Health care reform

Surgery is front and center in new Medicare value-based purchasing

This year, the quality movement takes a big step with the start of Medicare’s value-based purchasing (VBP) program.

Beginning October 1, 2012, part of your hospital’s Medicare payments will be based on your hospital’s performance on a set of quality measures, usually referred to as the core measures and HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) data.

The first performance period, already underway, ends March 31, 2012. In the first year, 1% of a hospital’s DRG payments are at stake.

SCIP plays a leading role. Most of the clinical measures—7 of 12—in the first year of VBP are from the Surgical Care Improvement Project.

One more—urinary catheter removal on postop day 1 or 2—is being added for the second round of VBP. The performance period for this measure runs from April 1, 2012, to December 31, 2012, and will affect payments for fiscal year 2014, starting October 1, 2013.

The remaining 8 measures address patients’ experiences with care as measured by the HCAHPS survey.

VBP is just one Centers for Medicare and Medicaid Services (CMS) initiative affecting hospital payments. Starting October 1, 2012, hospitals will have 1% of their payments tied to VBP performance.

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OR economics

Blood management: Reducing blood use reduces risks and lowers costs

It’s common for physicians to order 2 units of blood. But with growing awareness of the hazards of transfusions, hospitals are adopting stricter measures to manage their blood supplies, including developing guidelines for transfusions and making sure physicians are compliant.

Over the past 5 years, research has shown that transfusions during surgery carry risks of higher mortality, surgical site infections, and other complications.

A federal panel on use of blood products found too many patients are receiving blood transfusions they don’t need, putting them at risk, wasting limited blood resources, and raising costs.

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Editorial

For the first time, starting this month, hospitals will need to report surgical site infection (SSI) rates for 2 procedures, colon surgery and abdominal hysterectomy, to get their full Medicare payment update in 2014. The list of procedures is likely to expand.

It’s easy to think of infection rates as numbers: How do our SSI rates compare? How do we bring them down?

Data is critical, but numbers don’t hit home like the human story of a patient who develops an SSI and the devastating impact it can have.

One such story is the backdrop for this month’s article about Maine Medical Center’s (MMC) campaign to prevent SSIs.

The story begins in August 2005, when George E. Ellis, PhD, a healthy, active 85-year-old, came to MMC for hip replacement surgery. Though the surgery was expected to go well, within 3 months he had succumbed to complications from an SSI.

Ellis, whose family has deep roots in Maine, had been a prominent resident of the state, having been president of the Federal Reserve Bank of Boston and chairman of Maine’s power utility.

‘What would be in Dad’s spirit?’

Given their devastating loss, it would not have been surprising if the family had taken an adversarial stance with the hospital. But that is not what happened.

“We basically said, ‘What would Dad want’” says the family has been impressed by how many details [during surgery] have been present in August 2011 when Ellis’s son-in-law Hudspeth, JD, Ellis’s son-in-law, came to MMC for hip replacement surgery.

Later, on a tour of the OR, he says, “We were blown away by the generosity of spirit on both sides has transformed a deeply painful situation into an effort that continues to this day. Family members were present in August 2011 when MMC’s chief of surgery, Brad Cushing, MD, rolled out Operation Zero.

Hudspeth gave a moving introduction. He says the family has been impressed by how many details a surgical team must master in the midst of the pressure of a complex operation.

Later, on a tour of the OR, he says, “We were blown away by how complex it is, with the tremendous need for coordination and the pressure on people.”

He adds: “What I wanted to communicate is that all of these details [during surgery] have enormous consequences.” Being mindful of those details even under these trying circumstances, “is the heart of the message.”

The generosity of spirit on both sides has transformed a deeply painful situation into an effort that continues to make a difference.

That, Hudspeth says, “is exactly what Dad would have wanted and what he would have done if he were still alive.”

—Pat Patterson
This intensive, interactive workshop is an opportunity for OR business managers to increase their knowledge of OR processes, to develop critical skills to drive effective business processes for surgical services, and to network with colleagues.

FOCUS OF WORKSHOP
The focus is on developing analytical/critical thinking as well as understanding cost components and overall financial management of the OR. Attendees will have the opportunity to work on projects during small group breakout sessions to problem-solve and develop strategic planning skills.

Some of the topics to be covered are:
• Value process mapping/supply chain management
• Data analytics
• Transparency of information to demonstrate outcomes
• Preoperative case management
• Information technology responsibilities
• Service line development
• Operational efficiencies
• Quality improvement measurement as it relates to cost savings.

LEARNING OBJECTIVES
Participants in this workshop will:
• Take home measurement tools to use and adapt to their environment for their OR business program.
• Explore how to use dashboard indicators effectively.
• Define techniques from process improvement programs to identify cost savings.
• Discuss financial forecasting, budgeting, and trending.
• Practice strategic planning and project development.

TARGET AUDIENCE
Participants include business managers from all hospital settings currently involved in the business decisions that drive the OR’s economics, quality improvement programs, technology management, and program development.

Attendees will be asked to bring laptop computers to use in the group breakout sessions. Flash drives will be provided with Excel spreadsheets and other pertinent documents to install on laptops.

WORKSHOP FORMAT
The workshop will open with a welcoming reception and introduction of speakers on Wednesday, January 11. This will provide an opportunity to register and meet other attendees. A full-day session is planned for Thursday, January 12, and a half-day session for Friday, January 13.

WORKSHOP LEADERS
Brian Dolan, MHSA, RHIA, CHDA, SSGB
Perioperative Services Business Operations Manager
The University of Kansas Hospital

V. Gerard (Jerry) Ippolito, MBA, MHSA
President, OR Efficiencies, LLC

Judy Dahle, MS, MSG, RN
Education Coordinator
OR Manager, Inc

ormanager.com/workshop/or_business_manager.php
A new study brings welcome news of a surprising uptick of young people entering nursing, suggesting the RN workforce will grow faster than anticipated over the next 20 years. A second study finds new RNs stick close to home for nursing school and jobs, raising questions about how to improve the supply in underserved areas.

Both studies are in the December 2011 Health Affairs.

The first study found that the number of 23- to 26-year-olds entering nursing increased 62% from 2002 to 2009—a big turnaround from the previous 2 decades.

National efforts to promote nursing are thought to be one reason. The researchers also credit an atmosphere that makes it easier for professionals to enter nursing, including associate degree programs and accelerated nursing degrees targeted to those in other fields.

If today’s young nurses follow the same employment patterns as those who preceded them, they will be the largest RN cohort ever, the researchers say. If interest in nursing continues, they project the nursing workforce will grow at roughly the same rate as the population through 2030.

Since 2002, the number of young RNs has grown at a rate not seen since the 1970s, report the researchers, David I. Auerbach, PhD; Douglas O. Staiger, PhD; and nursing workforce expert Peter I. Buerhaus, PhD, RN.

The impact of this trend on future nursing shortages is hard to predict, they say. It is not clear whether the growth will continue or meet specific needs, such as RNs trained in geriatric care. The health care needs of the population are also hard to predict.

New RNs don’t move much

Nearly 80% of new RNs attended their first nursing degree program in the state where they graduated from high school, and more than half work within 40 miles of their high school, finds a study by Christine T. Kovner, PhD, RN, professor at the College of Nursing, New York University, and colleagues, using data from a survey of 1,765 newly licensed RNs in 15 states.

Next to teaching, they found, nursing is one of the least mobile professions for women.

Though the reasons for geographic immobility are unclear, the authors say the findings are useful for policy makers seeking to increase the RN supply in specific locales.

To ensure an adequate RN workforce for underserved areas, they recommend:
• expanding the number of nursing programs in these areas
• funding programs that provide incentives to young people in underserved areas to attend nursing school
• supporting extension programs from accredited nursing schools
• reviewing admission policies for nursing programs and financial aid in these areas.

References


Health care reform

Continued from page 1

Medicare payments at risk for patients readmitted because of acute myocardial infarction, heart failure, or pneumonia.

Already, Medicare doesn’t pay to treat certain hospital-acquired conditions (HACs). But beginning in 2015, 1% of hospital’s Medicare DRG payments will be at risk according to their rate of certain HACs.

Meanwhile, reporting of quality measures continues to affect payment, with new measures added each year. (See p 7 for a rundown on CMS initiatives affecting surgery).

Perioperative services plays a big role in VBP. Here’s a VBP to-do list as you enter the new year.

Every patient, every time
“With the addition of SCIP measures in value-based purchasing, surgical services is front and center,” says Christy Dempsey, MBA, RN, CNOR.

No longer is it a matter of making sure SCIP measures are applied most of the time.

“It really is every single patient every time,” says Dempsey, who is senior vice president for clinical and operational consulting services for Press Ganey.

The achievement threshold for earning VBP incentive payments is high, well over 90% for the SCIP measures and over 95% for the SCIP antibiotic measures.

“Missing just 1 or 2 patients can cause a hospital to lose a significant number of VBP points and jeopardize their ability to receive their full Medicare reimbursement,” Dempsey cautions.

Keep the goals out front

“These are the goals that need to be kept in front of the staff and physicians,” says Martha Stratton, MSN, MHSA, RN, CNOR, NEA-BC, director of nursing for surgical services at AnMed Health, Anderson, South Carolina.

“The goals and progress toward the goals should be an ongoing conversation.”

Keep up with education
Make sure nurses and physicians know exactly what is expected for each SCIP measure.

Examples: Is your process for delivering the right antibiotic at the right time truly hardwired so no patient is missed? Is the same true for venous thromboembolism (VTE) prophylaxis? Do nurses on the postop units know when the patient’s Foley catheter was inserted so the removal time can be tracked?

Target SCIP measures
Make sure your department has a process so nurses providing care for each patient know whether that person has received care the SCIP measures require.

Examples: Include in the timeout before surgery questions about whether the patient received the appropriate antibiotic and whether patients on beta blockers at arrival have received their beta blocker perioperatively.

Yes, the OR does affect HCAHPS scores
Perioperative nurses and physicians do influence each patient’s experience with care as measured by the HCAHPS survey. These scores affect 30% of your VBP payments.

One area the survey asks about is communication. Did nurses and physicians treat each patient with courtesy and respect, listen to the patient, and explain things in the way the patient could understand?

Staff nurses need to know that their patient interactions, including their listening skills and how they give preop and discharge instructions, have a direct impact on these scores. Postanesthesia care nurses also play a key role in pain management and communication about medications, other areas the HCAHPS survey scores. (For more, see the April 2011 OR Manager.)

Get on board with a surgical safety checklist
If you’re not already using a surgical safety checklist, you’ll want to get one in place.

Surgical safety checklists aren’t part of the VBP program, at least not yet. But they are a new quality measure under the 2012 Medicare outpatient payment rule.

Hospitals and ambulatory surgery centers (ASCs) receiving Medicare payments must be using a surgical safety checklist for outpatient procedures during 2012 to receive their full Medicare outpatient payment update in 2014 (hospitals) and 2015 (ASCs).

The checklist assesses whether effective communication and safe practices are performed during 3 periods: before anesthesia administration, before skin incision, and after closure before the patient leaves the OR. An example is the World Health Organization’s Surgical Safety Checklist. ♦
## Health care reform

### CMS payment initiatives affecting surgical services

#### Value-based purchasing

**Reporting:** Started July 1, 2011 (first performance period).

**Affects payment:** Starting October 1, 2012 for FY 2013.

**What it is:** New program links Medicare payments to how hospitals perform on quality measures and on patients’ experiences with care. Each hospital will be scored on how well it performs on each measure and how much it improves. The combined score will be translated into incentive payments.

For FY 2013, clinical measures will be weighted at 70% and patient experience measures at 30%. For 2014, weights will be 45% clinical, 30% patient experience, and 25% outcome measures.

**In FY 2013, scoring will be based on:**
- 12 clinical measures, including 7 from SCIP (Surgical Care Improvement Project)
- 8 patient experience measures from the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey.

**In FY 2014, one SCIP measure will be added:**
- SCIP-Inf-9: Urinary catheter removal on postop day 1 or 2

**Effective dates of HAC, AHRQ, and Medicare-spending-per-beneficiary measures for VBP have been suspended.**

**Learn more:** www.cms.gov/Hospital-Value-Based-Purchasing; OR Manager, March 2011, April 2011, and June 2011.

#### Hospital Inpatient Quality Reporting (IQR) Program

**Reporting:** Ongoing; 76 measures to be reported for full payment update in FY 2015.

**Affects payment:** Implemented in 2003. Measures continue to be added.

**What it is:** Hospitals must report these measures to receive the full Medicare inpatient payment update. Hospital performance on certain measures is posted publicly at www.hospitalcompare.hhs.gov.

**Surgery-related IQR measures for 2012 & 2013 reporting:**
- 9 SCIP measures (hair removal reporting suspended)
- Participation in systematic database for cardiac surgery
- Certain AHRQ measures such as postoperative respiratory failure, pulmonary embolism or deep vein thrombosis, wound dehiscence, and mortality for selected surgical procedures
- Certain HACs, such as foreign object retained after surgery, surgical site infections after certain procedures, air embolism, blood incompatibility, pressure ulcer stages III & IV, falls and trauma, and catheter-associated urinary tract infection (UTI).

**Learn more:** CMS fact sheet at: www.cms.gov/apps/media/press

#### Surgical site infection (SSI) reporting

**Reporting:** Begins January 1, 2012.

**Affects payment:** 2014.

**What it is:** As part of the Hospital IQR Program, hospitals must report SSI rates for 2 procedures to receive their full Medicare payment update in 2014:
- Colon surgery
- Abdominal hysterectomy.

**Learn more:** OR Manager, November 2011.

#### Hospital Outpatient Quality Reporting (OQR) Program

**Reporting:** Implemented in 2009. Measures continue to be added.

**Affects payment:** Effective 2009.

**What it is:** Hospitals must report measures to receive full Medicare outpatient payment update. A total of 26 measures are to be reported for full payment updates in CY 2014 and CY 2015.

**Surgical measures affecting payment for CY 2012:**
- OP-6: Timing of antibiotic prophylaxis
- OP-7: Prophylactic antibiotic selection for surgical patients.

**New surgical measures added:**
- Surgical safety checklist: In use during 2012; affects payment CY 2014
- Outpatient volume for selected surgical procedures in 8 categories; affects payment CY 2014.

**Learn more:** www.cms.gov/HospitalQualityInits/10_HospitalOutpatientQualityReportingProgram.asp; OR Manager, December 2011, p 8.
Federal panel findings
Recognizing the role of transfusion practices in quality and costs, the HHS Advisory Committee on Blood Safety and Availability in June 2011 found:
- blood transfusions carry significant risks that may outweigh their benefits and add unnecessary costs
- wide variability in use of transfusions indicates both excessive and inappropriate use of blood transfusions in the US
- medical advances and an aging population are expected to raise transfusion demands that could exceed supplies in 1 to 2 decades
- improvements in the quality and safety of blood have lagged behind improvements in rational use of blood
- additional data on blood use and clinical outcomes are needed to manage transfusions effectively and support evidence-based practices
- hospital blood management programs have demonstrated significant reduction in blood use without increase in patient harm.

www.hhs.gov/ash/bloodsafety/advisorycommittee/recommendations/recommendations_201106.pdf

Joint Commission measures
New Patient Blood Management Performance Measures:
- PBM-01 Transfusion consent
- PBM-02 RBC Transfusion indication
- PBM-03 Plasma transfusion indication
- PBM-04 Platelet transfusion indication
- PBM-05 Blood administration documentation
- PBM-06 Preoperative anemia screening
- PBM-07 Preoperative blood type testing and antibody screening.

www.jointcommission.org/patient_blood_management_performance_measures_project/

Accelerating interest
“What really accelerated the interest in blood management was evidence coming out of the critical care literature, including the 2009 clinical practice guideline on transfusions from the Society of Critical Care Medicine and Eastern Association for the Surgery of Trauma,” Joseph Thomas, BSN, RN, told OR Manager.

This was the first formal practice guideline to recommend single-unit transfusions rather than 2 units for nonhemorrhaging patients, says Thomas, vice president of program services for the Strategic Healthcare Group, LLC, a blood management consulting firm (www.bloodmanagement.com).

An antiquated trigger
The first prospective randomized controlled clinical study on blood transfusions, Transfusion Requirements in Critical Care (TRICC), was not published until 1999. The study compared outcomes in patients transfused with red cells when hemoglobin concentrations dropped below 7 g/dL (restrictive group) and those transfused when hemoglobin concentrations dropped below 10 g/dL (liberal group).

The restrictive group had lower overall 30-day mortality (18.7% vs 23.3%) and lower in-hospital mortality (22.2% vs 28.1%).

“The TRICC study showed that a hemoglobin trigger of 7 was not only as effective but superior to a trigger of 10,” says Thomas, adding that “the hemoglobin trigger of 10 is antiquated and not based on any evidence.” It dates to 1942 when a prominent anesthesiologist from the Mayo Clinic promoted the idea that patients would have a better recovery if their hemoglobin levels were maintained above 10 g/dL.

The TRICC study is still viewed as the one having the greatest impact on transfusion practice, says Thomas. Prior to this study, practitioners based transfusion decisions on retrospective studies that found patients had adverse effects due to anemia.

“Everyone had just assumed that if anemia has some risk, they should prevent an adverse event from potentially happening by giving blood to correct the anemia. No one ever asked whether patient outcomes improved when they were transfused,” he says.

Over the past 5 years, the number of studies has grown (sidebar).

A study, published online December 14, 2011, in The New Eng-
Evidence on transfusions

Evidence is causing concern about blood transfusion.

Key reports
- In a 2009 study analyzing 125,000 patients in the National Surgical Quality Improvement Program (NSQIP) database, intraoperative transfusion of 1 to 2 units of packed red blood cells was associated with increased 30-day mortality, surgical site infections, pneumonia, and sepsis in general surgery patients. Decreasing blood transfusions decreased patient morbidity.
  
  There was a statistically significant difference in infection rates with just 1 unit of blood. It was worse when 2 units were given, after correcting for patient variables.

- The first prospective randomized controlled study of transfusion in cardiac surgery was published in 2010. The Transfusion Requirements after Cardiac Surgery (TRACS) study found patients treated under stricter guidelines for use of red blood cell transfusions in cardiac surgery had similar rates of morbidity and mortality as patients who received more transfusions.

- Another study tracked more than 100,000 Medicare patients who had coronary artery bypass graft surgery. A wide variation was found in blood transfusions without a large difference in the rate of deaths, suggesting many transfusions may be unnecessary.

Cost a factor

Besides patient safety and quality, cost is another driving factor for managing blood transfusions. Blood is expensive, easily ranging from $1 million to $10 million per year for acquisition alone, notes Thomas.

“Blood is a limited resource. It is a waste of blood and dollars to continue ordering and transfusing 2 units of blood when 1 will do,” Nicole Brocato, MSN, MBA, RN, told OR Manager. She is executive director of quality improvement and clinical research at John Muir Health.

Brocato explains that it costs $200 to $300 to acquire a unit of blood and $650 to administer it. John Muir Health, a 2-hospital health system in Concord and Walnut Creek, California, had an escalating blood budget of $6 million a year.

Blood management program

Over 3 years from 2007 to 2009, John Muir saved more than $2.9 million by implementing a blood management program that focused on:
- a new hospital policy of physicians ordering 1 unit of blood at a time instead of 2 units
- lowering the transfusion trigger of hemoglobin concentrations of 10 g/dL to 7 g/dL. Presently, the physicians are using a trigger of between 8 g/dL and 7 g/dL.
  
  More than $900,000 was saved the first year, more than $1 million was saved the second year, and the savings have been sustained.

The savings don’t include the reductions in labor, supplies, testing, or adverse events but simply the amount paid to the local blood provider, says Thomas, who worked with John Muir on the project.

John Muir started its blood management program for its cardiac surgery service in 2007 after exceeding the Society of Thoracic Surgeons blood transfusion benchmark.

The program is now system-wide. The cost savings have been a secondary but welcomed outcome.

Thomas says his firm consistently achieves 20% to 40% reductions in blood use in hospitals they work with.

Changing habits

Many physicians have become more comfortable in the hemoglobin 8 g/dL range, but most have not reached the 7 g/dL range except for critical care physicians, says Thomas, noting that 8 g/dL

Continued on page 10
is still an improvement. The bigger challenge has been convincing physicians to order 1 unit of blood instead of 2.

“It’s not because of a lack of information. It’s just such an engrained habit,” says Thomas.

At John Muir, the change began by having round-table discussions with the physicians and showing them the data. He emphasized that every unit of blood increases a patient’s complication rates, and each unit is a different liquid tissue transplant that should be treated with respect.

Autologous blood collected a week or two before surgery is not completely safe either, he says. Any biological substance stored in a refrigerator changes its properties. Every day blood is stored there is a buildup of cytokines, plasma-free hemoglobin, potassium, and cellular debris, which promotes inflammation. Red cells stored over time become sticky and inflexible and less able to perfuse the capillaries.

Thomas says he also points out to physicians that the 2 units of blood they automatically order and give are not just 1 large unit split in half; each unit is completely different. He advises them that they can as easily give 1 unit and reassess the patient before giving a second.

“It’s not about avoiding transfusion; it’s about minimizing exposure to a potentially harmful substance,” he says.

As part of raising awareness, Thomas uses creative reminders, such as screen savers that say, “Why give 2 when 1 will do?” and posters showing animals entering Noah’s Ark 2-by-2. At the end of

![An eye-catching poster reminds clinicians to get on board with single-unit blood transfusions.](image)

Continued from page 9

Transfusion committee

Integral to John Muir’s success was the formation of a transfusion committee. The committee appointed a transfusion safety officer, identified a physician champion, and developed an education plan and new transfusion order form.

Three core people are needed to make a blood management program work, Brocato notes:

- an executive director with links to senior administration
- a transfusion safety officer with links to nursing and ancillary staff

Continued on page 12
John Muir Transfusion Order Form

Check one: □ Routine   □ STAT, specify product if not all products needed STAT
□ OR ______ (surgery date)  Minimal effective dose of all blood components should be used

Use Normal Saline 500 ml for priming IV tubing for transfusions

Premeditations:

☐ Acetaminophen (Tylenol) 650 mg PO x 1 dose
☐ Diphenhydramine (Benadryl) 25 mg  ☐ 50 mg PO or IV x 1 dose

# units Please check off at least one indication for each type of blood component order

☐ Packed Red Cells, transfuse over _________ hours or 2-3 hours per unit.  □ Irradiated; specify justification
☐ Irradiated; specify justification

□ SINGLE UNIT transfusions are often effective.  □ Recheck Hct/Hgb after one unit of packed red cells
One unit of packed red cells in an adult will increase Hct by 3%, Hgb by 1 g/dL.
Most recent hemoglobin ___________ g/dL or hematocrit _________ %  Date _______

□ Rapid blood loss: ongoing blood loss or potential for life-threatening blood loss
□ Hematocrit ≤ 21% or Hemoglobin ≤ 7 g/dL
□ Patient normovolemic but demonstrates evidence of impaired O2 carrying capacity as indicated by:
  □ Tachycardia, hypotension, shock not corrected by adequate volume replacement alone
  □ Other (please specify) ____________________________________________

□ Platelet Pheresis transfuse over _________ min or 30 min per unit
☐ Irradiated; specify justification

Most recent platelet count _________ /cc³  Date _______

□ Platelet dysfunction due to (specify)
□ Platelet count ≤ 10,000/cc³ prophylactically in a patient with failure of platelet production
□ Platelet count ≤ 20,000/cc³ and signs of hemorrhagic diathesis (petechiae, mucosal bleeding)
□ Platelet count ≤ 50,000/cc³ in a patient with (indicate):
  □ Active hemorrhage  □ Invasive procedure (recent, in-progress, planned)
  □ Platelet count ≤ 100,000/cc³ in a patient with (indicate):
    □ cardiac surgery post-pump with evidence of platelet dysfunction
    □ surgery of, or potential for bleed, brain/eye/orbit
    □ Other (please specify) ____________________________________________

□ Plasma, to transfuse over _________ min or 30 min per unit

Most recent INR _________ Date: _______

□ Acute reversal of Warfarin  □ Thrombotic Thrombocytopenia Purpura/Hemolytic Uremic Syndrome
□ INR ≥ 2, with anticipated invasive/surgical procedure and/or potential for/presence of significant hemorrhage
□ If INR < 2, please specify justification:

Two units of FFP or thawed plasma (dose of 10 - 15 mL/kg) is usually adequate to correct a coagulopathy

□ Pre-pooled cryoprecipitate (Cryo5), to transfuse at over _________ min or 30 min per unit

Indication:
□ Fibrinogen ≤ 100 mg/dL    □ Fibrinogen ≤ 150 mg/dL w/ active hemorrhage    □ Dysfibrinogenemia
One bag per 50 kg is usually adequate when cryoprecipitate is required

Special product requests (specify justification):

Date _______ Time _______ Physician's signature & ID# _______ Printed name _______ Contact # _______

Blood band #__________ (When applicable)

Transfusion Service # Walnut Creek 35371, Concord 22177

ADULT TRANSFUSION ORDERS (NON-EMERGENCY RELEASE)

Form # 80150 Rev 06/11  s:locforms\80150transfusionorder V7.docx
**OR economics**

*Continued from page 10*

- a medical director (physician champion) with links to medical staff.

At John Muir, Brocato is the program’s executive director. The safety officer is an RN who performs monthly audits of criteria for transfusion and nursing documentation, works closely with nursing, blood bank staff, and the medical director and reports to the executive director.

The medical director is a respected trauma surgeon who is recognized as a conservative blood product user. He is willing to accept controversy and engage the medical staff in a paradigm shift, Brocato says.

**Success factors**

She advises that a successful transfusion committee must be multidisciplinary, multispecialty, and action-oriented. Steps she recommends:

- Gather baseline data on how much blood the hospital is using. The blood bank will have total volumes by product type.
- Find out what the organization’s hemoglobin triggers are for transfusion compared to the evidence. Then look at the quality department’s compliance data for how often the triggers are met. A trigger may be 10 g/dL, but physicians may transfuse at 12 g/dL.
- Establish new triggers using data from the literature and physician input.
- Develop a transfusion order form with the new triggers and educate the users (chart, p 11).

**Communicating the message**

John Muir’s transfusion committee had the transfusion order form approved by the medical executive committee, and the medical director presented the form at all medical staff department meetings. The committee also wrote newsletter articles about the form, presented in-service programs, and sent a letter with the order form to all the physician offices.

Use of the transfusion order form is mandatory for John Muir physicians. They can order only 1 unit of blood at a time. Physicians must recheck the patient’s hematocrit and hemoglobin after the first unit and before a second unit can be ordered. If the physician orders 2 units, only 1 is delivered.

The form is used for all elective transfusions. Anesthesiologists are not required to use the order form during surgery if blood is needed. Use of the form is not required in emergencies, such as the care of trauma patients.

The blood bank must be engaged in this process, advises Brocato. “They have to be willing to take the heat when they refuse to fill an order for 2 units.”

As of July 1, 2011, the blood bank no longer completes any blood orders that are not on the order form. Previously, it filled handwritten orders and sent a reminder to use the form, but that is no longer done.

Some of the steps take time, Brocato notes. The physicians were given a year and a half to become used to the order form. Because of that, she has not heard complaints since the July 1 transition.

Blood management is a win-win, says Brocato. “It is the poster child for saving money and improving outcomes and patient safety.”

—Judith M. Mathias, MS, RN

**References**


Hospitals are facing stiff economic winds. They are challenged by shrinking reimbursement from Medicare and Medicare, even as more patients will be covered by these publicly funded programs. Perioperative managers and directors are under pressure to make the most of their department’s resources. You’re being asked to measure every aspect of your OR’s performance from on-time starts to turnover time to OR utilization.

An analysis from the OR Benchmarks Collaborative (ORBC), a service of McKesson, provides information you can use to compare your department’s performance (sidebar, p 14).

**Analysis of ORBC data**

To provide a picture of how US facilities are performing on ORBC’s key performance indicators, an independent analysis was performed for McKesson by the QI Project, a unit of Press Ganey. The QI Project has long experience in data collection and analysis of quality improvement measures.

The analysis included a subset of 134 US facilities and 107 Canadian facilities that had submitted a full 12 months of validated data for all 55 data elements for 2010.

This article focuses on the US hospital sample. Of the US facilities, 87% were short-term acute care hospitals, 11% were ambulatory surgery centers (ASCs), and 2% were specialty hospitals, such as orthopedic, cardiac, or children’s facilities.

The median number of ORs for the hospitals was 11.1; the largest group (35%) had 6 to 10 ORs. A third (30%) had an academic program, as defined by the Council of Teaching Hospitals.

In all, 27% had an open-heart program, 23% had an oncology program, and 10% had a transplant program. About three-fourths (78%) were located in urban areas, and 16% were rural (charts).

The most common procedures these hospitals performed in the aggregate are cataracts (6.8%), cataract surgery (3.8%), knee/hip/shoulder arthroscopy (3.4%), laparoscopic cholecystectomy (3.1%), and total knee replacements (2.5%).

The sample has a similar demographic profile to hospitals nationally, as indicated by a comparison with the American Hospital Association database, though the sample has a higher percentage of academic hospitals (31% versus 8%).

**Key indicators**

The chart on page 14 illustrates how these hospitals performed on a selected group of the key performance indicators, such as first-case on-time starts and turnover time, reporting performance levels for the median as well as the 90th and 95th percentiles.

Some indicators show a fairly large spread between the median and the 90th and 95th percentiles, indicating these measures are still challenging, despite the considerable effort many ORs have made to improve on them. Examples are the accuracy of case-duration estimates and on-time starts for first cases of the day and for subsequent cases.

For instance, if your facility is 60% accurate in estimating case
## OR performance

### Key performance indicator results

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Median</th>
<th>90th percentile</th>
<th>95th percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accurate case-duration estimate</td>
<td>41.7%</td>
<td>56.1%</td>
<td>61.4%</td>
</tr>
<tr>
<td>First case on time/early</td>
<td>64.3%</td>
<td>88.3%</td>
<td>91.4%</td>
</tr>
<tr>
<td>Subsequent case on time/early</td>
<td>53.5%</td>
<td>71.6%</td>
<td>74.9%</td>
</tr>
<tr>
<td>Patient in to incision (minutes)</td>
<td>25.7</td>
<td>20.4</td>
<td>19.7</td>
</tr>
<tr>
<td>Patient close to out (minutes)</td>
<td>9.6</td>
<td>6.9</td>
<td>6.5</td>
</tr>
<tr>
<td>Turnover time (minutes)</td>
<td>28.5</td>
<td>22.7</td>
<td>21.4</td>
</tr>
<tr>
<td>Preadmission screening</td>
<td>49.0%</td>
<td>80.4%</td>
<td>80.4%</td>
</tr>
<tr>
<td>Surgical checklist</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Prime-time utilization (7 am to 3 pm)</td>
<td>75.3%</td>
<td>93.9%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

### Indicator definitions

#### Accurate case-duration estimate
Measures the percentage of cases where patient-in-room duration is within 15 minutes of the estimated in-room duration.

#### First case on time/early
Measures percentage of first cases with an in-room start time that is either early or not more than 5 minutes after the scheduled start time.

#### Subsequent case on time/early
Measures percentage of subsequent cases with an in-room start time that is either early or not more than 15 minutes after the scheduled start time.

#### Patient in to incision
Measures the average time (in minutes) that elapsed between the patient entering the operating room and the first incision.

#### Patient close to out
Measures the average time (in minutes) that elapsed between the close of the last incision and the time the patient left the operating room.

#### Average turnover minutes
Measures the time (in minutes) that elapsed between the prior patient exiting the room and the succeeding patient entering the room.

#### Preadmission screening
Measures the percentage of cases that were recorded as screened prior to surgery. Only cases specifically recorded as yes (screened) or no (not screened) are included in the measure.

#### Surgical checklist
Compliance with the surgical pause before incision.

#### Prime-time utilization
Measures percentage of total available time between 7 am and 3 pm with all rooms in use for patient care plus turnover time.

Source: McKesson. OR Benchmarks Collaborative. Reprinted with permission.
**Turnover time**

For turnover time, the median overall was 28.5 minutes, while at the 95th percentile, turnover time was 21.4 minutes. Turnover time is measured from when the prior patient exits the room until the succeeding patient enters the room.

In addition to measuring turnover time, it can be useful to compare in-room time segments for surgical cases, including patient entry to incision and last incision closed to patient exit, to see if there is room to improve. The chart on this page shows case times for common procedures and compares time segments for hospitals and ASCs as well as US and Canada.

Prime-time utilization (7 am to 3 pm) at the median was 75% for this group of hospitals. Utilization is defined in ORBC as rooms in use for patient care plus turnover time.

Regarding preadmission screening, at the median, about half (49%) of patients were screened prior to the day of surgery. At the 90th and 95th percentile, the level was much higher, with 80% of patients screened.

**Block scheduling**

A well-managed block schedule provides predictable operating times for high-volume surgeons and specialties, but blocks that are not managed well leave gaps in the schedule that hinder productivity.

The ORBC hospitals in the sample, on average, allocated 80% of their available OR time to blocks. Most of the block time (78% on average) was allocated to services rather than to the individual surgeon (22%).

Average block utilization was 82%, indicating ORs are managing their blocks fairly tightly. The top 5 service lines to which blocks are allocated are:

- orthopedics
- general surgery
- gynecology
- urology
- ophthalmology.

**Statistical correlations**

As part of the study, the QI Project used statistical modeling to examine correlations between performance and hospital characteristics such as country (US or Canada), facility type, and number of operating rooms.

Though the number of ORs had a complex relationship with most measures, in general, facilities with the most ORs showed a trend toward less efficient use of resources.

In highlights:

- US hospitals on average were 10 percentage points lower in scheduling accuracy than their Canadian counterparts.
- For turnover time, US hospitals took 15 minutes longer on average than Canadian hospitals.
- Acute care facilities have turnover times that average 22 minutes longer than ASCs.

**Preadmission screening boosts on-time starts**

Hospitals that conducted preadmission screening for 100% of their patients had a statistically

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**Case time by segment (percent)**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Patient in to incision</th>
<th>Surgery</th>
<th>Close to patient out</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coronary artery bypass graft</strong></td>
<td></td>
<td>19.3%</td>
<td>75.6% 5.1%</td>
</tr>
<tr>
<td><strong>Laparoscopic cholecystectomy</strong></td>
<td></td>
<td>26.1%</td>
<td>62.2% 11.7%</td>
</tr>
<tr>
<td><strong>Cataracts</strong></td>
<td></td>
<td>29.5%</td>
<td>61.1% 9.5%</td>
</tr>
<tr>
<td><strong>Ambulatory</strong></td>
<td></td>
<td>27.8%</td>
<td>59.2% 12.9%</td>
</tr>
<tr>
<td><strong>Acute care</strong></td>
<td></td>
<td>29.9%</td>
<td>58.1% 12.0%</td>
</tr>
<tr>
<td><strong>Canada</strong></td>
<td></td>
<td>30.2%</td>
<td>58.3% 11.5%</td>
</tr>
<tr>
<td><strong>USA</strong></td>
<td></td>
<td>29.2%</td>
<td>58.3% 12.5%</td>
</tr>
</tbody>
</table>

Source: McKesson. OR Benchmarks Collaborative. Reprinted with permission.
**The OR Benchmarks Collaborative**

The OR Benchmarks Collaborative is an automated benchmarking service for surgery available by subscription from McKesson. Using web-based technology, ORBC subscribers upload their data monthly to the service where it is analyzed.

ORBC provides each subscriber with a dashboard that displays aggregated data on 20 key performance indicators. Subscribers can use the dashboard to track their own performance and compare their data with that of other subscribers. ORBC tools also enable them to drill into their own data for each indicator to see, for example, performance by specialty or surgeon.

As of October 2011, ORBC had 471 subscribers including acute care hospitals and ambulatory surgery centers in the US, Canada, Saudi Arabia, Australia, and New Zealand.

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significant higher rate (69.3%) of on-time first-case starts than hospitals that did not screen 100% of their patients (58.5%). But preadmission screening was not statistically associated with a significant difference in on-time starts for subsequent cases.

**Time lost from cancellations**

The case cancellation rate was 1.7% for hospitals and 1.0% for ASCs. On average, hospital ORs lost 19 hours of surgery time per month because of cancellations, while ASCs on average lost 5 hours per month. The average time lost was much higher for hospitals in urban areas (21 hours/month) than for those in rural areas (6 hours/month) and other types of facilities (5 hours/month).

The data from the ORBC analysis offers benchmarks of actual performance from this sample of hospitals. It is information hospitals can use to see what others have achieved, gauge their own performance, and set realistic priorities and goals.

—Tina Foster, MBA, RN, CNOR
Vice President, Performance Analytics
McKesson Enterprise Intelligence
Asheville, North Carolina

More information on the McKesson OR Benchmarks Collaborative is at http://sites.mckesson.com/orbc/webinars.htm
‘Operation Zero’ targets surgical site infections

A surgical site infection (SSI) prevention “bundle” is helping OR teams at Maine Medical Center (MMC) in Portland to further a strategic goal of preventing SSIs. Known as Operation Zero, or “Op-Z,” the initiative is led by the chief of surgery, Brad Cushing, MD, with inspiration from a family whose healthy 85-year-old father died from an SSI after a total hip replacement at MMC.

Op-Z includes, in addition to the SSI bundle, notification of the entire perioperative team when a patient they cared for develops an SSI.

The SSI bundle, known as the Op-Z Checklist, is posted on the wall in each OR (sidebar). Before each case, the OR team verifies that it has reviewed the Op-Z checklist. The bundle constitutes one item on the presurgical checklist.

The Op-Z prompt encourages everyone in the OR to look around and make sure their colleagues are complying with the bundle’s elements, such as covering all hair and wearing long-sleeved warm-up jackets, says Karen Dumond, MSN, RN, CNOR, nursing director for the OR.

The bundle is not part of the time-out, she notes. Instead, surgeons are simply encouraged to say, “The team has reviewed the Op-Z Checklist,” prompting the team to pause and check for compliance.

Developing the bundle
The bundle was developed by groups of perioperative team members who suggested items they thought should be included. There were groups for the preoperative, intraoperative, and postoperative periods as well as for the ambulatory surgery unit and postanesthesia care. There were also groups for colon and vascular surgery.

Each group reviewed the literature, came up with 3 priorities, and sent those to the Surgical Services SSI Reduction Steering Committee. The committee reviewed the items and selected the initial bundle.

Reaching consensus took a lot of give and take.

“Everyone wanted to see the evidence,” Dumond says. There may not be published studies specifically related to practices such as wearing long sleeves or not bringing items such as briefcases into the OR, though these are based on infection prevention principles.

(AORN’s Recommended Practices for surgical attire advise wearing a long-sleeved jacket that is snapped closed. The rationale is that the sleeves help to contain skin squames shed from bare arms, and a closed jacket prevents the edges of the jacket from contaminating the skin prep area or sterile field. AORN also recommends not bringing items such as backpacks and briefcases into the OR because they are made of porous material that can harbor dust and pathogens.)

Establishing a standard
At MMC, the steering committee took the position that it needed to establish a standard that everyone would follow consistently.

“That makes people think about what they’re doing and about other areas we need to look at,” says Dumond.

Hair covering was an issue.

“The goal is that the head covering has to be clean and cover all hair,” she says.

Skull caps weren’t eliminated, however, because some surgeons who wear headlights said the bouffant caps caused the light to slide around. Skull caps can be worn only by individuals whose

Op-Z Checklist

The bundle for preventing surgical site infections at Maine Medical Center:

- All hair covered in OR, including facial hair.
- Attire appropriate. All staff to wear hospital-provided, clean/laundered apparel in the OR. Hospital-provided cover jackets will be worn in the presence of open sterile supplies. Exception is scrubbed personnel. Rings, bracelets, and watches are either removed or contained.
- No unnecessary items are brought into the OR. That includes briefcases or any other items not needed for the case.
- The sterility of all operative materials ensured.
- Appropriate skin prep used in proper fashion.
- Measures to ensure normothermia are in place, if appropriate.
- Blood sugar control plan instituted, if appropriate.
- Redosing antibiotic schedule determined and timer set, if needed.

Continued on page 18
Kicking off Op-Z

The Op-Z Checklist was rolled out in August 2011 with an all-hands meeting for surgeons, nurses, and anesthesia providers held in the hospital’s auditorium. This was not a routine meeting. As the audience entered, scrolling on the screen was a list of all of the SSIs at MMC, listing the procedures but not patient names.

“Almost every specialty was involved. It was very powerful,” says Dumond.

The family of the 85-year-old patient, George H. Ellis, PhD, was present. The patient’s son-in-law, Stephen Hudspeth, JD, gave a moving presentation, emphasizing that behind every patient with an SSI is a family.

“I’m told you do 1,800 hip and knee replacements annually,” he told the audience. “I’m told that in the past 6 months, there have been zero infectious outcomes,” even though the usual infection rate nationally for a hip replacement is 1.5%.

“That is 27 families over a year’s time who have you to thank for your continued ability to enjoy a loved one with them.” He asked the audience to imagine those 27 families assembled there and, behind them, hundreds more who represented their families and communities.

After Ellis’s death 5 years ago, the family set up a fund at MMC specifically for the purpose of infection prevention, and the family checks in regularly for progress reports. (See Editorial.)

Hudspeth congratulated the OR teams assembled for their work every day in preventing infections. Because of their work, he said, “These are families who don’t have to go through what we went through.”

Many in the audience had tears in their eyes.

Reinforcing practices

A bit of levity helped to reinforce infection prevention practices at the meeting.

After a review of SSI statistics, the audience watched 2 humorous videos to help get the point across about the SSI bundle. The committee had checked in advance with the patient’s family to make sure they wouldn’t see the humor as disrespectful, Dumond notes.

One video illustrated the correct application of the surgical prep solutions. Using an inflatable doll, the surgeon applied the prep and set the timer for 3 minutes to let it dry. He then took the scalpel, made the “incision,” and the doll deflated.

In the second skit, a mock orthopedic case, the team showed how to review the Op-Z line on the preop checklist. As they looked around, they realized that the anesthesia provider had to put on a jacket. The surgical technologist had a lock of hair showing, and someone clipped it off in humor. They then started the “case” using a kitchen knife and power tools brought from home.

The skits went over very well, Dumond says.

Teams notified of SSIs

Though surgeons have always been notified of SSIs, as part of
Time of surgery doesn’t affect patient outcomes

There has been concern that patients face greater risk when surgery is performed later in the day or week, in the summer when new residents arrive, or even during certain phases of the moon.

But a new study shows that the time of day, day of week, and month when surgery is performed do not affect the risk of 30-day postoperative mortality.

Researchers led by Daniel I. Sessler, MD, from the Cleveland Clinic tested the hypotheses that 30-day mortality from elective surgery:
- increases from morning to evening (6 am to 7 pm)
- increases from Monday to Friday
- is higher in July and August when new residents begin operating
- is affected by phase of the moon.

Analyzing more than 32,000 elective surgery procedures performed from 2005 to 2010, they found the time of surgery did not make a difference. Nor did 30-day mortality differ with phases of the moon or when new residents begin to perform surgery in summer. (Phase of the moon was used as a negative control because it was not expected to affect the outcome.) They did not study outcomes during off-shifts or for add-ons, urgent, or emergent cases.

They concluded that for the times studied, surgery appears to be safe on any weekday and by month or phase of moon.

Previous studies examining outcomes by time of day have had mixed results, which the authors say might be influenced by the fact that urgent and semi-urgent cases tend to be added later in the day. They say they limited their study strictly to elective surgery to avoid the possibility that more seriously ill patients, rather than time of day, might account for the difference in outcomes.

OR scheduling implications

The findings have important implications for OR scheduling, notes an accompanying editorial by Franklin Dexter, MD, PhD, and Alan P. Marco, MD, MMM.

They say the findings are particularly important in decisions about whether to open another OR for use as first-come, first-served unblocked open overflow time with the aim of increasing surgical volume. This would mean running fewer ORs later in the day.

The value of the Sessler findings, they note, is in showing that patient outcomes are unlikely to be affected by this decision. Therefore, they say the decision to expand open time can be made by balancing the cost of longer days, the cost of opening more ORs, and the reduction in surgeons’ wait times by adding first-case starts.


Op-Z, the entire team that was in the OR during that case is now notified, including the surgeon, anesthesia provider, nurse, and ST, as well as the admitting unit and postanesthesia care staff.

“It is not meant to be punitive but to raise awareness,” Dumond says. “It helps to get people out of thinking, ‘That doesn’t happen to me.’”

Checking on compliance

To ensure adherence with the SSI bundle, teams of anesthesia providers, surgeons, and staff will be conducting observations, as they did to ensure compliance with the time-out.

“We have more work to do,” Dumond says, noting there is progress, such as more hair being covered. Baskets have been hung on the wall outside the ORs to hold belongings like briefcases.

She credits Dr Cushing for his leadership in building the momentum behind Op-Z. “He is very innovative. He really puts thought and work into this,” she says. “He asks, ‘How can we do this so it will have an impact?’”

When Dr Cushing first proposed to the nurses having the SSI bundle as another line on the surgical checklist, the reaction at first was, “not one more thing,” recalls Dumond, admitting she agreed. Then the nurses began thinking about how they could make it work.

Changing culture is hard, she comments.

“The staff may wonder, ‘Is this just the flavor of the month? If I wait, will it go away?’ To make it a culture change, you have to get the message across that this is not going away.”

—Pat Patterson

Reference

An analysis by Premier of data from 323 of its member hospitals shows they are losing $1.82 billion annually for 12 orthopedic and cardiac case categories because of Medicare reimbursement shortfalls.

Lack of evidence-based outcomes data and the rising cost of physician preference items (PPIs) are also cited as reasons for losses. The hospitals analyzed lost, for example, on average $14,547 per case for cardiac valve replacements and $13,092 for spinal fusions in 2010 (table).

“It is undeniable that advances in implant technologies have improved the lives of millions,” Premier’s chief medical officer, Richard Bankowitz, MD, MBA, FACP, said in a statement. “But across the industry, it is standard operating procedure for physicians to work directly with device companies, testing new products and then becoming their advocates.”

Hospitals, he said, “are pushed to make purchasing decisions with little information about quality and cost.”

A lack of transparency on device prices and wide variability in costs from hospital to hospital “are two of the most significant impediments to achieving cost-effective health care,” he added.

The analysis found 54% of the overall inpatient supply cost is in the circulatory and musculoskeletal major diagnostic categories (MDCs). Within those categories:

- 27% of the total surgical supply cost for the circulatory category (MDC 5) was in cardiac defibrillator implantation (DRG 227) and drug-eluting stent procedures (DRG 247).
- 56% of the total surgical supply cost for the musculoskeletal category (MDC 8) was in spinal fusion (DRG 460) and hip and knee replacements (DRG 470) (table).

Premier also surveyed health care leaders on physician preference purchasing and physician alignment with 739 respondents.

In findings on physician preference:

- The top 3 factors influencing PPI purchasing decisions are clinical outcomes, cost, and physicians’ past experience with suppliers or device manufacturers.
- Primary care, orthopedics, and cardiology are their organizations’ top targets for the acquisition of physicians. Cardiologists are the most interested and orthopedists the least interested, according to a study by Price-waterhouseCoopers.

What makes value analysis effective?

What’s in the OR Manager Toolbox?

Look in the OR Manager Toolbox at for sample forms, policies and other helps.

You’ll find the Toolbox at www.ormanager.com.
Taking control of implant processing practices

Are you following recommended practices when processing implants? Both the Association for the Advancement of Medical Instrumentation (AAMI) and the Association of Perioperative Nurses (AORN) state that a load containing an implant should be quarantined until the results of the biological indicator (BI) testing are available. The rationale is to reduce the risk of surgical site infection (SSI).

The Joint Commission’s National Patient Safety Goal NPSG.07.05.01 states that hospitals should “implement evidence-based practices for preventing surgical site infections.” The goal’s EP 3 says:

Implement policies and practices aimed at reducing the risk of surgical site infections. These policies and practices meet regulatory requirements and are aligned with evidence-based guidelines (for example, the Centers for Disease Control and Prevention and/or professional organization guidelines).

Thus, if you are releasing implants before BI results are available, you are not adhering to guidelines and thus not implementing an evidence-based practice that prevents SSIs.

How should I monitor implant loads?
Routine release of implant loads should be an active decision based on the evaluation of all available data. AAMI recommends in its ST79 steam sterilization standard that an experienced and knowledgeable person should make that decision at the end of the steam sterilization cycle after evaluating the results of each monitoring tool. AAMI recommends using these monitoring tools:

**Physical monitors**
These are the recorders, displays, digital printouts, and gauges on steam sterilizers that read the time, temperature, and pressure of the cycle.

If the sterilizer has a recording chart, it should be checked each morning to ensure chart paper is inserted and the pen is functioning. The date and sterilizer number should be marked on the chart before each cycle is started.

For printouts, verify that the cycle identification number has been recorded and that the paper is functioning. At the end of the cycle, verify by reading and recording your initials that the cycle parameters are correct for the load contents.

**External chemical indicator (CI)**
A Class 1 CI should be used on the outside of each package, unless the internal chemical indicator is visible, to distinguish between processed and unprocessed items. The indicator should be examined at the end of the cycle, before it is dispensed, and before it is used in the operating room.

**Biological indicator**
A BI process challenge pack (BI PCD) containing a Class 5 integrating CI should be used in each load that contains an implant. The implant should be quarantined until the BI testing is available. AAMI states: “Releasing implants before the BI results are known is unacceptable and should be the exception, not the rule.”

In documented medical exceptions, the implant could be released based on the results of a Class 5 CI (not a Class 6 CI).

**Documenting exceptions**
AAMI provides an example of an implant log and an exception form to use for documentation in Annex L of the ST79 standard. The form includes the patient’s name, surgeon’s name, time of procedure, reason for premature release of implant, and what could have prevented this premature release.

The Joint Commission uses the AAMI ST79 standard during surveys and expects to see that ST79 Section 10.6.3 and Annex L are being used.

It is important to have a sur-
geon authorize the early release of implants before the BI results are available. This documentation should be used to determine patterns of events that cause an emergency release of implants so that situation can be corrected.

OR personnel have told me that if the liability is shifted to the surgeon, the practice of releasing implants early or using immediate-use steam sterilization is dramatically reduced.

**If the BI is positive**

If the BI is positive or the Class 5 CI indicates an ineffective sterilization process, the implant should not be used.

If the cycle parameters, the external or internal chemical indicator results are not correct, or the BI is positive, do not use the load. Inform the appropriate supervisor so appropriate follow-up measures can be initiated.

Appropriate follow-up measures for monitoring products that indicate a sterilization process failure are described in the AAMI steam sterilization standard under Section 10.7.5 (Actions to take when biological indicators, chemical indicators, or physical monitors indicate a failure). All monitoring information should be fully traceable to the patient.

**Why are improperly processed implants a risk?**

Implants released before the BI result is known may have microorganisms on them that could cause an SSI, which may not be evident for up to a year after surgery.

During implant surgery, removal and manipulation of the tissue immediately adjacent to the implant create an area where microorganisms could multiply. In addition, surgery interrupts the blood supply, which prevents antibiotics from contacting the microorganisms.

Removal of the implant (ie, joint, vascular graft, or intraocular lens) may be necessary to stop the infection, and this could cripple or kill the patient. That's why it's critical to take every step possible to ensure implants are properly sterilized and BI results are negative before the implant is used on a patient.

**Why aren’t implants quarantined?**

There are many reasons why implants may be released prematurely. These are a few:

- Loaner instruments may not arrive in sufficient time to process the devices properly and quarantine implants. That can be the result of a loaner policy that is not successful at meeting the AAMI standard and the facility’s needs.
- Poor scheduling by the hospital or vendor, insufficient vendor inventory, or emergencies are other reasons. Possibly, the manufacturer’s written instructions (IFU) did not arrive with the sets, and obtaining those delayed the processing.
- Lack of inventory, whether loaner, consignment, or owned implants/instruments, may not be sufficient to meet the surgery schedule. Instruments that arrive broken or dirty can also delay processing.
- OR block schedules may require use of one-of-a-kind instruments in specialty trays or loaner/consignment trays for back-to-back cases.
- Resources may be lacking, such as personnel, appropriate equipment, cleaning agents, tools recommended in the IFUs, and space in SPD.

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**New guidance on loaner sets**

As a help for managing loaner sets, the International Association of Healthcare Central Service Materiel Management (IAHCSMM) has a new Position Paper on the Management of Loaner Instrumentation. The paper recommends that loaner instrumentation be received in the facility’s decontamination area at least:

- 2 working days (48 hours) before a scheduled case for existing sets
- 3 working days (74 hours) for new sets.

If loaner sets aren’t received in time, the OR may end up using immediate-use steam sterilization (IUSS) (previously called flash sterilization)–a practice strongly discouraged for implants.

IUSS should not be performed on implants, except in a documented emergency when no other option is available, according to the recent multi-society position paper on IUSS from AAMI, AORN, and other organizations.

AORN states in its recommended practices for sterilization that, in an emergency, when flash sterilization of an implant is unavoidable, a rapid-action BI with a Class 5 chemical integrating indicator should be run with the load. The implant should be quarantined on the back table and not released until the rapid-action BI provides a negative result.

This statement is intended to discourage use of IUSS. If IUSS is used, the manufacturer’s written IFUs for cleaning, packaging, loading, and sterilization parameters should be followed.
A new position paper on loaner sets can help in developing your own policy (sidebar, p 22).

How do I change practice? How can you stop the practice of releasing implants for use before the BI results are known or using immediate-use steam sterilization? Be sure you and your superiors are aware of the Joint Commission NPSG.07.05.01, in particular, EP 4, which states: “As part of the effort to reduce surgical site infections, conduct periodic risk assessments for surgical site infections in a time frame determined by the hospital.”

This could be interpreted to apply to the release of implants. If you continue to release implants before the BI results are known or process implants by immediate-use steam sterilization, you need to do a risk assessment to determine how to eliminate these practices.

Management teams from the operating room, SPD, infection prevention, and risk management departments need to work together to develop policies and procedures to ensure all implants are not released until the BI results are available, and implants are never processed by immediate-use steam sterilization.

Meeting the AAMI and AORN recommendations is a step closer to eliminating SSIs and improving patient outcomes.

—Martha Young, MS, CSPDT
President, Martha L. Young, LLC, providing SAVVY Sterilization Solutions for Healthcare, Woodbury, Minnesota

Martha Young is an independent consultant with long experience in medical device sterilization and disinfection.

References
AORN. Recommended practices for maintaining a sterile field.

Angioplasty safe without cardiac surgery backup

Two new studies find patient outcomes are similar for angioplasty and stents with and without cardiac surgery backup.

A meta-analysis in JAMA found performing percutaneous coronary interventions (PCIs) at hospitals without surgical backup does not increase in-hospital mortality or the need for emergency coronary bypass surgery.

Primary PCI for myocardial infarction had an in-hospital mortality of 4.6% and emergency bypass rate of 0.22% at centers without on-site surgery, compared with 7.2% and 1.03% at centers with surgery backup. There also were no significant differences for elective and urgent nonprimary PCIs.

With primary stenting, the risk of patients needing emergency coronary artery bypass surgery (CABG) is now 10 times lower than in the early balloon angioplasty era at <0.5%, an accompanying editorial notes.

Six-week mortality and emergency coronary bypass surgery rates were similar for both groups in a study presented at the American Heart Association meeting. Nearly 14,000 patients were randomized to have angioplasty with surgery backup, and 4,500 were assigned to hospitals without backup.

References

Critical Decisions.

Some of the toughest decisions are made long before the surgery starts.

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Patients are getting heavier, and outpatients are no exception. The Centers for Disease Control and Prevention (CDC) classifies nearly one-third of Americans as obese. Meanwhile, the number of procedures deemed suitable for ambulatory surgery centers (ASCs) is increasing.

That is not a problem if patients are properly screened, experts agree, but ASCs should be aware that excess weight presents a wide range of risk factors.

“Obesity has always been a challenge, but we’re becoming more sensitive to the needs of that population,” Valerie Geyer, BSN, RN, NEA-BC, explains. “It’s getting more attention.” Geyer is director of clinical services at Regional Gastroenterology Associates of Lancaster (Pennsylvania) (RGAL). RGAL’s 15 physicians perform 8,500 procedures a year in the 2 ASC facilities, primarily screening colonoscopies, upper endoscopies, and hemorrhoid treatments.

In those specialties, RGAL sees many obese patients, but they must be generally healthy to qualify for outpatient treatment. That means anesthesia physical status of 3 or lower, as defined by the American Society of Anesthesiologists, and a body mass index (BMI) of 50 or less.

Health effects of obesity
RGAL works with Nova Anesthesia Professionals in Villanova, Pennsylvania. According to managing partner Meena S. Desai, MD, the problem is not a patient’s weight per se but the comorbidities that tend to result. Obstructive sleep apnea is a common one. Others include:
• systemic hypertension
• coronary artery disease
• asthma
• stroke
• renal dysfunction
• diabetes
• deep vein thrombosis.

In addition, Dr Desai notes, obese patients may be taking a variety of prescription medications or diet aids, which anesthesia providers need to take into account. Except for some modification of diabetes therapy, she recommends having patients take those medications until the day of surgery.

Assess the risks
In a presentation to the annual conference of the Ambulatory Surgery Center Association in May 2011, Dr Desai cautioned ASCs to not dismiss obese patients without assessing the risks.

“Because weight alone may not influence postoperative complications or unplanned admissions,” she told them, “it should not be considered the sole patient selection criterion for ambulatory surgery.”

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In fact, she notes, the BMI limit for ambulatory surgery has gradually increased. There is little scientific research assessing the risks of outpatient treatment to the obese population, however.

“Overall,” she says, “the suit-ability for ambulatory surgery should depend upon the severity of comorbidities and ability to optimally control the preexisting conditions as well as the type of anesthetic and type and invasiveness of the surgical procedure.”

One study that assessed the effects of ambulatory surgery on obese patients looked at the use of regional blocks on this population. In 2005, researchers Nielsen et al analyzed results for about 9,000 patients treated at Duke University Ambulatory Surgery Center in Durham, North Carolina. Block failure and complications were more common in obese patients, they found. However, they also noted that general anesthesia has its own risks of managing difficult airways and cardiopulmonary dysfunction, while sedation can depress respiratory function.

“Therefore,” they concluded, “overweight and obese patients should not be excluded from regional anesthesia procedures in the ambulatory setting.”

Assume sleep apnea

Sleep apnea increases sensitivity to sedatives, which can lead to upper airway collapse. Both midazolam and propofol may cause upper airway obstruction, but Desai notes recovery from propofol is more rapid.

Sometimes obese patients who previously showed no signs of sleep apnea develop airway obstruction during sedation. Therefore, Dr Desai recommends treating all obese patients as potentially having sleep apnea.

It is essential to monitor ventilation, she says, and often is useful to administer continuous positive airway pressure (CPAP) during moderate sedation. For patients already diagnosed with sleep apnea, general anesthesia may be preferable, Dr Desai says.

Postoperatively, she warns of complications such as airway obstruction, oxygen desaturation, systemic hypertension, cardiac arrhythmia, and the need for reintubation. She recommends keeping such patients in a semi-upright position in the postanesthesia care unit (PACU).

During recovery at home, she has found that despite the risk of oxygen desaturation in apnea patients, continued CPAP protects against further complications.

Still, she warns, “The risk of respiratory complications may last for several days after surgery because postoperative surgical stress response, anxiety, pain, and opioid use cause sleep deprivation and fragmentation, which may reduce REM sleep and exacerbate sleep disorders.” It is important, she adds, that home caregivers be informed about how to recognize and treat complications.

Setting limits

At RGAL, the patient BMI limit is 50, and the center’s equipment has a capacity limit of 350 pounds. Patients arrive from 2 sources: staff physician referrals and open access, where outside physicians or patients themselves call to arrange colonoscopies.

Patients unsure of their weight are asked to come in to have their weight checked. Meanwhile, a 13-point telephone screening identifies any conditions that could make them ineligible, such as uncontrolled diabetes, stroke, kidney failure, and heart conditions.

In addition, screeners ask patients if they use a CPAP machine or have symptoms of sleep apnea, such as snoring or constant tiredness.

Properly screened, obese patients can have a satisfactory ambulatory surgery experience. The key is to understand and meet the needs of this population.

“You always need to treat patients as individuals,” Geyer says. “You need to be sensitive to little things; we have larger gowns and larger sheets.”

Obesity: Fast facts

- The cost of treating an obese patient is 41% higher than for nonobese patients.

Obesity classifications

- Class I: BMI 30-34
- Class II: BMI 35-39
- Class III: 40 or higher

What’s expected for use of safe surgery checklist?

Starting now, in January 2012, ambulatory surgery centers (ASC) and hospital outpatient departments need to be using a safe surgery checklist and keep using it through all of the calendar year.

That’s one quality measure in Medicare’s new ASC quality reporting program set forth in the 2012 outpatient payment rule issued November 1, 2011. It’s also a new measure for hospital outpatient quality reporting. (See December OR Manager.)

In addition:
- Use of the checklist in 2012 will be reported to the Centers for Medicare and Medicaid Services (CMS) during a 6-week period in 2013.
- Reporting of checklist use in 2012 will affect ASCs’ Medicare payment update in 2015.

In adopting the measure, CMS said, “use of such checklists has been credited with dramatic decreases in preventable harm, complications, and postsurgical mortality,” as documented by reports in the New England Journal of Medicine.

CMS says it believes the use of safe surgery checklists “complements the management of surgical care processes” and “contributes to better patient outcomes by increasing safe surgery practices and by reducing preventable human error and minimizing complications and postsurgical mortality.”

The agency notes that use of a safe surgery checklist has been endorsed by the World Federal Societies of Anesthesiologists and the Council on Surgical and Perioperative Safety, which includes AORN, the American College of Surgeons, the American Society of Anesthesiologists, and related groups plus a number of other organizations.

What does CMS expect?

What specifically does CMS expect?

OR Manager posed these questions to the Ambulatory Surgery Center Association. Questions were also posed to CMS, which had not responded by press time.

The ASC Association has sample checklists on its website at ascassociation.org/ascqualityreporting. Select the checklist resources on the right. The site also provides information about complying with Medicare’s other quality reporting requirements in 2012 and beyond.

What specifically does “use” of the checklist mean? Does it mean the checklist is used on all cases? Only some cases? On a trial basis?

ASC Association: The checklist must be in general use at the ASC for all patients. CMS will not evaluate use on a patient-by-patient basis, but ASCs will need to indicate whether a checklist was in regular use during the full calendar year of 2012.

What specifically will ASCs be expected to document in 2013 regarding use of a checklist in 2012?

ASC Association: ASCs will need to go to CMS’s quality net site (www.qualitynet.org) between July 1, 2013, and August 15, 2013, and leaving the operating room. (CMS offers examples of safe practices for the 3 perioperative periods in the outpatient payment rule. See chart, p 28.)

That being said, ASCs should keep the purpose behind the safe surgery checklists in mind (ie, safety in all aspects of the surgery) and should adopt the most comprehensive checklist possible.

The Joint Commission’s Universal Protocol is designed to prevent wrong site, patient, and procedure surgeries. Other checklists are more comprehensive. For example, the AORN comprehensive checklist incorporates aspects from the Joint Commission’s Universal Protocol and much more.

What specifically does The Joint Commission’s Universal Protocol suffice? Or must the checklist be more extensive?

ASC Association: The CMS requirements are fairly general. ASCs may use any checklist as long as it addresses effective communication and safe surgery practices in each of 3 perioperative periods: prior to administering anesthesia, prior to the start of a procedure, and prior to the patient leaving the operating room. (CMS offers examples of safe practices for the 3 perioperative periods in the outpatient payment rule. See chart, p 28.)

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Patients need to be educated about the procedure they are about to have and the higher risks associated with their weight-related conditions. “Make them comfortable,” Geyer advises, “and understand the cause of their anxiety.”

Finally, even though ASC patients are ambulatory, Dr Desai notes that additional help may be needed to assist and position them. “Centers should be ready for this, so as not to have nursing and ancillary staff injuries,” she advises.

Safe surgery checklist

- Verbal confirmation of patient identity
- Mark surgical site
- Check anesthesia machine/medication
- Assessment of allergies, airway, and aspiration risk

■ Confirm surgical team members and roles
■ Confirm patient identity, procedure, and surgical incision site
■ Administration of antibiotic prophylaxis within 60 minutes before incision
■ Communication among surgical team members of anticipated critical events
■ Display of essential imaging as appropriate


Safe care for obese patients

Continued from page 26

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FDA targets misleading Lap-Band ads

The FDA said in December 2011 that it issued warning letters to 8 California surgical centers and a marketing firm for misleading advertising of the Lap-Band.

The FDA warns that billboards and ad inserts promoting the Lap-Band failed to include warnings, precautions, possible side effects, and contraindications associated with the weight-loss procedure. If the organizations do not change their ads and promotions, the FDA says it is prepared to take further action.

Allergan, the manufacturer of the Lap-Band, is not named in the warning.

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Nine California hospitals fined for surgical errors

The California Department of Public Health in December 2011 levied fines totaling $850,000 against 14 hospitals. Nine hospitals were penalized for not following surgical policies and procedures.

In one hospital, a patient needed 2 surgeries to identify a retained lap sponge as the source of her infections. The patient had been on antibiotics for 3 or 4 months before she collapsed at home and was admitted to the hospital for 11 days. After discharge, she said she “began to feel terrible again.” After numerous tests, a specialist said she needed a second surgery, which found the sponge.

The patient said she now has a weak bladder and is incontinent for urine. “I feel like I have been robbed of my life having to live with this,” she said.

The OR record documented sponge counts were done twice, with both counts correct. But there was no documentation of the times or indication the count was done audibly, as required by the facility’s policy and procedures.

This was the hospital’s first penalty, with a fine of $50,000.

A problem with consents

In another hospital, which was fined for a wrong surgery, a patient had a left partial mastectomy instead of the left total mastectomy she had requested and had signed a consent for. Though a lumpectomy had been discussed with the patient, the patient later opted for a mastectomy.

The investigation found one preop nurse had failed to confirm the procedure with the patient according to policy. Though there were 2 conflicting consents in the patient’s record, a second preop nurse did not follow up on the discrepancy.

When the circulating nurse conducted the time-out before surgery, she did not use the consent form to confirm the correct procedure. The OR schedule listed a partial mastectomy. The surgeon said she didn’t look at the consent before the surgery but referred to her own preop note and the OR schedule. The patient said the surgeon had apologized by saying, “At least we didn’t do a mastectomy instead of a lumpectomy.”

The patient said she felt the surgeon’s comment was inappropriate. “I felt so neglected; I was left on a gurney in a hallway for 4 hours, and I never saw her (surgeon); she never spoke to me.”

The reports are posted at www.cdph.ca.gov/Pages/NR11-062.aspx

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Readmission common after colorectal surgery
Nearly a quarter (23%) of colorectal surgery patients are readmitted within 3 months of surgery at a cost of $9,000 per readmission, researchers report. Analysis included 10,882 commercially insured patients from 2002 to 2008.

Common reasons for readmission are surgical site infections, creation of a stoma, and discharge to a nursing home.

The authors say prevention strategies are needed to avoid readmissions, which are becoming a quality indicator for payors.


Low BMI linked to higher postop mortality
Patients with a body mass index at the lower end of normal were more likely to die within 30 days of surgery than those in the moderately overweight range, in a new study.

Patients with a BMI <23.1 had a significantly increased risk of death, with 40% higher odds compared with patients in the middle range for BMI (26.3 to <29.7). The findings held after adjusting for type of surgery and a patient’s overall expected risk of death.

Data were analyzed for nearly 190,000 general and vascular surgical procedures reported in 2005 and 2006 to the American College of Surgeons National Surgical Quality Improvement Program.

−Turrentine F E, Hanks J B, Schirmer B D. Arch Surg. Published online November 21, 2011.

Pneumonia most common cardiac surgery infection
Pneumonia, not surgical site infections, is the most common serious infection after cardiac surgery, according to research presented at the American Heart Association meeting.

Intestinal and bloodstream infections also were more common than SSIs.

The analysis of 5,100 patients showed 51% of infections occurred after discharge, and most occurred 2 weeks postop, not 1 week postop as previously thought.


Postop opioids increase costs, length of stay
Routinely giving opioid analgesics after abdominal hysterectomy is linked to a significant increase in length of stay and costs, according to a poster presented at the American Society of Health-System Pharmacists meeting.

Compared with controls who had an average length of stay of 2.5 days, study patients averaged 8 days. Total hospital cost for these patients was $14,270 compared with $5,700 for controls. Opioids are good for pain control but cause respiratory depression and adverse gastrointestinal events, which can lengthen recovery time.

−www.medpagetoday.com/MeetingCoverage/ASHP/30044

Which total joint patients at risk for hospital falls?
Revision surgery, advanced age, male gender, minority race, and comorbidities such as congestive heart failure are risk factors for in-hospital falls after total knee and hip replacement, a study finds. Falls increased from 0.4% to 1.3% during the 10-year study period.

The authors suggest tagging patients with these characteristics and raising staff awareness.