as possible to the time of use. AORN also says “there is no scientific data to support the practice of covering or not covering the sterile field,” adding that removing the table cover “may result in a part of the cover that was below the table level to be drawn above the table level,” and “it is important to continuously monitor all sterile areas for possible contamination.”

Fast and fun

Dr Smith compares QuEST to an Olympic team whose every movement is honed.

“It can’t stress enough that the OR nursing team and PACU nursing team are the keys to this working,” he says. “The CRNAs love to be in that room because it is fast and fun. You look up and it’s 11 am, and you’re on your third case. With joints, that’s unheard of, especially in a large institution like ours.”

Yet the pace is not too hurried for the circulating nurses because they rotate, he says. One circulates on 3 cases a day, and the second circulates on 2 cases.

“I think we have found the perfect time-line. Everyone feels they have enough time, yet everything is moving along.

“The concept is that we will add staff, but we will make additional revenue that will more than cover that cost,” Dr Smith says. A consultant is currently conducting a study to document costs and revenue.

The Cleveland Clinic has 59 ORs, of which 6 are used for orthopedics, and performs about 1,900 total joint procedures annually.

Dr Smith presented an abstract on the project at the American Society of Anesthesiologists conference in October in Atlanta.

Reference

Continued from page 1

... says Richins, who is chief operating officer at Kadlec Medical Center, Richland, Wash. She spoke at the Managing Today's OR Suite conference Oct 19 to 21 in San Diego.

The Centers for Medicare and Medicaid Services underlined this fact last year in a guidance to state survey directors. The guidance, dated Nov 12, 2004, says the hospital's governing board is responsible for ensuring all practitioners who provide medical care or conduct surgery are individually evaluated by the medical staff. They must have the qualifications and competencies for the privileges granted (www.cms.hhs.gov/medicaid/survey-cert/sc0504.pdf).

The Joint Commission on Accreditation of Healthcare Organizations is considering revised credentialing and privileging standards that will require detailed performance monitoring and clinical evaluation plans.

Richins answered nurses' frequently asked questions about physician credentialing.

Q

What is the best way to list procedures physicians are privileged for? We need a way to verify that a surgeon has privileges for specific procedures.

Richins. Many hospitals have gone to core privileging. Core privileges are procedures and treatments routinely covered in residency training. The core procedures also define "special privileges" for procedures and treatments that require additional training. For example, in general surgery, "special privileges" might be required for abdominal aortic aneurysm repair and bariatric surgery.

In a survey last year, Horty Springer & Mattern, a health care law firm that has an online privileging system, found 82% of hospitals responding had developed core privileges.

Often, when you go to verify privileges, all you can see are the core privileges, but no one tells you what these include. You can contact the medical staff office and request a copy of the core privileges, either in software or hard copy. Be sure this information is also available on off-shifts so call teams can consult it. You can't monitor privileges or be the gatekeeper unless you know what is in the core privileges.

Q

When does a surgeon need privileges for new technology? For example, there are a variety of technologies for endometrial ablation. If a surgeon has privileges for endometrial ablation, does he or she need privileges for each new form of technology?

Richins. The answer about new technology is to ask every time—there is no general statement.

The first thing I would do is call the chair of the service and ask, "Do you think this is different from what this surgeon has done before?" If the chair says it is not a new procedure, I would go with that response.

The sales rep may be able to tell you if a new piece of equipment requires additional training. But your credentialing committee makes the determination about privileges.

Another resource is the medical staff office. The medical staff office manager usually belongs to the professional society for credentialing specialists, which has an online forum, National Association of Medical Staff Services (www.namss.org). The manager can post a question to the forum and usually will have a response within a few hours.

For a major new service, such as bariatric surgery, our hospital has a whole process for developing the program, including physician privileging. Our governing board will not consider privileging for a new service until criteria are developed and all of the support services and equipment have been provided for.

Q

Do you foresee a blurring of privileges as more interventional radiologists perform procedures that have been performed surgically? How are you handling this?

Richins. Yes, I think we will see this happening more often, with physicians being privileged across specialty lines. An example is cardiologists wanting to read nuclear medicine studies, and we would apply those same criteria to the cardiologists. The cardiologists would then have to demonstrate that they have had the training and are doing the number required annually to remain competent.

If no criteria have been developed nationally, we would organize a small group, perhaps with a physician from each specialty involved plus the credentialing chair, to develop the criteria.

Q

What is the OR manager's and director's role in the recredentialing of physicians?

Richins. You play a critical role. Your department has information about physician practice that no one else has.

CMS requires physician reappointment at least every 24 months unless...
OR Business Management Conference

May 10-12, 2006
Hilton Austin
Austin, Texas

A two-day conference plus all-day preconference seminars for OR professionals concerned with the business management of the OR.

General sessions and breakouts will focus on:

- OR Efficiencies
- Materials Management
- OR Design and Construction
- Cost Management
Medical staff

‘Why don’t they do something?’

A surgeon nicks the bowel during a fertility procedure but doesn’t call in a specialist to do a repair.

Another surgeon frequently performs procedures other than the one scheduled, such as an abdominoplasty with a hysterectomy.

In another case, nurses on the postop unit notice one surgeon’s bariatric patients don’t seem to do as well as others after surgery. The signs are subtle but persistent.

“Why don’t they do something?” is buzz in the lounge.

Whose responsibility?

Whose responsibility is it to do something?

The ultimate responsibility lies with the hospital’s medical staff, administration, and board of directors.

But these incidents may not surface unless front-line staff are willing to come forward. In the nicked-bowel case, the first person to notice was the surgical technologist (ST) who was scrubbed on the case and saw fecal material on the Richardson retractor. The ST didn’t say anything. The nick wasn’t immediately repaired. The patient developed sepsis and had to have a colostomy.

“Often, the OR staff does not understand the importance of reporting these complications,” says Suzanne Moss Richins, MBA, DHA, FACHE.

“You often hear the comment, ‘Everyone knows about so-and-so.’” Yet the staff may be the only ones aware of issues that should be considered during physician credentialing and privileging. If the staff do not record and report these issues, the credentialing committee may not have information about a need to restrict privileges.

“I urge you as a manager to encourage the staff to write up these incidents,” she says. “If they won’t, then you should write them up.”

If you consistently find the staff are afraid to speak up because they fear the repercussions, you may need a culture change, she comments.

When Richins took her current position as chief operating officer at Kadlec Medical Center, Richland, Wash, she asked the chief of the medical staff and the chair of the governing board to come to the OR and speak to the staff. They said: “We want quality care. We want to make sure every practitioner here provides quality care. If you send an incident report and someone comes down on you, you need to tell your managers, and we will take care of it. Maybe this individual doesn’t need to have privileges here anymore.”

How do you communicate to the staff about the need to report?

“It really is education,” Richins says. “The question I ask them is, ‘Would you let this surgeon operate on your mother or your family members?’

Usually, that is pretty telling. If they say no, follow up by asking: ‘Why wouldn’t you?’ The answers may provide information that needs to go to the credentialing committee.

“Your job is to emphasize to the staff that they are the patient’s advocate,” she says. Most hospitals have developed a medical staff quality committee to help address these situations. Some have a hot line individuals can call to request that a situation be reviewed. This committee then conducts a review and makes recommendations to the practitioner.

Another strategy is a “collegial intervention” with the physician in question. This is an informal session where 2 peers meet with the physician and say something like, “We want to give you a heads up. This is what we are hearing and seeing. For your benefit, you need to correct this.” They take brief notes. If the issues are corrected, the notes are discarded. But if the behavior continues or gets worse, “you have addressed it. You have a record,” Richins says.

In the case of the surgeon who nicked the bowel, when the incident was investigated, the hospital found there had been other incidents, and the surgeon lost his privileges.

Continued on page 17
CMS proposes covering some bariatric surgery

The Centers for Medicare & Medicaid Services (CMS) on Nov 23 proposed covering laparoscopic and open Roux-en-Y gastric bypass and laparoscopic adjustable gastric banding as treatments for obesity in Medicare beneficiaries under age 65 (i.e., disabled). But Medicare beneficiaries over 65 would not be covered for the surgery.

To qualify for coverage, patients would have to have:
- a body-mass index of 35 or greater
- at least 1 comorbidity related to obesity
- been unsuccessful with medical treatment for obesity.

CMS does not find adequate evidence to cover other bariatric procedures for Medicare patients. These include:
- open adjustable gastric banding
- open and laparoscopic vertical banded gastroplasty
- open and laparoscopic sleeve gastrectomy
- open and laparoscopic biliopancreatic diversion with or without duodenal switch.

Currently, CMS covers gastric bypass surgery for extreme obesity to correct an illness that caused the obesity or was aggravated by obesity if the surgery is medically appropriate for the individual. Among these are hypothyroidism, Cushing’s disease, and hypothalamic lesions. Obesity can aggravate cardiac and respiratory diseases as well as diabetes and hypertension.

Facility standards proposed

CMS also proposed standards for facilities that perform bariatric surgery, including requiring:
- a credentialing program for surgeons
- a review of staff and consultant qualifications
- adverse event reporting
- an integrated program for patient care
- written procedures for patient informed consent
- appropriate operating room tables, equipment, instruments, and supplies
- a recovery room and intensive care unit capable of providing critical care for morbidly obese patients.

Public comments will be accepted for 30 days at www.cms.hhs.gov/coverage. Search for proposed decision memo CAG-0025OR.

MD credentialing

Continued from page 16

appropriate administrator. Is your staff comfortable doing this if they witness an incident? You are part of creating a culture where these incidents can be brought forward (see related article, “Why don’t they do something?” on page 16).

Q We are near a couple of other hospitals. Some physicians take their patients with complications to another hospital. Is there a good mechanism for tracking this?

Richins. Check your state law. Washington State has passed a law that allows us to share that information. You will need to find out what your state’s rules are for sharing that information.
Please see the ad for
STERIS CORPORATION
in the OR Manager print version.
Fires in the operating room are a risk that requires prevention, vigilance, and quick action to prevent patient injury.

To heighten awareness, the Christiana Care Health System (CCHS) in Newark, Del, has added a Surgical Fire Risk Assessment Score to its Patient Identification and Surgical Site documentation form.

“What brought this issue to our attention were 2 surgical fires. One occurred in the electrophysiology lab and the other in the OR with a patient having a carotid endarterectomy. Both cases involved a high concentration of oxygen, surgery above the xiphoid, and a heat source,” Judith Townsley, RN, MSN, CPAN, director of clinical operations for perioperative services, told OR Manager.

The chairman of the anesthesiology department, Kenneth Silverstein, MD, developed the fire risk assessment score after the fires were investigated by ECRI (www.ecri.org), a nonprofit organization that researches health services and technology, and Russell Phillips & Associates (www.phillipsllc.com), consultants in fire, code compliance, and emergency management.

Assigning a fire risk score

The fire risk assessment is performed by the entire surgical team (anesthesia provider, surgeon, and nurse) before the incision is made and is documented by the circulating nurse, notes Denise Dennison, RN, BSN, CNOR, staff development specialist. (See assessment guide, page 20.)

The assessment requires the surgical team to identify the 3 key elements that are necessary for a fire to start—the fire triangle:

- heat
- fuel
- oxygen.

In the OR, 3 key risks are:

- open oxygen source (ie, patient receiving supplemental oxygen via face mask or nasal cannula)
- available ignition source (ie, electrosurgery unit, laser, or fiberoptic light source).

In the assessment, each of these risks is given a score of 1. The scores are tabulated to determine a total fire risk score.

**Score 3 = High risk.** All 3 components of the fire triangle are present.

**Score 2 = Low risk with potential to convert to high risk.** This score is given when the procedure is in the thoracic cavity, the ignition source is remote from an open oxygen source, the ignition source is close to a closed oxygen source, or no supplemental oxygen is used.

**Score 1 = Low risk.** Only supplemental oxygen is being used.

Each risk score has a fire protocol assigned to maximize patient safety (sidebar). The documentation form allows the circulating nurse to indicate that the high-risk protocol was initiated. It also allows for documentation that sufficient time was allowed for fumes to dissipate when an alcohol-based prep solution is used.

Communication heightens awareness

Since adding the fire risk assessment to the OR documentation, communication among the surgical team members as well as identification of the fire risk triangle have vastly improved, notes Dennison.

“The secret to success of this process is that this formal communication and documentation make everyone involved aware of the potential risk of a fire,” says Townsley.

Continued on page 20

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**Patient safety**

**Scoring fire risk for surgical patients**

**Fire risk protocols**

**Score 3 = High risk**

The circulating nurse and anesthesia provider take these precautions.

**Circulating nurse**
- Verifies fire triangle, including verbal confirmation of the oxygen percentage
- Ensures appropriate draping techniques to minimize oxygen concentration under the drapes (ie, tenting, incise drape)
- Minimizes ESU setting
- Assesses that enough time has been allowed for fumes of alcohol-based prep solutions to dissipate (minimum of 3 min)
- Encourages use of wet sponges
- Ensures a basin of sterile saline and bulb syringe are available for fire suppression.

**Anesthesia provider**
- Ensures that a syringe full of saline is in reach for procedures conducted within the oral cavity
- Documents oxygen concentrations and flows
- Uses the MAC circuit for oxygen administration initially at FiO₂ of .30 using fresh gas flows of at least 12 L/min.

**Score 2 = Low risk with potential to convert to high risk**

Standard fire safety precautions are followed with the potential to convert to high-risk precautions if necessary.

Standard precautions are to:
- observe alcohol-based prep drying times (minimum of 3 min)
- protect heat sources (eg, using the ESU pencil holster)
- use standard draping procedure.

**Score 1 = Low risk**

Standard fire safety precautions are followed.
Surgical site fire risk assessment guide

Alcohol-based prep solution had sufficient time for fumes to dissipate. 

☐ Yes  ☐ No  ☐ NA

(Circle appropriate option)  Y  N

Verified by: (Circulating RN signature)

Print name

*Surgical site or incision above the xiphoid  1  0

☐ High Risk Fire Protocol initiated

*Open oxygen source (patient receiving supplemental oxygen via any variety of face mask or nasal cannula)  1  0

Total score

Scoring:

3 = High risk

2 = Low risk w/potential to convert to high risk

1 = Low risk

Complete this section if risk score increases to 3 during procedure

☐ High Risk Fire Protocol Initiated  Signature/title __________________________________ Print name _____________________ Time ________

Note: This is a section of a form entitled Identification of Patient, Procedure and Surgical Side/Sites, and Fire Risk Assessment. Source: Christiana Care, Newark, Del.

Patient safety

Just recently, Mary Cay Curran, RN, perioperative clinical process coordinator, says she witnessed a discussion between a nurse and surgeon about the fire risk for a patient undergoing an arteriovenous fistula procedure. The surgeon challenged the nurse’s lower fire risk score because of the way the patient’s arm was positioned and the fact that the graft was being done in the upper part of the arm. Both agreed the fire risk was a 3, and the nurse immediately prepared the OR for the higher risk.

Curran has also witnessed nurses and surgeons telling the anesthesiologist they are going to use the ESU, which prompts the anesthesiologist to turn the 100% oxygen down for a patient with a high-risk score.

“Enhancing communication between providers has strengthened our focus on providing clinical excellence for our patients,” says Townsley.

—Judith M. Mathias, RN, MA

References


An ECRI fire prevention poster can be downloaded from the OR Manager Toolbox at www.ormanager.com.

California scrambles to recruit nurses

Competition to hire nurses in California is so intense that some headhunters routinely make cold calls to nursing stations at rival hospitals, the Nov 23 Los Angeles Times reported.

Others are sending direct mail appeals. Mission Hospital in Mission Viejo, Calif, was offering nurses a $200 gift card to come in and look around.

“Even the recruiters are getting recruited,” the Times reported.

“I probably get a call once a week, said Robin Ludewig, director of nurse recruitment for UCLA. “It’s a dog-eat-dog world out there.”

Hospitals are scrambling to comply with the state’s law mandating 1 nurse for every 5 patients on medical-surgical units. The paper says the hiring frenzy rivals that for Silicon Valley engineers in 1999.

—www.latimes.com
A 75-year-old woman scheduled for a knee arthroscopy repeatedly says she has no one to drive her home and no one to care for her at home after surgery.

How would nurses in your ambulatory surgery facility handle this situation?

It's an increasingly important question as the population ages and more surgery is performed on an outpatient basis.

"It can be challenging to meet the needs of this age group," says Donna DeFazio Quinn, RN, BSN, MBA, CPAN, CAPA. "They're from a stoic generation. Many don't want to impose on anyone to help them. But ambulatory surgery requires some at-home postoperative care, and elderly people can't always do that."

She says ASC managers need to make sure their centers have a well-developed program of preoperative assessment and discharge planning to ensure the needs of elderly patients are planned for. Nurses need to be especially attuned to eliciting preoperative information and reinforcing discharge instructions for older patients.

When the 75-year-old patient was scheduled for surgery at Quinn's facility, the Orthopaedic Surgery Center in Concord, NH, the preoperative nurse persisted in asking the patient about her postoperative plans.

"We were just about to cancel the surgery, when she finally told us she had a son from Massachusetts who would come up for the day of surgery," says Quinn.

Discharge planning for elderly ambulatory surgery patients should begin as soon the surgery is booked, advises Nancy Burden, MS, RN, CPAN, CAPA, director of health services at Morton Plant Mease Health Care in Clearwater, Fla.

Writing in the *Journal of PeriAnesthesia Nursing*, Burden says successful discharge planning relies on:

- comprehensive preoperative assessment
- effective communication among the surgical facility's caregivers, physician's office, patient, and family
- consideration of the patient's preoperative status
- strong patient and family education.

During the preoperative interview, nurses need to act like detectives, identifying any issues that might affect the patient during or after surgery, especially at home, Burden says. These issues include:

**Underlying medical issues**

Elderly patients may have more underlying medical conditions that could make outpatient surgery riskier, Burden says. They must have a thorough medical evaluation before surgery to determine if the ambulatory setting is appropriate.

At Mease Countryside Hospital in Safety Harbor, Fla, about 95% of patients, and 100% of the geriatric population (defined as 85 and older) visit the Preadmission Testing and Teaching (PaTT) unit prior to outpatient surgery, says Debbie Good-win, RN, BSN, MS, CAPA, manager of ambulatory care, PACU and PaTT.

The PaTT unit is part of the main hospital, an advantage for a hospital-based outpatient surgery center, Goodwin says, adding that more than 60% of her surgery patients are age 65 and over.

After a phone interview by an outpatient surgery nurse, patients visit the PaTT unit 1 to 2 days prior to surgery for an anesthesia assessment. They come with preprinted physician orders for necessary radiology, laboratory, and ECG tests. A staff nurse sees the patient first, obtaining a health history and vital signs and listening to heart and lungs. The staff nurse also performs patient education or required testing. Then a nurse practitioner assesses the patient, adding any findings to the same history form.

*Continued on page 23*
Please see the ad for MCKESSON in the OR Manager print version.
“If nurse practitioners have any questions or concerns beyond their scope, they seek anesthesiologist input or request that the anesthesiologist see the patient,” Goodwin says.

The patient’s surgeon will perform a complete history and physical within 30 days prior to surgery to meet Medicare and Joint Commission on Accreditation of Healthcare Organization requirements. Then the surgeon or anesthesiologist will perform another history and physical just prior to surgery to confirm the patient’s health status, Goodwin says.

“We re-review everything the day before surgery to ensure that the person is suitable for outpatient surgery,” she says. “This process has made a dramatic improvement in our cancellation rate.”

Goodwin relates how nurses struggled to get medical history from one elderly man. Finally, when the man came to the PaTT, they learned he had ignored his physician’s advice to have open-heart surgery.

“His issues were huge,” Goodwin says. “His left anterior descending artery was about 90% occluded, and his circumflex artery was about 80% occluded. It could have been very serious if we didn’t know this.”

Quinn says it can be difficult to elicit information from elderly patients.

“When you ask them if they have medical issues, many say no,” she says. “If they’ve had a cardiac bypass, they don’t tell you. They think because they had their bypass surgery, they’re fine and don’t have to mention it.

“They don’t look at surgery as a big deal, and we’ve brought that on ourselves. We provide so much more treatment on an outpatient basis. But it’s always risky when anyone goes under anesthesia, especially older patients who usually have multiple medical issues.”

**At-home care**

Many elderly patients underestimate or don’t take seriously the amount of home care they will need postoperatively.

“Sometimes the surgeons don’t fully educate patients about what is involved in outpatient surgery,” Goodwin says. “The patients think it’s going to be a walk in the park. We need to do a lot of education about what to expect after surgery.”

“Often it’s not until we say we will have to cancel the surgery or tell them that Medicare won’t pay for an overnight hospital stay, that they will come up with someone to take them home,” Quinn says. Her freestanding surgery center requires patients to have someone with them overnight or for 24 hours after discharge.

“This is especially important if they take pain medication,” she says. “Pain medication has a more profound effect on the elderly because their bodies don’t metabolize as efficiently as a young, healthy person. They could get dizzy and fall.”

Arranging for home care often is a challenge because many elderly patients are widowed, have family far away, or are the primary care giver to their spouses. Medicare usually does not cover postoperative home care for outpatient surgery.

“There are a few instances where we had to admit patients to the hospital because they had no one to care for them at home and Medicare wouldn’t pay for assistance,” Goodwin says. “The hospital had to pay for the patient’s stay.”

Quinn tells of an obese man in his 60s whose orthopedic procedure was rescheduled for inpatient surgery because his wife could not care for him after surgery.

“It took her an hour just to get him ready and in the car to come here,” she says. “She broke into tears and said she couldn’t care for him after surgery.” The center determined he was not an appropriate candidate for ambulatory surgery.

For at-home help, ASCs steer patients

Continued from page 21

Continued on page 25

### Elderly discharge planning checklist

#### Social support
- Does the patient live alone?
- Who will be with the patient? For how long?
- What is the ability of the caregiver?
- Who will drive the patient home?
- Does the patient provide primary care for another family member?
- Does the patient need help with household chores?
- Who will be with the patient when the patient is alone?

#### Home environment
- Does the home have stair steps?
- Is an elevator available?
- How far is the walk from the car to the nearest bathroom?
- Where is the telephone located?
- List of emergency contacts available by telephone
- Remove safety hazards such as scatter rugs and small objects
- Move cooking utensils to counter-top as needed
- Is there adequate food in the home?
- Advise the patient what type of clothing to wear on day of surgery
- Entertainment sources: books, puzzles, television, movies, radio, crafts.

#### Medical and surgery-related needs
- Supply of prescription medications: ongoing and surgery specific
- Equipment needed for recovery: wheelchair, crutches, braces, cold packs, etc.
- Wound-care supplies
- Follow-up physician appointment: Date? transportation?

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to social services and community resources such as religious organizations, the Visiting Nurse Association, volunteer groups, neighbors, or apartment or condominium managers.

Volunteers at Mease Countryside Hospital drive buses that take patients home after procedures. The drivers are trained in first aid. “But there is still the issue of who will care for patients when they get home,” Goodwin says.

**Home environment**

Nurses need to elicit information during the preoperative assessment about the patient’s home environment, such as stairs, location of the telephone, and the need for medical devices.

**Nutritional needs**

The preoperative assessment determines patients’ nutritional needs after surgery and if the patient has appropriate food ready at home. Nurses often recommend to elderly patients that they cook and freeze meals prior to surgery or contact Meals on Wheels. Dieticians at Mease Countryside visit patients in the ambulatory care unit after surgery and make follow-up phone calls or even home visits.

**Mental capacity**

Nurses must assess patients’ mental acuity, especially ability to follow discharge instructions and take postoperative medications.

“We need for them to be alert enough to continue the medication regimen they may be on already and to be aware of any potential adverse interactions with pain medications,” Quinn says.

Quinn and Goodwin emphasize the importance of the preoperative assessment in planning safe care for the elderly.

“I don’t know how ambulatory surgery centers or hospital outpatient departments plan care without a thorough preoperative interview of elderly patients,” Goodwin says. “I have encountered centers that do little to no preoperative assessment. Basically, they get snippets of information. If we did that here, we would have a lot of cancellations and a lot of angry patients and physicians.”

**Discharge instructions**

Upon discharge, Goodwin and Quinn say their organizations provide thorough discharge instructions printed in large type that have the phone numbers of the patient’s physician, surgery center, and hospital emergency department. “If they don’t already have a follow-up appointment with their surgeon, we make it for them,” Goodwin says.

Nurses call elderly patients the day after surgery to check on them, a standard procedure for all patients.

“Some elderly patients understand the discharge instructions the first time we explain them,” Goodwin says. “For others, you need to go over instructions several times.”

Patience, persistence, and understanding are necessary aspects of working with elderly patients. As Burden wrote in the Journal of PeriAnesthesia Nursing, “The elderly patient deals with the imperfect: isolation from family or friends, aging bodies, hearing and visual loss, financial limitations, and emotional challenges.

“Although the nurse cannot reverse these challenges of old age, he or she can make a difference by providing guidance and resources to blunt the potential complications of surgery and anesthesia.”

—Leslie Flowers

**Legislation would update ASC payment system**

Senator Michael Crapo (R-Idaho) and US Representative Wally Herger (R-Calif) introduced the Ambulatory Surgical Center Medicare Payment Modernization Act of 2005 in October to revise the ambulatory surgery center (ASC) payment system.

The bills (S 1884 and HR 4042) propose that the Centers for Medicare and Medicaid Services (CMS) develop a list of excluded rather than included procedures covered by Medicare at ASCs. Under the proposal, the 2 criteria to determine reimbursed procedures would be:

- Is the procedure safe to perform in an ASC?
- Can the procedure be performed without an overnight stay?

The legislation would mandate that CMS pay ASCs and hospital outpatient departments (HOPDs) comparable rates for procedures performed in both environments. If the legislation passes, these rate modifications would take place Jan 1, 2008:

- ASCs will be paid 75% of the HOPD fee schedule amount for each covered service.
- ASCs will receive the same pass-through payments made to HOPDs for medical devices, drugs, and biologicals plus other additional payments except for outliers and direct medical education.
- ASCs will receive the same annual updates and relevant adjustments as HOPDs.
- Patient copayments for ASC services would be 20% of the Medicare payment amount.

**System would be phased in**

The new payment system will be phased in over 4 years.

**Reference**

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Coding correctly for full reimbursement

Is your coding on target? Many ambulatory surgery centers (ASCs) are coding incorrectly for procedures and thus are not getting full payment from Medicare or private insurers, according to coding expert Stephanie Ellis, RN, CPC, president of Ellis Medical Consulting in Brentwood, Tenn.

Ellis, who advises ASCs on coding issues, offered these tips for sharpening your ASC’s coding.

**Code correctly for presbyopia-correcting lenses**

As of May 2005, Medicare allows ASCs to bill patients for the additional costs of inserting presbyopia-correcting intraocular lenses (IOLs) after cataract surgery. The new lens not only replaces the cataract lens but accommodates to near, intermediate, and far vision. Patients pay about $450 to $650 for each lens after the $150 covered by Medicare.

Medicare changed its policy to allow ASCs to bill Medicare beneficiaries for the cost of inserting presbyopia-correcting lenses, which has confused some ASC billing departments, Ellis says.

Kathy Bryant, executive director of the Federated Ambulatory Surgery Association, says ASCs should continue to bill Medicare for removal of cataract with insertion of a conventional IOL even when using a presbyopia-correcting IOL, using one of the following codes:

- **66982**: Extracapsular cataract removal with insertion of intraocular lens prosthesis (one-stage procedure), manual or mechanical technique (eg, irrigation and aspiration or phacoemulsification), complex, requiring devices or techniques not generally used in routine cataract surgery (eg, iris expansion device, suture support for intraocular lens, or primary posterior capsulorrhexis) or performed on patients in the amblyogenic developmental stage.

Ellis notes that the 66982 code applies for difficult cataract surgeries when the patient has glaucoma, uveitis, or other conditions documented prior to the procedure. When complications arise during a regular cataract procedure, Medicare is still billed the regular cataract code of 66984 (see below).

- **66983**: Intracapsular cataract extraction with insertion of intraocular lens prosthesis (one-stage procedure)

- **66984**: Extracapsular cataract removal with insertion of intraocular lens prosthesis (one-stage procedure), manual or mechanical technique (eg, irrigation and aspiration or phacoemulsification).

For more information about presbyopia-correcting IOLs, see the August 2005 OR Manager, p 27.

**Are you undercoding for colonoscopies?**

Many ASCs undercode for colonoscopies and therefore frequently are underpaid, Ellis says.

“If you use more than one method for removing colon polyps, such as a biopsy in one spot, a polypectomy by hot biopsy forceps in another, and a snare removal in yet another, you can bill each procedure separately and be reimbursed for 3 procedures,” Ellis says.

On the other hand, some ASCs overcode for colonoscopies. “If you do a polypectomy and a biopsy on the same lesion, you can bill only for the polypectomy,” she says.

**Avoid common coding errors for ACL repairs**

Ellis cautions about miscoding for anterior cruciate ligament repairs (ACL).

“Doctors can be lax in operative reports about listing the size of lesions,” she says. “If you don’t have the proper information about the real size of the lesion, it can really change the reimbursement picture for your ASC.”

For instance, if the actual size of a lesion excised is 3.2 cm, but the physician does not list the size in the operative report, and the tissue has shrunk in preservative so that pathology lists it as 2.8 cm, the code changes from 11404, which is covered by Medicare, to 11403, which is not.

“Without the surgeon’s notes, billers must use the size of the lesion listed in the pathology report,” she says.

Everyone in the OR has a role to play in proper coding, Ellis stresses. “It’s very important that the staff present in the case understand that they are party to knowledge that can be used by the billing office for reimbursement,” Ellis says. “It’s a great idea for the OR nursing staff to keep disposable rulers handy to give to surgeons to measure lesion sizes and to remind the physician to list the sizes of all lesions in the operative report.”

—Leslie Flowers

Leslie Flowers is a freelance writer in Indianapolis.
Announcements blare from overhead speakers. Electronic devices beep. Heating and cooling systems rumble. Employees and visitors speak loudly.

The noise level at hospitals disturbs patients and staff and raises the risk of patient care errors, researchers from Johns Hopkins University in Baltimore report.

Some studies have found excessive noise slows healing and contributes to stress and burnout in hospital staff.

Noise is a top complaint of both patients and hospital staff, but little is being done to address the problem, acoustics experts Ilene Busch-Vishniac and James E. West learned in their 2-year study.

They started by investigating noise in the pediatric intensive care unit (PICU) at Johns Hopkins Hospital. One finding was that staff were receiving an overhead page an average of every 5 minutes.

Among their findings:
• Since 1960, average daytime hospital sound levels around the world have risen from 57 decibels to 72, and nighttime levels have risen from 42 decibels to 60. These exceed the World Health Organization’s 1995 hospital noise guidelines, which suggest sound levels in patient rooms should not exceed 35 decibels. The measurements varied little among hospitals.
• Much of hospital noise is in the human speech frequency range, making communication more difficult. That can lead to miscommunication, which increases the risk of errors.
• Noise levels are high around the clock, partly because of hospital ventilation systems and use of more devices with electronic alarms.

What can be done?
The Johns Hopkins acoustics engineers introduced 2 changes that made a modest difference.

First, the staff in the PICU were given small hands-free personal communication devices, worn on a lanyard. The devices work like cell phones and reduced overhead paging to once an hour. Staff tried the devices for 2 months and liked the results, so the hospital bought the system for the unit.

The researchers also experimented with a way to muffle noise that bounces off of hard ceilings and walls. Acoustical ceiling tiles, the usual way of deadening sound, can’t be used in patient care areas because the tiles can harbor microorganisms. The researchers made sound absorbers by wrapping fiberglass insulation inside antibacterial fabric and attached them to the ceiling and walls in an oncology unit. They found the sound absorbers reduced reverberations by almost a factor of 3.

The study was reported at the Acoustical Society of America meeting recently in Minneapolis.
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Experts warn of risks from carotid stenting

Some experts worry too many physicians and patients may embrace carotid artery stenting as an alternative to surgery without fully understanding that the procedure is generally as risky as surgery, according to the Nov 29 New York Times. Carotid artery disease has been linked to 25% of the 700,000 strokes each year.

Since carotid stents were approved in 2004, more than 10,000 patients have undergone the procedure by interventional cardiologists. But some experts say the 10% stroke and death rates within 1 year of surgery and stenting procedures are similar. Others say stenting success rates are climbing as the procedure becomes refined.

—www.nytimes.com

Deadly strain of C difficile emerges

A bacterial illness typically associated with frequent use of antibiotics in hospitalized patients is now appearing in healthy people who have not been hospitalized or taken antibiotics. The bacterium—Clostridium difficile—has mutated into a new epidemic strain that is causing severe diarrhea with fatal complications.

The Dec 8 New England Journal of Medicine reports on 2 large studies that implicate fluoroquinolone use as a chief risk factor in its emergence. The Centers for Disease Control and Prevention reports on isolates collected from 8 facilities in 6 states between 2000 and 2003.

Canadian researchers report on a prospective study at 12 Quebec hospitals, including 1,703 patients with episodes of nosocomial C difficile-associated diarrhea since March 2003.

An editorial in the New England Journal says prevention should include fastidious use of barrier precautions, isolation of the patient, environmental cleaning with sporicidal agents effective against C difficile, and hand hygiene as well as restraint in use of the implicated antibiotics.


Preop briefings improve communication

A new study shows that by using crew resource management techniques and a change team, communication in the OR could be improved through pre-operative briefings.

Researchers from the Baylor College of Medicine started with a baseline assessment of communication among anesthesiologists, nurses, and surgeons. They then offered training to the entire surgical services staff and created a change team to implement briefings.

They found communication scores improved significantly for anesthesiologists and surgeons, though not for OR nursing staff.

The briefings also significantly increased the number of patients who received prophylactic antibiotics within 60 minutes of incision and the number who received deep-vein thrombosis prophylaxis before induction.


Powder-free gloves reduce symptoms, cost in study

Switching to low-protein, powder-free surgical gloves reduced symptoms related to latex exposure and saved $10,000 in a 2-year longitudinal study at a university medical center.

In all, 82 OR staff members completed the study, which covered 6 months before and 21 months after glove conversion. Latex-related symptoms declined significantly from 44% of the OR staff to 27%. There was no significant difference in severe or lower respiratory symptoms.

An increase in glove costs was offset by savings in health care costs, new employee screening, storeroom and handling costs, and prevention of workers’ compensation claims. Employee adherence to the conversion was encouraged by eliminating outside vendors and centralizing glove ordering.