

Inside OR Manager

OR MANAGER
CONFERENCE
Health care reform and the
'Golden Age' of nursing.....5

HUMAN RESOURCES
'Second victim' rapid-
response team helps
fellow clinicians recover
from trauma 10

PATIENT SAFETY
Stryker's Neptune recall
raises stakes for
compliance 16

ECRI INSTITUTE PERSPEC-
TIVES
Higher awareness
may lower the odds of
retained surgical items 18

OR BUSINESS
PERFORMANCE
The right strategies
can help increase
OR utilization.....21

PERFORMANCE
IMPROVEMENT
Starting in the office to
improve postop outcomes ...26

Ambulatory Surgery Centers

Escorts essential for
ensuring postop
patient safety..... 28

Patient safety

Safety, cost savings, simplicity back broader use of bloodless surgery

More than 120 centers throughout the US have bloodless surgery programs to serve patients who refuse blood transfusions for religious and other reasons. The



practice, which began more than 50 years ago, has evolved through research on blood conservation and new techniques to minimize the need for transfusions.

The Joint Commission is taking a serious look at reducing transfusions, which could spur the growth of blood management and

bloodless surgery programs across the country, says Mark Zawadsky, MD, medical director of the Bloodless Medicine and Surgery program at Georgetown University Hospital in Washington, DC.

Blood management has also attracted the attention of the AABB (formerly the American Association of Blood Banks) and the Department of Health and Human Services (HHS).

Many transfusions unnecessary, costly

The HHS Advisory Committee on Blood Safety and Availability

Continued on page 6

Patient safety

Has your checklist effort stalled? Some advice on how to restart it

Fifth in a series on ten elements of safer surgery.

This marks the fifth year since the worldwide rollout of the World Health Organization (WHO) Surgical Safety Checklist. In some hospitals, the checklist has taken root and become a way of life. In others, acceptance is slower. For others, after an initial burst of enthusiasm, the checklist has become just a series of tick boxes.

What's the difference between

a checklist effort that is alive and one that lags?

For this article, experts, including the Safe Surgery 2015 team led by surgical checklist pioneer Atul

Safer Surgery

Gawande, MD, offer 12 key factors for ensuring that the checklist fulfills its true purpose—serving as a tool to aid team communication and minimize risks to patients.

Continued on page 12



PROMISES MADE. PROMISES KEPT.

PERIOPERATIVE OPTIMIZATION

SURGICAL INSTRUMENT MANAGEMENT

**ENDOSCOPIC EQUIPMENT MAINTENANCE
AND REPAIR SERVICES**

**SURGICAL INSTRUMENT MAINTENANCE
AND REPAIR SERVICES**

EDUCATION AND TRAINING

PREZIO Health promises

*to provide quantifiable clinical, financial
and operational improvements to each
customer's perioperative business.*

*Our team is committed to solving
complex problems in the perioperative
environment by reducing those variables
that negatively impact patient care.*

*Let us help you chart a course to
improve your clinical, financial and
operational outcomes.*

To learn more about what we can do for you, visit us at PREZIOHealth.com/orp

Call us today: **(855) 667-4831**



PREZIOHealth.com/orp

follow us    

ISO 13485:2003
ISO 9001:2008
BUREAU VERITAS
Certification



ADVERTISING

National Advertising Manager
Ashley W. Kerwin
Account Executive, OR Manager
301-354-1814
akerwin@accessintel.com
Fax: 301-340-7136

REPRINTS

Wright's Media
877-652-5295 • sales@wrightsmedia.com

Vol. 29, No. 5, May 2013 • *OR Manager* (ISSN 8756-8047) is published monthly by Access Intelligence, LLC. Periodicals postage paid at Rockville, MD and additional post offices. POSTMASTER: Send address changes to *OR Manager*, 4 Choke Cherry Road, 2nd Floor, Rockville, MD 20850. Super subscription (includes electronic issue and weekly electronic bulletin) rates: \$209 (plus \$10 shipping for domestic and Canadian; \$20 shipping for foreign). Single issues: \$29. For subscription inquiries or change of address, contact Client Services, clientservices@accessintel.com. Tel: 888-707-5814, Fax: 301-309-3847. Copyright © 2013 by Access Intelligence, LLC. All rights reserved. No part of this publication may be reproduced without written permission.

OR Manager is indexed in the Cumulative Index to Nursing and Allied Health Literature and MEDLINE/PubMed.

SISTER SITES

dorlandhealth.com
patientadvocatetraining.com
contextomedia.com

Access Intelligence, LLC

Chief Executive Officer
Don Pazour
Executive Vice President & Chief Financial Officer
Ed Pinedo
Exec. Vice President, Human Resources & Administration
Macy L. Fecto
Divisional President, Access Intelligence
Heather Farley
Senior Vice President, Chief Information Officer
Robert Paciorek
Senior VP, Corporate Audience Development
Sylvia Sierra
Vice President, Production and Manufacturing
Michael Kraus
Vice President, Financial Planning and Internal Audit
Steve Barber
Vice President/Corporate Controller
Gerald Stasko

Editorial

When the Pentagon decided in January to lift the military's official ban on women in combat, it wasn't news to many who have served.

But women's service stretches farther back than I realized—and one group involved nurses. In 1942, during World War II, 99 Army and Navy nurses were swept up in the battles of Bataan and Corregidor, a dark event in American military history.

The last surviving member, Mildred Dalton Manning, died March 8.

"We were the first nurses in the United States Army to be subjected to actual combat; on Bataan there simply were no 'rear areas,'" said Josie Nesbit, nursing supervisor at one of Bataan's field hospitals.

The nurses' story is told in the 1999 book, *We Band of Angels*, by Elizabeth Norman, PhD.

The book is in paperback and in an e-book edition.

We were able to hear their story when Norman spoke at our *Managing Today's OR Suite* conference in 2001. It's a talk I'll never forget.

Backs to the sea

Before Pearl Harbor, most of the nurses had been stationed at Sternberg Hospital in Manila, which to many, seemed like paradise. War was a rumor.

But when the Japanese hit Manila hours after Pearl Harbor, the nurses were pressed into service of a different kind. None had training in weapons or battlefield medicine.

During the initial air strikes, a sergeant took one of the nurses aside and showed her how to shoot a pistol. Her job: To defend a train of wounded soldiers.

After a 3-month battle, American and Filipino forces had their backs to the sea on the Bataan peninsula.

The nurses helped set up 2 field hospitals, where they fought malaria and dysentery while caring

“
**The story
deserves
to be shared.**
”

for the wounded. The staff for the hospitals totaling 4,500 beds included 67 officers, 83 nurses, 250 enlisted men, and 200 civilians.

"Now most of the nurses worked from daybreak til dark, stacking patients on triple-tiered bamboo bunks in the wards," Norman writes.

When ordered to evacuate as the Japanese closed in, "most of the women were appalled by the order, and many considered disobeying it," she says. The Nightingale Pledge demanded that they stay with their patients.

But orders are orders. A few were evacuated by air. Then, as the ammo dumps exploded, most were taken by boat to Corregidor, the rocky island off Bataan, where under constant shelling, they set up a hospital in the island's tunnels.

After Corregidor fell, 66 of the nurses were sent to Japanese prison camps in the Philippines, where they spent 3 years under brutal conditions. Many continued working in the prison's hospital.

If you haven't read *We Band of Angels*, be sure to put it on your list. This powerful story would also make a great gift for a staff member or a colleague.

It's a story that deserves to be shared. ♦

—Pat Patterson

This editorial is dedicated to you, our readers, and to all of the OR managers and directors I have been privileged to serve during my 28 years as OR Manager editor.

OR MANAGER™ CONFERENCE

The Premier Conference on Managing Today's OR Suite

Join us in National Harbor
this September!

You could earn
more than 35
contact hours in
just 3 days!

September 23-25, 2013 | Gaylord National | National Harbor, Maryland

OR Manager™ Conference offers you the opportunity to come together with your fellow managers to get the strategies and tips you need to solve the challenges you face every day. Focusing on the 5 fundamental topics critical for an OR Manager: **administrative, financial, clinical, interpersonal and technology**, we'll give you the essential training to take your leadership skills to the next level.

Register before June 28th to save \$200 with the
Early Bird Discount! Use VIP Code: MAYAD

www.ORManagerConference.com

Health care reform and the 'Golden Age' of nursing

Perspectives on health care reform vary widely, and some view it negatively. But Kathleen Sanford, DBA, RN, CENP, FACHE, believes it will provide nursing with new opportunities—along with new challenges.

Sanford, senior vice president/chief nursing officer at Catholic Health Initiatives (CHI), Englewood, Colorado, will share her perspective during a general session at the OR Manager Conference September 23-25 at the Gaylord National Resort in National Harbor, Maryland, near Washington, DC.

With the emphasis on keeping people well, health care reform offers an opportunity for clinical staff to make a difference, says Sanford, who directs quality and patient safety initiatives, clinical operations improvement, leadership development of clinicians, and clinical information technology at CHI.

She believes perioperative nurses will become more collaborative, working more with nurses on the unit and perhaps developing a longer-term relationship with patients.

As a young nurse, Sanford says, she had an experience that taught her the value of always doing what is right for the patient. Told that the physician should never be questioned, Sanford says she did question a large dose of gentamicin ordered for a pediatric patient. Because the physician reprimanded her, she gave the drug. The dose was 10 times the amount the patient should have received, and while she was unable to ascertain any immediate damage, she knew his hearing would need careful monitoring during well child visits.



*Kathleen Sanford,
DBA, RN, CENP,
FACHE*

“Learning to stick up for my patients was challenging in a physician-driven culture. It was my first big medical error, and I made it out of my own desire not to be yelled at,” she notes. “When faced with an issue like that, your discomfort is not what is important—what’s right for the patient is what matters.”

CHI facilities are already using Lean management, scheduling technology, and checklists, but they always strive to improve. At one facility, for example, staff nurses discovered they were opening several items listed on physician preference cards that weren’t being used, so they refined their procedure to reduce waste.

With a goal of becoming known for its outstanding nursing care, CHI is helping nurses move into the future, Sanford says. CHI’s Clinical Leadership Development Program, which started about 2 years ago, includes training for chief medical officers, chief nursing officers, and front-line managers at its facilities nationwide.

“Everyone’s job will change, and we don’t know how yet,” Sanford observes, but she is optimistic.

“It’s a ‘golden age’ for users of health care, and it’s a wonderful time for all of us to be practicing. I don’t think everyone understands that we’re about to have a transformational change—one that is for the good of patients. It’s an exciting time because we’re going to be doing what’s right for patients—and thus what’s right for nursing.” ♦

Register online at www.ormanagerconference.com.

Advisory Board

Mark E. Bruley, EIT, CCE

Vice president of accident & forensic investigation, ECRI, Plymouth Meeting, Pennsylvania

Lori A. Coates, BSN, RN, CNOR, manager, perioperative surgical services, Weiser Memorial Hospital, Weiser, Idaho

Stephanie S. Davis, MSHA, RN, CNOR
Vice president of surgical services operations and service line group, Hospital Corporation of America, Nashville, Tennessee

Brian Dolan, MHSA, RHIA, CHDA, SSGB, director, business operations, surgical services, University of Kansas Hospital, Kansas City, Kansas

Lorna Eberle, BSN, RN, CNOR
Director, perioperative services, Providence St Peter Hospital, Olympia, Washington

Linda R. Greene, MPS, RN, CIC
Infection preventionist, Rochester, New York

Jerry W. Henderson, MBA, RN, CNOR, CASC
Assistant vice president, perioperative services, Sinai Hospital, Baltimore, Maryland

Lisa Morrissey, MBA, RN
Associate chief nurse, perioperative services, Brigham and Women’s Hospital, Boston, Massachusetts

John Rosing, MHA, FACHE
Vice president and principal, Patton Healthcare Consulting, Milwaukee, Wisconsin

Kathryn Snyder, BSN, MM, RN, CGRN
Nurse manager, endoscopy/bronchoscopy/motility departments, University of Virginia Health System, Charlottesville, Virginia

Martha Stratton, MSN, MHSA, RN, CNOR, NEA-BC, Director of nursing, surgical services, AnMed Health, Anderson, South Carolina

David E. Young, MD
Medical director, perioperative services, Advocate Lutheran General Hospital, Park Ridge, Illinois

Bloodless surgery

Continued from page 1

issued findings and recommendations in June 2011.

Among the findings was that too many patients are receiving blood transfusions that they don't need, putting them at risk, wasting limited blood resources, and raising costs.

More than 15 million units of whole blood and red blood cells are transfused annually in the US according to HHS, and as many as 30% of transfusions may be unnecessary.

In 2011, the Implementation Guide for The Joint Commission Patient Blood Management Performance Measures was developed to target indications and screening for blood transfusions (http://www.jointcommission.org/patient_blood_management_performance_measures_project/).

Though use of the measures is not an accreditation requirement, participants at a national summit on overuse of blood transfusions, held in 2012 by the American Medical Association and the Joint Commission, called for implementation of the measures at the local and national levels.

'Build it and they will come'

Several hospitals have been pioneers in bloodless surgery.

Three years ago, Georgetown University Hospital responded to the needs of the Jehovah's Witness community, which lacked a bloodless center in the DC area.

The Witness community provided organizational support for the program as it was being established, which includes a medical director, nurse coordinator, secretary, and an administrative coordinator.

"We put together hospital protocols and policies to help streamline the process, so when patients who want to avoid blood transfusions come to us, we can immediately tell them the procedures we offer," says Dr Zawadsky.

More than 200 patients a year undergo bloodless surgery at Georgetown, and about 10% come from outside the Witness community. In the past year, Dr Zawadsky, an orthopedic surgeon, performed some 25 hip and knee replacements in patients in the bloodless program.

"A lot of what we are doing is simply basic good medicine, and it doesn't have to be just for patients who are bloodless surgery patients. All patients can benefit from these techniques," he says.

When starting a program, Dr Zawadsky recommends involving the anesthesia department. Anesthesiologists evaluate patients preoperatively, manage them during surgery, and follow up with them in the postanesthesia care unit (PACU). He believes that if you have an anesthesia champion to push the benefits of giving less blood, surgeons may be encouraged to operate this way.

Major strategies

Bloodless surgery at Georgetown and other hospitals consists of 3 strategies (sidebar):

- Preoperative anemia management—administering IV iron or Procrit (epoetin alfa, a synthetic form of the protein human erythropoietin that stimulates bone marrow to make more red blood cells) and discontinuing antiplatelet medications and supplements.
- Intraoperative techniques to minimize loss of red blood cells—normovolemic hemodilution and cell salvage.

- Postoperative conservation of patients' blood and anemia management—restriction of blood draws for lab tests and administration of IV iron or Procrit if necessary.

"The strategies we use to prepare patients for bloodless surgery are low-tech and common sense," says Patricia Ford, MD, an oncologist/hematologist and medical director of the Center for Bloodless Medicine and Surgery at Pennsylvania Hospital, Philadelphia.

Every year, Dr Ford guides some 700 patients through procedures from heart surgery to hysterectomies without transfusions.

About 95% of Dr Ford's patients decline a transfusion based on religious convictions, but an additional 5% decline for other reasons, such as fear of blood-borne infections.

Blood management cost-effective

"Blood is expensive—costing about \$1,100 to acquire and administer 1 unit," says Sherri Ozawa, RN, clinical director of the Institute for Patient Blood Management at Englewood Hospital and Medical Center in Englewood, New Jersey.

"If a hospital's blood budget is \$5 million a year, and they decrease it by 10% to 20%, that is a significant savings," she says.

Research by Ozawa and colleagues (Shander et al, 2010), found annual expenditures for blood and transfusion-related activities for surgical patients ranged from \$1.62 million to \$6.03 million per hospital.

Englewood Hospital started its bloodless surgery program in 1994, and 2 years later, blood use had dropped by 40%.

Continued on page 8

Perioperative strategies for bloodless surgery patients

Preoperative

- Do a history and physical to identify prior transfusions, anemia, or bleeding problems.
- Tell patients to avoid unnecessary medications, supplements, and alcohol.

“Many patients don’t know that supplements such as St John’s Wort and alcohol can cause them to bleed more,” says Patricia Ford, MD, an oncologist/hematologist and medical director of the Center for Bloodless Medicine and Surgery at Pennsylvania Hospital, Philadelphia.

“Many patients are on agents for platelets and anti-inflammatories,” says Sherri Ozawa, RN, clinical director of the Institute for Patient Blood Management at Englewood Hospital and Medical Center in Englewood, New Jersey.

“Dealing with those potential coagulation issues before surgery requires an organized system to optimize patients preoperatively both from a coagulation standpoint and an anemia standpoint.”

- Check hemoglobin level. Normal levels are 12 g/dL for women and 13-14 g/dL for men.

“If the hemoglobin is normal, we tell them they don’t need anything further and can move on to their surgical procedure,” says Dr Ford. “But we temper that with how much blood loss we think they will have during surgery.” If the procedure is a biopsy, they won’t lose a lot of blood, but if they are having an orthopedic, GYN, or cardiac procedure, they can lose a significant amount.

Depending on the procedure, a higher than normal hemoglobin may be warranted. In such a case, Dr Ford administers IV iron in the office until the target is met. Knowing the hemoglobin will rise 1 g per week with this treatment, the surgeon can set a tentative date for the surgery.

Procrit (epoetin alfa, a synthetic form of the protein human erythropoietin that stimulates bone marrow to make more red blood cells) is also administered to some patients if needed.

Ozawa says they follow an algorithm as to when to give iron or Procrit.

“Statistics show that 40% to 50% of patients coming to the OR for elective surgery are anemic, and anemic patients are more likely to be transfused,” says Ozawa. The literature also shows a similar rate of postoperative complications among patients who are anemic and those with pneumonia.

- Discuss which blood products and procedures a

patient will accept.

Most Jehovah’s Witness patients will accept albumin and fluid expanders that have some element of a plasma product, notes orthopedic surgeon Mark Zawadsky, MD, medical director of the Bloodless Medicine and Surgery program at Georgetown University Hospital in Washington, DC.

Most also will accept intraoperative normovolemic hemodilution and cell salvage as long as there’s a continuous loop from the patient to the blood bag to the patient.

Intraoperative

Intraoperatively, normovolemic hemodilution is used to minimize the loss of red cells during surgery. For the technique:

- The anesthesiologist collects the patient’s blood in a blood bag via IV tubing that stays connected to the patient at all times.
- The anesthesiologist replaces the blood volume with crystalloids such as normal saline or lactated Ringer’s solution or with a colloid such as albumin.
- The patient’s blood becomes more dilute, so fewer red cells are bled out into the surgical field.
- At the end of the case, the anesthesiologist simply hangs the bag of blood on an IV pole and returns it to the patient intravenously.

Intraoperative cell salvage also is used to clean and return blood from the surgical field. Blood from the surgical wound runs through suction tubing to the Cell Saver. The blood is cleaned and run through IV tubing to a blood bag, which is returned to the patient intravenously in a continuous loop.

Postoperative

- Reduce the amount of blood drawn for lab tests.

“Many patients become anemic postoperatively because of excessive and unnecessary phlebotomies,” says Ozawa.

It is routine to draw blood for lab tests every morning whether patients need it or not. Those draws can add up to a unit of blood in just a few days, says Dr Ford.

In addition to limiting the number of blood tests drawn, Dr Zawadsky says he uses pediatric specimen tubes, which can be filled with less blood.

- Either IV iron or Procrit is administered when a patient experiences a sharp drop in hemoglobin.

Continued from page 6

Transfusion poses risks

Evidence is growing that blood transfusions are associated with increased postoperative morbidity and mortality (sidebar).

According to the most recent National Blood Collection and Utilization Survey, funded by HHS and conducted by the AABB, the annual number of adverse effects from transfusions that required any diagnostic or therapeutic intervention was 60,110, or 1 in 394 transfusions.

In 2012, the health alliance Premier found that use of blood products beyond a level deemed medically necessary can increase complication rates and length of hospitalization. Premier recommends industry-wide standardization of blood utilization practices.

Ozawa notes that, conceptually, blood is “really a liquid organ transplant that’s treated as a medicine used to manage anemia. It is the only transplant that can be administered by nurses.”

Autologous blood not used

Preoperative autologous blood donation is not used for patients in bloodless surgery programs.

“All it does is make the patient anemic,” says Dr Ford.

Many patients mistakenly believe that their own blood is 100% safe because it’s theirs, she says. However, human error can make any transfusion risky. The lab can confuse the blood samples, the blood bank can issue the wrong unit of blood, or the nurse or physician can administer the blood to the wrong patient. The blood bank may not label the blood correctly, store it correctly, or return it to the correct patient.

A new Johns Hopkins study on shelf life (Frank et al, 2013) found

that red blood cells stored longer than 3 weeks begin to lose their capacity to deliver oxygen to tissue, and these changes are not readily reversible after transfusion.

“When blood is stored for a prolonged period of time, the red cells deteriorate,” says Dr Ford. “They lose enzymes, and don’t carry oxygen as well as they should. They also become deformed and don’t travel through small blood vessels as well as they should.”

Transfusion restrictions

In March 2012, the AABB released a clinical practice guideline on red blood cell transfusion that focused on a restrictive transfusion strategy and the use of patient symptoms as well as hemoglobin concentration to trigger transfusions (<http://annals.org/article.aspx?articleid=1103943>).

A hemoglobin transfusion trigger of 10 g/dL had been the standard since the 1940s.

The first study to challenge this standard, the Transfusion Requirements in Critical Care (TRICC) trial, was performed in 1999 by Hebert et al. The study compared outcomes in intensive care patients transfused when hemoglobin concentrations dropped below 7 g/dL (restrictive group) and those transfused when hemoglobin concentrations were below 10 g/dL (liberal group). The restrictive group had lower overall 30-day mortality and lower in-hospital mortality rates.

A 2011 study by Carson et al confirmed these findings and showed the results also apply to elderly surgical patients with cardiovascular risks. More than 2,000 hip fracture patients with a cardiac history were transfused at either a hemoglobin of 10 g/dL or <8 g/dL. Results showed no difference between the 2 groups

in morbidity, mortality, or rehabilitation milestones, but wound infection rates were almost twice as high for the more liberal strategy of 10 g/dL.

Are triggers necessary?

“A patient’s hemoglobin can go very low, and the body can still support adequate tissue oxygenation, and the patient can survive without a transfusion,” says Dr Ford.

Pennsylvania Hospital statistics from 2007 showed that in patients with hemoglobins of 4 g/dL, no deaths were directly related to withholding blood products. Even at hemoglobins of 2 g/dL and 3 g/dL, survival rates were 50% and 70%, respectively, says Dr Ford.

The hospital saw the number of transfusions immediately lowered by 10% when it modified its guideline from 8 g/dL to 7 g/dL about 2 years ago and began requiring the physician ordering the transfusion to cite a reason if the hemoglobin was above 7 g/dL. An additional modification to order 1 unit of blood at a time and reassess the patient before ordering a second unit also helped lower the number of transfusions.

Georgetown’s trigger for transfusion is a hemoglobin of 7.5 g/dL, and staff now order and transfuse 1 unit of blood, then check the hemoglobin before ordering a second unit.

Englewood Hospital’s policy does not have a hemoglobin level trigger for transfusion, but most physicians use 7 g/dL, says Ozawa.

“We believe the decision to transfuse needs to be a physiological decision, not a numbers-based decision. There are patients who do fine with a hemoglobin of 5 g/dL and others who have problems at 11 g/dL.”

Evidence on transfusions

Mounting evidence supports concerns about blood transfusions.

- Data on more than 48,000 surgical patients at Johns Hopkins found frequent transfusions were given to patients who didn't need them. Transfusions varied 3- to 4-fold among surgeons (Frank S M, Savage W J, Rothschild J A, et al. *Anesthesiology*. 2012;117:99-106).
- In an analysis of nearly 941,500 surgical procedures in the American College of Surgeons National Surgical Quality Improvement Program database, patients who received 1 unit of blood intraoperatively had higher rates of mortality and more serious morbidity. These rates increased further with transfusions of more than 1 unit (Ferraris V A, Davenport D L, Saha S P, et al. *Arch Surg*. 2012;147:49-55).
- A comparison of Jehovah's Witness patients who refused blood transfusions with non-Witness patients who underwent cardiac surgery at the Cleveland Clinic between 1983 and 2011 showed that Witness patients had significantly lower rates of myocardial infarction, additional operations for bleeding, and prolonged ventilation, along with shorter intensive care and hospital stays (Pattakos G, Koch C G, Brizzio M O, et al. *JAMA Intern Med* 2012;172:1154-1160).
- Examining hospital variability in the use of blood transfusions in patients undergoing major noncardiac surgery at academic medical centers between 2006 and 2010, researchers observed dramatic hospital variability. Because of potential complications associated with transfusions, reducing this variability may result in improved surgical outcomes, the authors say (Qian F, Osler T, Eaton M P, et al. *Ann Surg*. 2013;257:266-268).

Simple strategies

Strategies for bloodless surgery patients are simple to implement, can decrease unnecessary blood transfusions, and can save on health care costs for all patients, says Dr Ford.

These include:

- Correct anemia preoperatively.
- Eliminate unnecessary blood tests.
- Don't transfuse based solely on a number; use clinical assessment as to whether a unit of blood is necessary.
- Don't automatically order 2 units of blood; give 1 unit and reassess the patient before ordering a second.

Applying these principles across the spectrum of surgical care could

dramatically reduce all patients' exposure to donor blood. ♦

—Judith M. Mathias, MA, RN

References

Carson J L, Grossman B J, Kleinman S, et al. Red blood cell transfusion: A clinical practice guideline from the AABB. *Ann Intern Med*. 2012;157:49-58.

<http://annals.org/article.aspx?articleid=1103943>

Carson J L, Terrin M L, Noveck H, et al. Liberal or restrictive transfusion in high-risk patients after hip surgery. *N Engl J Med*. 2011;365:2453-2462.

Frank S M, Abazyan B, Ono M, et al. Decreased erythrocyte deformability after transfusion and the effects of erythrocyte storage

duration. *Anesthes Analges*. Published online February 28, 2013.

Hebert P C, Wells G, Blajchman M A, et al. A multicenter, randomized, controlled clinical trial of transfusion requirement in critical care (TRICC). *N Engl J Med*. 1999;340:409-417.

Implementation Guide for the Joint Commission Patient Blood Management Performance Measures 2011

http://www.jointcommission.org/patient_blood_management_performance_measures_project/

Joint Commission National Summit on Overuse: September 24, 2012.

<http://www.jointcommission.org/multimedia/national-summit-on-overuse-dr-rososf/>

Koch C G, Li Liang, Sessler D I, et al. Duration of red-cell storage and complications after cardiac surgery. *N Engl J Med*. 2008;358:1229-1239.

Premier. Best practices in blood utilization. October 2012.

https://www.premierinc.com/about/news/12-oct/blood_white_paper_207pm_10032012.pdf

Shander A, Hofmann A, Ozawa S, et al. Activity-based costs of blood transfusions in surgical patients at four hospitals. *Transfusion*. 2010;50:753-765.

US Department of Health and Human Services Advisory Committee for Blood Safety and Availability: 40th Meeting Minutes, June 8, 2011.

http://nih.granicus.com/DocumentViewer.php?file=nih_279c20e5-c8ef-4e28-b457-d86995ff40fa.pdf

US Department of Health and Human Services and AABB 2009 National Blood Collection and Utilization Survey Report.

<http://www.aabb.org/programs/biovigilance/nbcus/Documents/09-nbcus-report.pdf>

'Second victim' rapid-response team helps fellow clinicians recover from trauma

One Friday evening at University of Missouri Health System (MUHS) in Columbia, Missouri, Tony*, an RN with more than 17 years of critical care nursing experience, had a patient die unexpectedly during a routine procedure requiring moderate sedation. That weekend he was emotionally distressed, reliving the event and second-guessing his decisions.

On Monday, an investigation began that found no contributing errors, but this case—and others like it—had a far-reaching effect: They spurred the creation of the forYOU Team, a 24-hour rapid-response team to help clinicians known as “second victims.”

Second victims are those who experience trauma after being involved in an unanticipated patient event, stressful situation, or patient-related injury.

“These are clinically gifted providers,” says Sue Scott, MSN, RN, patient safety coordinator. “They come to work to help somebody. When that help turns to harm, or they can’t have the positive effect they want to have, it’s just devastating to them.”

A helping team

To determine how to better help second victims like Tony, Scott gathered a team including a social scientist, social worker, nurses, managers, and the director of the employee assistance program (EAP) at MUHS. Most were recovered second victims.

“We realized we have a rapid response team to help patients in trouble,” Scott says. “What if we

*Name has been changed to protect privacy.

Providing care for the caregiver.

developed a rapid response team for staff in trouble?”

The outcome was the forYOU Team, which deployed in 2009. Since then, the team has supported 639 MUHS faculty, staff, and volunteers; about 350 of the clinicians receiving support were RNs or LPNs.

The program received a Cheers Award from the Institute for Safe Medical Practices in 2012 and the MITSS (Medically Induced Trauma Support Services) HOPE award in 2009.

Most second-victim activations (56%) of forYOU relate to emotionally charged, unanticipated changes in a patient’s condition. Personal or professional events, such as the death of a coworker or personal injury on the job, are about 30%. Only 14% relate to a medical error.

Reluctance to seek help

Many clinicians are not familiar with the second victim concept or might be reluctant to admit they need help, which can be a challenge for organizations that want to start staff support programs.

Adrienne Mills, RN, nursing supervisor for preoperative care and the postanesthesia care unit (PACU) at MUHS’s Women’s and Children’s Hospital, was circulating on a case in the OR when she realized the child on the table re-

sembled her daughter, who had been a patient in the pediatric ICU. She had to leave the room and ultimately transferred from the OR.

“I didn’t know I was a second victim until several months ago, when a young nurse circulated on a case of a young adolescent organ donation,” Mills says. “She wasn’t prepared for what she saw and sought out the forYOU Team.”

Mills originally planned to have the nurse share her experience in a meeting about forYOU, but when several coworkers said they didn’t need the team and were used to coping, the nurse declined.

The nurses’ reactions weren’t unusual, says Laura Hirschinger, MSN, RN, clinical improvement specialist for patient safety.

“In health care, we always ‘buck up’ because there is another patient. Sometimes we just need to pause. We need support.” In fact, judging by the MUHS experience, only about 15% of clinicians will seek help on their own.

Sharing experiences

As the forYou meeting progressed, the nurses in attendance started to share their emotional experiences with unexpected outcomes, remembering with great detail—the color of a patient’s hair, the tone of a voice—events that happened many years ago.

The experience spurred Mills to volunteer to serve on the forYOU Team. She and Jean Sword, RN, a staff nurse IV in the OR who has been part of forYOU since it started, have made inroads with the staff. When the OR started pediatric transplants, Sword says, “Staff weren’t prepared to see a lifeless child, especially those who have children about the same age.

Three-tiered model

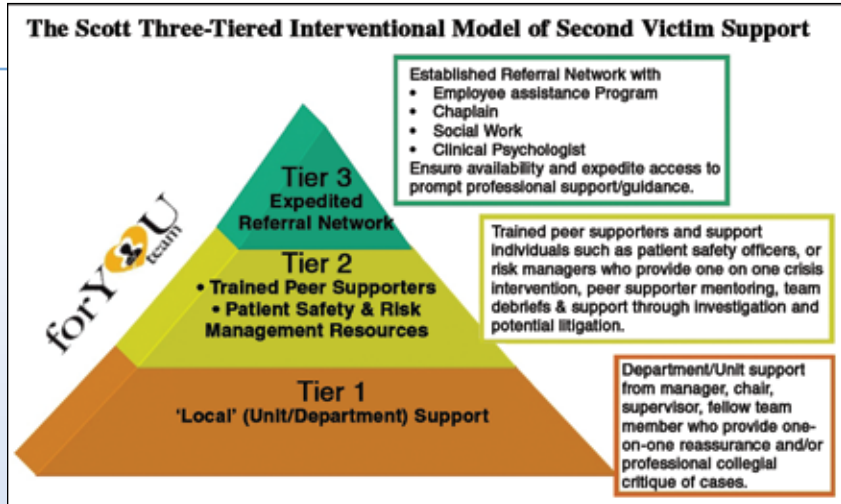
Interventions used by forYou Team members are based on understanding that each event is a unique experience, and each individual may require a different intensity or duration of support during their emotional recovery. The evidence-based Scott Three-tiered Interventional Model of support structures rapid intervention when an event occurs, ranging from immediate one-to-one conversations through professional counseling for second victims.

Tier 1: Local support

This foundational support is at the unit or departmental level and includes identifying potential second victims and making sure the person is “okay” immediately after the event. About 60% of participants receive sufficient support at this level.

Tier 2: Peer-to-peer support

A specially trained peer intervenes with a second victim through a one-on-one or referral to other internal resources such as patient safety experts or risk management.



Services here meet the needs of about 30% additional people.

Tier 3: Professional support

The person needs additional support beyond what the forYOU Team can provide. This includes, but is not limited to, a referral to clinical psychologists, chaplains, or EAP personnel. About 10% of second victims require this level of support.

Six stages of recovery

The 6 stages of recovery are:

1. Chaos and accident response
2. Intrusive reflections
3. Restoring personal integrity

4. Enduring the inquisition
5. Obtaining emotional first aid
6. Moving on.

Source: Scott S D, Hirschinger L E, Cox K R, et al. *Caring for our own: Deploying a systemwide second victim rapid response team. Joint Commission Journal on Quality and Patient Safety*; 2010;36(5):233-240. Reprinted with the permission of Joint Commission Resources.

For more information about the forYou Team, go to http://www.muhealth.org/body_foryouteam.cfm?id=6843. Another resource is Medically Induced Trauma Support Services (<http://www.mitss.org>).

One surgery tech said, ‘I can’t do this anymore. I can’t deal with losing children at work.’”

Sword was able to provide much-needed support, and today that clinician is doing well in her role.

Embedded lifeguards

The forYOU Team is a network of nurses, physicians, respiratory therapists, and other clinicians who serve as “clinician lifeguards” for fellow health care professionals who are second victims.

“When the drama turns to trauma for the clinician, you need to have your lifeguards,” says

Scott. “They can help to reassure clinicians that they are human first and a clinician second and must take care of their basic needs.”

Staff can call a 24-hour pager for assistance. Team members embedded in high-risk clinical areas, such as operating rooms, ICUs, pediatric units, and emergency departments, form the backbone of the program.

The embedded team members “are the ones who know their colleagues best and can quickly pick up when something is wrong,” says Scott.

“The OR likes to take care of their own,” adds Mills. “They can

more easily reach out to someone they know.”

Who are good candidates?

To identify candidates for clinician lifeguards, Scott recommends that managers consider those their staff naturally turn to—people like Sword.

“A lot of staff had naturally come to talk to me,” confirms Sword.

Scott calls these people natural supporters. Every unit has them, and they are the ones you should approach first, she says, adding

Continued on page 12

Continued from page 11

that careful selection is key. “We don’t want just a warm body or someone looking for clinical ladder points.” Clinicians must have at least 2 years of clinical experience to serve on the forYOU Team.

Volunteer peer supporters complete a 6-hour training program that includes an explanation of the second victim concept, intervention strategies, and practice simulation. During the practice, volunteers pair up and share personal stories about their own events.

“Because they are natural supporters, we wanted them to know they were doing something different with this program,” says Hirschinger.

“The training makes them more confident to walk up to someone they don’t know as well and reach out to them; that might be the housekeeper who cleans the OR, the pharmacy tech who preps the case, or someone else.”

Training is conducted every 18 months, and the team now has 100 members.

Ongoing connections

Sword says forYOU peer supporters participate in team meetings 1 hour a month for 10 months of the year (excluding August and December) by satellite feed in each institution.

Initially, these meetings focused on how to promote the program, which included presenting information in staff meetings, discussing it during nursing grand rounds, having booths at skills fairs and health fairs, mounting posters in elevators, placing information in bathrooms, distributing magnets, and incorporating the program into new staff orienta-

Continued on page 27

Safer surgery

Continued from page 1

The first question: Was the checklist implemented effectively to begin with?

A study of 5 hospitals in Washington State indicates the effort can falter without strong leadership by senior clinicians and extensive education. Conley et al found effective implementation depended on leaders explaining the rationale for the checklist persuasively and showing how to use it, along with extensive education, including demonstrating best practices; pilot testing; providing coaching and feedback; and anticipating the need for long-term training, observation, encouragement, and quality control. When leaders didn’t provide this groundwork, and clinicians didn’t understand the checklist’s rationale or weren’t adequately prepared to use it, they became frustrated and disinterested, and use of the checklist fell off, even though the hospital mandated its use.

Safe Surgery 2015

To foster checklist adoption, the Harvard School of Public Health in Boston, home of Dr Gawande’s initiative Safe Surgery 2015, has partnered with the South Carolina Hospital Association (SCHA) to have all hospitals in the state adopt the checklist for routine use in their ORs by the end of 2013. The effort recently expanded to North Carolina and Virginia.

Based on the evidence, Safe Surgery 2015 estimates successful implementation and proper use of the checklist could save more than 500 lives per year in South Carolina.

The Harvard team offers webinars, conference calls, and other

“
**We have
speaking
parts.**
”

resources to help ORs introduce the checklist meaningfully and monitor its impact. Free resources are at www.safesurgery2015.org.

Here’s advice to help ensure the checklist continues to be a living document in your ORs.

A process, not a checklist

Keep in mind that safe surgery is a process, not just a checklist, advises Kathleen Harder, PhD, a cognitive psychologist and human factors expert at the University of Minnesota.

“The focus is on the process—a checklist alone will not prevent an error if the process is not done well.”

Harder assisted the Minnesota Hospital Association and the Minnesota Department of Health in developing the state’s Safe Surgery Process and has conducted workshops throughout the state. The process includes a 5-step time-out based on human factors research and observations in hospital ORs (sidebar).

Identify the critical elements

Modify the checklist to meet the needs of your organization and individual specialties, and involve the teams that will use the checklist. Teams will be more likely to use the checklist if it’s relevant to their needs.

“Ask what your critical issues

Minnesota time-out

Step 1

The surgeon calls for the time-out just before the incision after the patient is prepped and draped.

"If the surgeon starts the time-out, it shows it is really important, and we are going to do this as a team," says Kathleen Harder, PhD.

"Also, the surgeon knows when he or she is ready to begin the procedure."

When the surgeon calls for the time-out, the team ceases activity.

Step 2

The circulating nurse reads directly from the consent form that was verified during the preop process, stating the patient, procedure, site, and laterality. The nurse does not rely on memory.

Step 3

The anesthesia provider:

- reads the patient's name from the anesthesia record
- states a shorthand version of the procedure
- states the antibiotic, dose, and time from

administration. (This is the only part of the time-out not focused on the correct patient, procedure, and site.)

Step 4

The scrub person:

- states a shorthand version of the case he or she has set up for
- visualizes the site marking, stating, for example, "I see the site mark on the right knee."

Giving the scrub person a specific role helps to level the hierarchy.

Step 5

The surgeon finishes the time-out from memory, by stating: "This is Mrs Smith, and she is having a right knee arthroplasty."

The reason the surgeon concludes the time-out is to listen to what everyone else has said. At this point, reciting the patient and procedure from memory verifies that the surgeon is cognitively engaged with the correct procedure.

For more, see "A cure for the distracted time-out before surgery" in OR Manager, Vol 28, No 6, June 2012.

are, and make sure those are on your checklist," advises David Young, MD, director of presurgical testing at Advocate Lutheran General (ALG) Hospital in Park Ridge, Illinois, where the checklist is part of the Safer Surgery process.

Approach physicians one-on-one

Approaching physicians individually, though time-consuming, is an effective way to get buy-in, Bill Berry, MD, MPH, MPA, program director for Safe Surgery 2015, noted in a recent webinar.

In working with hospitals, he has found that 10% to 20% of physicians immediately see the checklist as helpful and will actively participate.

"This is generally where you find your champions," he said.

Of the remaining physicians, about half are passively compliant and won't fight the checklist. "This is the group I think you can

influence with a one-on-one conversation." And those who are resistant or even hostile might also be persuaded not to actively oppose the checklist if a champion explains it to them.

Safe Surgery 2015 offers these tips for one-on-one conversations:

- Don't try to "fix" a physician with the checklist. The goal is to open their minds, engage them, and get them to try the checklist.
- Have a respected peer talk with them one-on-one.
- If you believe a physician isn't going to use the checklist, don't try to force it.
- Ask the physician not to obstruct others in using the checklist.

(Resources for how to conduct a one-on-one conversation are at www.safesurgery2015.org.)

Peer pressure can make a difference.

One ambulatory surgery center posted a photo of each physician

who agreed to try the checklist, notes Lizzie Edmondson, senior project manager for Safe Surgery 2015.

When one hold-out asked why his photo wasn't posted, he was told, "Those are the people who are checklist champions." He agreed to try the checklist so his photo could be displayed.

Give each team member a role

"We have speaking parts for the surgeon, anesthesiologist, and nurse," says Jennifer Misajet, MHA, RN, CNOR, regional director of perioperative services for Kaiser Permanente's Northern California region based in Oakland.

"If you have a speaking part, you are more engaged because you have something to contribute to the activity."

The Kaiser region has embedded the checklist as part of its

Continued on page 14

Continued from page 13

Highly Reliable Surgical Teams (HRST) initiative, which involves all of the region's medical centers.

Advocate Lutheran General uses a challenge-and-response approach for the OR portion of the checklist.

"You want to require an answer to each part," explains Cindy Mahal-van Brenk, MS, RN, CNOR, executive service line director for surgery.

Here's an excerpt:

Circulator to anesthesia provider: "Would you please state the patient's name?"

Anesthesia provider: "David Smith."

Circulator: "Please tell me which antibiotic you gave."

Anesthesia provider: "I gave 1 g Ancef at 15:30."

Circulator: "Is the patient on a beta-blocker?"

Anesthesia provider: "No beta-blocker is indicated."

Circulator to the surgeon: "Dr Jones, please state the procedure you will be performing."

Surgeon: "I am performing a left hemi-arthroplasty."

Circulator: "Is the site marked?"

Surgeon: "The site is marked."

Add teamwork training

Team training provides a foundation for communication, the checklist's fundamental purpose. Studies show combining team training with the checklist improves outcomes.

In a pilot study led by Bliss et al, use of a checklist plus structured team training produced a statistically significant difference in 30-day morbidity. The report is in the December 2012 Journal of the American College of Surgeons.

In a study of 74 facilities in the

“
**Team
training is
a foundation.**
”

Veterans Health Administration published in 2010, Neily and colleagues found an 18% reduction in mortality when team training and the checklist were combined.

Stay vigilant

Never stop observing how teams use the checklist, the Harvard team advises.

"You can never turn your attention away. You have to continue to talk about it and continue to keep people excited about doing it," Edmondson suggests. Regularly observe teams using the checklist and offer coaching as needed, she advises. During the observations, ask surgical teams for feedback about the checklist effort and what could be improved. (Safe Surgery 2015 offers an observation tool on its website.)

In Kaiser Northern California, perioperative nurse managers audit regularly.

"If you don't do audits and see teams using the checklist, you will get drift," Misajet says.

Managers use a rounding tool to guide audits and offer coaching on the spot if needed. If they see themes that need to be addressed, they bring the issue to the facility's HRST group for discussion.

Harness the debriefing

Hospitals that are able to sustain the checklist do the sign-out (debriefing) phase of the checklist

Safer Surgery series

This series of articles covers Ten Elements for Safer Surgery developed by Advocate Health Care, a 10-hospital system in the Chicago area.

Previous articles in the series focused on:

- OR governance: January 2013
- Safer surgical scheduling: February 2013
- Presurgical assessment: March 2013
- Excellence in sterile processing: April 2013.

All-day seminar

An all-day seminar on the Ten Elements for Safer Surgery will be presented at the OR Manager Conference, September 23-25, 2013, at the Gaylord National Resort in National Harbor, Maryland. For more information, go to www.ormanagerconference.com.

really well, Edmondson says.

During the debriefing, in addition to confirming counts and specimens, the team reviews any concerns about the patient as well as what could have gone better.

These hospitals have a process for tracking the concerns, fixing them, and giving feedback to the clinicians who raised the concerns.

Fixing problems gives OR teams an incentive to continue with the checklist and debriefings because their lives get easier as a result.

During one debriefing, Misajet notes, a surgeon raised concern about the state of the laparoscopic surgery light cords.

The manager enlisted the sterile processing department, which checked the cords in all of the sets

and repaired and replaced cords as needed.

The surgeon, skeptical that the problem had been fixed, was invited to view and test cords from about a half-dozen sets and saw they all worked.

"He realized the value of the debriefing," Misajet notes.

Nurse managers are piloting new software from Bowwave (Great Falls, Virginia) that is installed on their iPads and customized for tracking debriefing issues (sidebar).

Take your safety pulse

A safety culture survey provides a way to measure nurses' and physicians' responses to patient safety initiatives like the checklist over time, according to Safe Surgery 2015. It's a way of taking the safety culture's pulse.

The Joint Commission requires hospitals to use valid and reliable tools for measuring the culture of safety (LD.03.02.01, EP 1). One example is the AHRQ Hospital Survey on Patient Safety Culture from the Agency for Healthcare Research and Quality (www.ahrq.gov/legacy/qual/patient-safetyculture/hospindex.htm).

Make it safe to speak up

The checklist won't be effective in protecting patients if nursing staff are reluctant to speak up when something seems amiss. ALG weaves these skills into its team training, in which 91% of peri-operative nurses and physicians have participated.

To learn whether nurses feel safe about speaking up, Mahalvan Brenk plans to survey the staff, asking them to rate on a scale of 1 to 5 how comfortable they feel bringing concerns to the attention of individual physicians.

She plans to share the results privately with individual physicians.

It's critical for nurses to be comfortable, she says, because "the last thing [physicians] want is not to get information about a concern."

Keep senior leaders involved

Senior leaders not only must lend initial support for the checklist but also must stay in touch with the OR on how the effort is progressing.

"We encourage implementation teams to give higher-level leadership updates on their progress," Edmondson says. "We also encourage senior leaders to go to the OR suite and talk to people who are using the checklist."

Safe Surgery 2015 offers an observation tool senior leaders can use.

Share stories

Capturing stories about "good catches" by the checklist that prevented harm to patients is an effective way to gain support. Record some of these stories and post them where staff and physicians can see them, the Harvard team suggests.

"Keeping track of these stories is one of the best ways to measure the impact of the care you give in your hospital every day," says Dr Berry.

He estimates from reviewing the literature that using the checklist makes a difference for about 1 patient in 1,000.

"That is not a large number, but it is a life," he says. That means that for 1 in every 1,000 patients who comes through your doors, the checklist would make a difference between them going home unharmed or not leaving the hospital at all.

Always seek to do better

What key feature distinguishes hospitals that have embraced the checklist from those that have not? When the checklist is embedded, "the first thing they tell us is, 'We could do better,'" says Edmondson. "They never feel they have completed the project."

For them, the desire to improve is a continuing quest. ♦

—Pat Patterson

References

- Bliss L A, Ross-Richardson C B, Sanzari L J, et al. Thirty-day outcomes support implementation of a surgical safety checklist. *J Am Coll Surg*. 2012;215:766-776.
- Conley D M, Singer S J, Edmondson L, et al. *J Am Coll Surg*. 2011;212:873-879.
- Emerton M, Panesar S S, Forrest K. Safer surgery: How a checklist can make orthopaedic surgery safer. *Orthop Trauma*. 2009;23:377-380.
- Haynes A B, Weiser T G, Berry W R, et al. A surgical safety checklist to reduce morbidity and mortality in a global population. *N Engl J Med*. 2009;360:491-499.
- Neily J, Mills P D, Young-Xu Y, et al. Association between implementation of a medical team training program and surgical mortality. *JAMA*. 2010;304:1693-1700.
- Van Klei W A, Hoff R G, Van Aarnhem E E, et al. Effects of the introduction of the WHO 'Surgical Safety Checklist' on in-hospital mortality: A cohort study. *Ann Surg*. 2012;255:44-49.
- World Health Organization. WHO surgical safety checklist and implementation guide. www.who.int/patientsafety/safesurgery/ss_checklist/en/index.html

The Safe Surgery 2015 videos, slide sets, and other tools are available at www.safesurgery2015.org.

Stryker's Neptune recall raises stakes for compliance

Strict requirements needed to comply with a recall for the Neptune brand of roving suction devices are raising questions and concern for ORs whose facilities continue to use the devices.

The recall of the Neptune Waste Management System from Stryker, used to collect and dispose of fluid waste, was initiated in June 2012 after the company received reports of serious tissue damage, including 1 death. Hospitals unable to find a suitable alternative to using the Neptune 1 Silver and Neptune 2 Ultra were required to file a certificate of medical necessity (CMN) if they chose to keep using the affected products.

Since then, further action has been taken by the Food and Drug Administration (FDA) and Stryker. Facilities that continue to use the Neptune 1 Silver and the Neptune 2 Ultra had to file an update to their CMN by March 25.

Under the CMN, these facilities must meet detailed requirements, including a 9-point presurgery checklist, or risk having the CMN revoked.

Though Neptune Gold and Bronze users do not need to use the presurgery checklist, they must agree to conduct training, ensure personnel are informed about the incidents, and make sure their devices have warning labels.

During its investigation, the FDA also advised Stryker that the Neptune 1 Silver and Neptune 2 Ultra lacked the necessary regulatory clearance.

Adverse events

The requirements come after the reports of injuries and death involving incorrect application of the Neptune's high-flow suction.

Incidents recorded in the FDA's adverse events database show high-flow suction was con-



nected to chest tubes in at least 2 cases and to a Jackson Pratt drain in 1 case (<http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cf-MAUDE/search.cfm>).

In one report cited by the FDA, a patient died after the Neptune was connected to the chest tube during a pneumonectomy, and the suction pulled the heart muscle from its left position in the chest, causing a tear in the aorta.

Worry about the consequences

OR managers and directors at the facilities that continue to use the Neptune 1 Silver and Neptune 2 Ultra worry about the consequences of meeting the CMN requirements.

One concern is that the Neptune checklist will divert the surgical team's attention from the Joint Commission's Universal Protocol for preventing wrong-site surgery, raising the risk of an error.

Another worry is that reverting to conventional methods for fluid waste disposal could subject OR personnel to the risk of bloodborne pathogen exposure. The Neptune system's rovers collect large amounts of surgical fluids and flush them away through a docking station without exposure to the staff.

Initial recall

In response to the reports, Stryker in June 2012 recalled the instructions for use (IFU) of the Neptune

waste management system.

The IFU did not specifically warn against connecting the high-flow Neptune suction to a passive drainage tube. Stryker revised the IFU and in October 2012 instructed customers to educate users on the revisions and apply warning labels to all Neptune devices, cautioning that the suction is dangerous if not used properly.

Requirements raised

Stryker issued stricter requirements on February 20 after further incidents occurred in facilities that continued to use the Neptune models under the CMN. FDA audits found a number weren't complying with the initial requirements. Among the new requirements are:

- Train all users (ie, surgeons, residents, anesthesiologists, nurses, technicians, health profession students) and make them aware of the risks associated with the device.
- Keep a master list of all personnel who have been trained on the use of the device.
- Inform all users that additional adverse events have been reported.
- Ensure that warning labels are present on each device.
- Implement a 9-point pre-use checklist, which the circulating nurse must complete before every procedure. Stryker will audit these records to ensure use of the checklist. Failure to complete the checklist form is grounds for revoking the CMN.
- Identify a training facilitator for each facility to ensure implementation of the checklist, and partner with Stryker for additional training.
- Complete a business reply form acknowledging these actions have been taken.

In a March 27 update, the FDA

acknowledged facilities' concerns about the requirements but simply referred users to the Stryker Neptune website for information to carry them out (<http://neptunecustomer care.com/>).

Safety issues

Though the deaths and injuries that have occurred are tragic, the numbers are low considering the number of Neptune units in hospitals and the years they have been used, notes Chris Lavanchy, engineering director of the Health Devices Group at ECRI Institute, who says he has discussed the recall with both Stryker and the FDA. The nonprofit institute began tracking the recall last year and has issued alerts and special reports for its subscribers.

"These machines have been used since early 2000, and we're just hearing about a few of these incidents in the last 3 years," he says.

How did this happen?

The Silver model, which is associated with several of the events, seems to have a relatively narrow range of vacuum levels (254-483 mmHg), biasing suction toward the high side that could be injurious when applied to tissue, Lavanchy notes.

"Whether that characteristic of the Silver actually was responsible for these incidents, we can't say, but it has been something people have speculated about," he says.

The range for the Gold units is broader (50-530 mmHg), and the vacuum level can be turned down so the suction is not as powerful.

The Ultra model, a newer version of the Gold, has the option of displaying the vacuum level in different units of measure—millimeters of mercury (mmHg), inches of mercury (inHg), and kilopascals (kPa).

In the US, mmHg is commonly used, and inHg is used rarely; kPa, seldom used in the US, is more common in Europe.

A problem could arise, Lavanchy notes, when the Ultra is inadvertently set on a unit of measure other than mmHg, which could cause users to think they are applying a lower level of vacuum than they actually are. For example, 250 mmHg would be 10 inHg and 33 kPa. Again, it's not known whether this contributed directly to the incidents.

Regardless of the type of suction applied, he says, "It is the responsibility of the person using the suction to verify the level of the suction and whether that is safe for the tissue you're applying it to."

Concern about alternatives

Reverting to conventional wall suction means collecting waste in suction canisters, Lavanchy notes. Rather than having fluids always contained by the rovers, the staff must either apply solidifiers so the canisters can be disposed of as regulated medical waste or dump the canisters manually, potentially exposing them to bloodborne pathogens. This potential for exposure and compliance with Occupational Health and Safety Administration regulations are the reasons many facilities adopted enclosed waste management systems such as the Neptune in the first place.

A major question is whether the risk to patients of using a Neptune system is greater than the risk to staff from emptying canisters of blood and body fluids, he says.

In looking at alternatives, hospitals have questioned whether they should replace their Neptunes with another enclosed waste management system, which might end up having the same requirements down the road.

The FDA has told ECRI Institute that it is not actively looking at other companies at this time, but that doesn't mean it won't in the future, Lavanchy says.

Regulatory clearance

The original FDA clearance was for the Stryker Neptune Gold, he notes. After receiving the adverse event reports and looking into the matter, the FDA determined that because the Silver and Ultra models had somewhat different features than the Gold, they were not equivalent and thus required separate 510(k) clearance. Whether to apply for a new 510(k) when a device is modified can be a judgment call for the company, Lavanchy notes. The company must determine whether the new model entails safety or efficacy issues that warrant a new 510(k) application.

Regulatory status

The Neptune-1 Gold and Bronze devices continue to be legally marketed, and there is no change in their status, although the Gold is no longer being actively marketed, Stryker stated. Regarding the other models:

- Neptune 1 Silver: The company has decided not to submit a 510(k) and will withdraw this model from the market. All support for that device will stop by March 1, 2014.
- Neptune 2 Ultra: Stryker has submitted a 510(k) but does not know when or if the device will be cleared. The FDA has requested additional information. Stryker says it is working to respond to the requests.

Stryker and the FDA recommend that users of the Neptune 1 Silver and Neptune 2 Ultra transition to a legally marketed device as soon as possible. ♦

—Judith M. Mathias, MA, RN

Higher awareness may lower the odds of retained surgical items

Although the retention of a surgical item after surgery is rare—estimates range from 1 in every 1,000-1,500 procedures (Rowlands and Steeves) to 1 in 7,000 surgeries (Egorova et al.)—the effects of such events can be significant. Retained surgical items can set off a chain reaction of negative events: additional procedures to remove the items, unwelcome media exposure, and legal claims to determine the source of negligence. Settlements and verdicts in these cases range in the hundreds of thousands of dollars or more, such as in a 2010 Indiana case that resulted in a \$564,000 verdict against an obstetrician/gynecologist when a surgical towel was retained in a woman's abdomen following a hysterectomy (Tsikitas).

Organizations and accrediting bodies have emphasized that cases of retained surgical items should not occur. For example, unintentionally retained surgical items are considered a serious reportable event by the National Quality Forum and a sentinel event by the Joint Commission. In addition, the Centers for Medicare and Medicaid Services includes retained surgical items in its list of hospital-acquired conditions for which it will no longer provide payment under the Inpatient Prospective Payment System.

Risk factors and outcomes

Understanding the risk factors for retained surgical items can help health care facilities develop methods to prevent such occurrences. Identified risk factors for retained surgical items include the following (Rowlands and Steeves; Pennsylvania Patient Safety Authority; Greenberg et al.):

OR Manager, Inc., and ECRI Institute have joined in a collaboration to bring OR Manager readers quarterly supplements on topics such as medical technology management and procurement, risk management, and patient safety. ECRI Institute is an independent nonprofit that researches the best approaches to improving patient care.



- emergency surgery
- unplanned changes in the procedure
- high patient body mass index
- personnel changes during the procedure
- communication breakdowns.

Noise, disruptions, or an environment in which staff feel rushed to complete tasks can compromise counts of surgical items and increase risk (Rowlands and Steeves). Sponges, the most frequently retained items, account for 48% to 69% of all retained surgical items (Steelman). Other items that may be retained include towels, needles, scalpels, solution bottles or bottle caps, electrosurgery instrument parts, other surgical instruments or parts, laparotomy sponge rings, umbilical and hernia tapes, and vascular inserts. The abdomen and pelvis are the most frequent locations for retained items; however, items can be retained in any part of the body, even at very small incisions (AORN).

When an item is left in the patient following surgery, physical effects include the following (Murdock): acute pain, bowel perforation, fistula, organ damage, sepsis, stroke, and death. Patients may also experience emotional distress, have prolonged hospital stays, or require additional surgeries to remove the item, resulting in increased medical costs (Murdock).

Prevention strategies

Health care facilities that perform surgical or invasive procedures should develop standardized practices to account for all instruments and items used during surgical procedures. Unless otherwise noted, the strategies listed below are adapted from AORN's Recommended Practices for Prevention of Retained Surgical Items.

Manual counts of surgical items

All sponges, sharps, and instruments should be counted concurrently and audibly by two health care workers, at least one of whom should be a registered nurse circulator. A baseline count should be performed before the procedure begins, and items added to the field should be counted and documented. Staffing changes should prompt counts—for instance, when either the scrub or the circulating nurses are permanently relieved. Counts should also be taken at the closure of a cavity within a cavity (eg, uterus), before wound closure begins, and at the end of the procedure.

Broken or disassembled sharps or instruments should be accounted for in their entirety by the surgical team. Staff members conducting the counts should ensure all instruments remain intact after the procedure and all parts



of the instruments or devices are removed from the patient. If it is not possible to remove a device fragment from the patient, the surgeon should inform the patient of the fragment that was left and its characteristics if known (eg, size, material composition, location) and should discuss with the patient the risks and benefits associated with retrieving the fragment or leaving it in the patient.

Prepackaged sponges and instrument sets often include counts printed on the outside, but AORN notes that perioperative personnel should not rely on these counts. Rather, the sponges or instruments should be counted before they are used, and packages containing incorrect counts should be removed from the operative field and isolated from other items.

Instrument sets can allow facilities to make counting more efficient and accurate. The counting process can be expedited by using preprinted count sheets that match standardized sets. The facility can create instrument sets with the minimum types and number of instruments needed for various procedures—if fewer instruments are introduced into the field, there is a smaller chance for error.

AORN emphasizes that all processes used to account for items should be standardized and consistent in order to minimize human error. For example,

counts should always be conducted in the same sequence (eg, largest to smallest items, proximal to distal from the wound). Accuracy can be improved by ensuring that all items counted during the procedure are kept within the procedure room until counts are reconciled and completed, including items placed in linen and waste containers. In addition, all staff members should ensure that accurate counting procedures are being followed and should be empowered to speak up if they notice a count discrepancy.

Sponge and instrument counts may be waived when patient safety may be compromised by conducting the counts (eg, surgical emergencies). In such cases, the surgical team is obliged to count instruments as soon as possible or use x-ray scans to detect potential retained items, and then to remove any retained items when the patient has recovered sufficiently to tolerate the surgery. All actions taken should be documented.

Reconciling counts

One observational study of 148 elective procedures found that count discrepancies occurred in one in eight surgeries. Surgical staff identified the missing item in 59% of those cases, indicating a high risk for items being left in patients and the importance of reconciling count discrepancies. Forty-one percent of the count discrepancies involved miscounts, mathematical errors, or documentation errors. The study also found that during personnel changes, such as a change in shift, discrepancies were three times as likely as when personnel remained the same (Greenberg et

al.). The accuracy of counts can also be affected by communication breakdowns among surgical staff, equipment noise, conversations, interruptions, fatigue due to extended procedures, lack of sufficient staff members, routine noncompliance with rules or policies, and pressures to increase productivity (Pennsylvania Patient Safety Authority).

Count discrepancies should not be ignored or assumed to be miscounts. If all items are not accounted for postoperatively, the staff members conducting the counts should notify the surgeon, who should delay closing the surgical wound, if possible. The entire surgical team should then conduct exhaustive searches of both the surgical wound and the area around the surgical field, including the floor, kick buckets, and linen and trash receptacles. If the item is still not found, the surgical team should use an x-ray scanner to locate the item within the patient. If the wound has already been closed and the patient removed from the procedure room, a radiograph should be ordered as soon as medically feasible. Radiograph results should be evaluated by a radiologist, and results should be communicated to the surgeon as soon as possible. All these actions should be thoroughly documented in the patient's record, including when lost items are located.

To facilitate the radiograph process, only radiopaque sponges should be used during a surgical procedure. X-ray detectable sponges should be left in their original configuration and should not be cut. If they are cut, some of the embedded radiopaque indicators could be removed, eliminating the potential to find the

Continued on page 20

Continued from page 19

sponges with radiograph studies and increasing the risk that portions of the sponge will be left in the patient (Greenberg et al.).

Downsides to radiographs include their potential ineffectiveness in detecting small needles (Greenberg et al.), the time needed to conduct x-ray scans, and that conducting radiographs may increase the amount of time the patient remains in surgery (Pennsylvania Patient Safety Authority; Steelman).

Technological support

In addition to x-ray studies, other technological methods are available to supplement manual counts of sponges and other surgical items. For example, radiofrequency identification (RFID) systems use tags that are embedded in sponges, towels, or other soft items; a wand that emits an alarm when passed over the tags; and a software system that tracks detected tags. Studies have found that RFID technology is highly effective at detecting retained sponges embedded with RFID tags, including in patients who are morbidly obese (Stelman).

Barcode scanning also can track items used during surgery. Surgical items are labeled and passed through a barcode reader to provide a count of each item. Barcoding may help reduce the risk of count discrepancies; however, unlike RFID, the technology cannot detect items that are retained in a patient (Pennsylvania Patient Safety Authority).

Documentation

Actions taken related to accounting for sponges, sharps, instruments, and other items—and resolving identified discrepancies—

Action recommendations

- Comply with standardized practices to account for all instruments and items used during surgical procedures.
- Follow policies and procedures governing counts, resolving discrepancies, and implementing other practices to prevent retained surgical items.
- Consider using preprinted count sheets with standardized instrument sets.
- Ensure that all sponges and other items used during procedures are x-ray detectable.
- Consider using RFID technology, barcoding, or other technology to supplement surgical item counts.
- Organize a committee to determine if purchasing such technologies is feasible for the organization.
- Ensure that procedures to prevent retained surgical items are documented in the patient's medical record.
- Attend orientation and periodic training sessions on proper practices for preventing retained surgical instruments as well as the facility's policies and procedures
- Require that discrepancies be reported to the risk manager.
- Report any adverse events or near misses related to retained surgical items or count discrepancies as part of the facility's event reporting system.

should be documented in the patient's intraoperative record. Documentation should include at least the following information:

- item type (eg, sponges, sharps) and number of counts performed
- names and titles of personnel performing the counts
- results of counts
- notification of the surgeon about counts
- instruments remaining in the patient or sponges intentionally retained as therapeutic packing
- composition, size, location, and manufacturer of any unretrieved device fragments left in the patient
- actions taken if counts reveal discrepancies
- any technology used (eg, RFID) and whether the technology detected retained items
- rationale if counts are skipped or not completed according to the facility's policy (eg, if an emergency precludes counts).

Behavioral and environmental changes

A team-based approach to minimizing unnecessary distractions and reducing the risk of human error can significantly improve surgical processes. For example, facilities may organize a group of clinicians and perioperative staff to identify problem areas and brainstorm solutions, such as instituting a rule that no staff member may play music or make excessive noise during surgical counts (Rowlands and Steeves). One health care organization's team approach led to a decreased retained surgical items rate from 1 every 16 days to 1 every 69 days (Cima et al.).

Health care organizations should provide orientation and periodic training sessions on proper practices for preventing retained surgical instruments as well as the facility's policies and procedures. Education should include, but not be limited to,

proper counting techniques for various kinds of instruments, use of available technology, staff roles and responsibilities, practices for reconciling discrepancies, and reporting known or suspected retained items. ❖

Information and resources on preventing retained surgical items are available from *No Thing Left Behind*, a national campaign to provide education and encourage surgical staff to prevent retained surgical items, at <http://www.nothingleftbehind.org>.

References

- AORN. Recommended Practices for Prevention of Retained Surgical Items. Perioperative Standards and Recommended Practices. Denver, CO: AORN, 2011.
- Cima R R, Kollenbode A, Storsveen A S, et al. A multidisciplinary team approach to retained foreign objects. *Jt Comm J Qual Patient Saf.* 2009;35(3):123-132.
- Egorova N N, Moskowitz A, Gelijns A, et al. Managing the prevention of retained surgical instruments: what is the value of counting? *Ann Surg.* 2008;247(1):13-18.
- Greenberg C C, Regenbogen S E, Lipsitz S R. The frequency and significance of discrepancies in the surgical count. *Ann Surg.* 2008;248(2):337-341.
- Murdock D B. Trauma: when there's no time to count. *AORN J.* 2008;87(2):322-328.
- Pennsylvania Patient Safety Authority. Beyond the count: preventing retention of foreign objects. *Pennsylvania Patient Safety Advisory* 2009;6(2):39-45.
- Rowlands A, Steeves R. Incorrect surgical counts: a qualitative analysis. *AORN J.* 2010;92(4):410-419.
- Steelman V M. Sensitivity of detection of radiofrequency surgical sponges: a prospective, cross-over study. *Am J Surg.* 2011;201(2):233-237.
- Tsikitas I. Jury orders surgeon to pay over half a million in retained object case [online]. *Outpatient Surgery Magazine.* 2010 Aug; <http://www.outpatientsurgery.net>.

OR business performance

The right strategies can help increase OR utilization

OR Business Performance is a series intended to help OR managers and directors improve the success of their business.

How do you improve an OR's financial performance? Last month's column focused on two key strategies: using data to identify improvement opportunities and rallying support for organizational change. These strategies can be used to overcome a major challenge in OR management—increasing utilization.



Any OR with a utilization rate below 75% has room for improvement. If your department's utilization is below 65%, you are likely experiencing moderate-to-severe problems in costs, profitability, and organizational effectiveness.

Low utilization means an OR is operating more rooms than it needs. Overcapacity leads to high costs, mostly for labor, but also for anesthesia coverage.

To improve utilization rates, you need to identify the underlying causes of low utilization and work with physicians to design effective solutions.

Inefficiencies

Many hospital administrators see low OR utilization as a marketing problem. There is an insufficient case volume because patients or their surgeons are choosing competing facilities. While such decisions can contribute to low utilization, the main culprit may be an inefficient block schedule system.

One common problem is that surgeon blocks are too short. Many ORs assign block time in 4-hour increments, which leads to

“
**Block rules
often are
too loose.**
”

several inefficiencies. For example, often the block accommodates only two 90-minute cases, leaving 60 minutes of OR time unused. In addition, a case that runs long in Surgeon A's morning block will delay Surgeon B's afternoon start time. Shorter blocks also require more frequent room changeovers between specialties. Tearing down a room for urology and setting it up for spine surgery, for example, requires additional time that eats into utilization.

Another common problem is that block rules are too loose. Many hospitals set low utilization requirements for maintaining blocks. Surgeons may be allowed to release block time shortly before the day of surgery, with no utilization penalty. These short-notice releases prevent the OR from backfilling the schedule.

Overall, poor block design leads to wasted capacity and low department revenue.

Efficient block systems

Designing a strong block schedule is not difficult. Efficient block systems are based on 6 strategies that promote utilization and improve surgeon satisfaction.

1. Set the minimum block length at 8 hours. Better-perform-

Continued on page 22

Continued from page 21

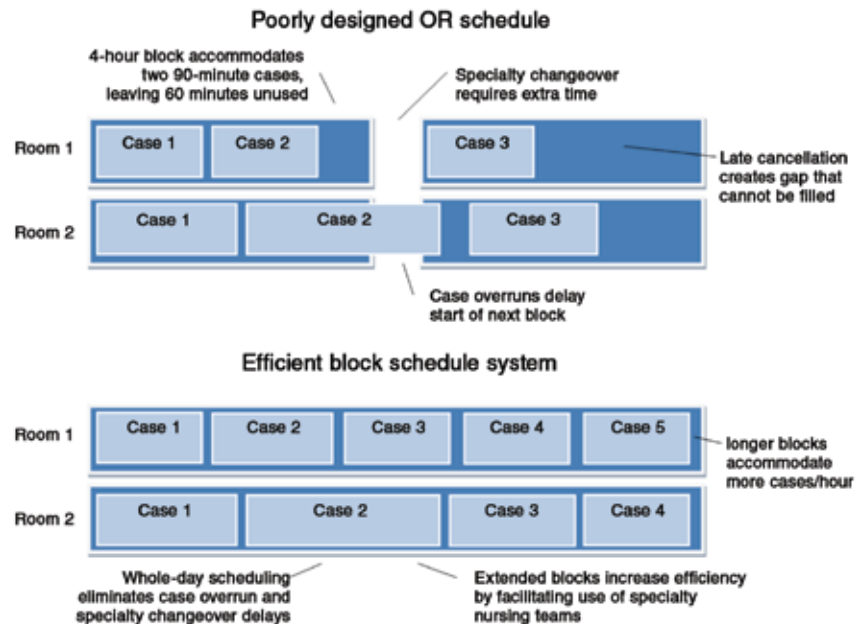
ing ORs allocate block time in increments of 8 to 10 hours. One long block will accommodate more cases than 2 short blocks combined. Whole-day blocks also minimize downtime caused by specialty changeover.

2. Establish a utilization threshold of 75% to 85%. OR time is a valuable commodity, and surgeons should be held accountable for how they use it. Well-run ORs adopt a version of the old mess hall slogan: "Take all you can eat, but eat all you take." A utilization threshold of 75% is appropriate for most ORs. Departments with a challenging payer mix should aim higher. (Utilization above 85% creates its own problems—a tight schedule leads to significant delays in end-of-day cases.)

3. Assign blocks to surgeons, not specialties. The individual assignment of block time creates a sense of ownership that encourages surgeons to maintain and optimize utilization. Utilization can be 10 to 15 percentage points higher for individual blocks than for group blocks.

4. Release block time according to specialty. The OR must be able to fill unscheduled time. To do this, set up a staggered block release schedule that is sensitive to specialty needs. Specialties that treat many emergent cases should retain block time until shortly before the schedule day. Specialties with longer presentation times can auto-release farther out. (See chart for a suggested release system.) Surgeons who consistently maintain greater than 85% utilization are exempt from auto-release.

5. Create flexibility through open rooms. Reserve approximately 20% of rooms for urgent and emergent cases. In many



ORs, this translates into 2 rooms per shift. This unblocked capacity gives flexibility to the entire schedule and makes it easier for less-tendered surgeons to access the OR.

6. Develop a structure for enforcing rules. Without the ability to enforce the rules, even the best block system will fail. To make the system work, OR management must have the backing of a physician leadership group. Last month's column introduced the idea of the multidisciplinary Surgical Services Executive Committee (SSEC). A strong SSEC is vital to leading block schedule reform and ensuring compliance (see illustrations of poorly designed vs efficiently designed schedules).

Overhaul schedules

Work closely with the SSEC to lead an open, consultative approach to developing and implementing a new block system. Lay the groundwork by calculating your department's adjusted utilization rate. (Adjusted utilization is total in-block case minutes plus total turnover minutes, divided by total block minutes.) In addition, analyze provider data to de-

termine surgeons' individual case volumes and utilization rates.

Begin by working with an SSEC subcommittee to review current block guidelines and systems. Develop recommendations based on the above design principles. Next, propose rule changes to the full SSEC and gain agreement on the new system. Meet again with the subcommittee to craft a detailed block time reallocation based on surgeon volume and utilization.

To introduce surgeons to the new system, organize an open meeting for all procedural staff. During the meeting, SSEC members should explain the importance of reforming the block system, the rationale for the new design, and the expected impact on surgeons. Use feedback garnered during the meeting to revise the schedule. Set an implementation date that allows surgeons time to prepare for the new system. Present the final plan during an all-surgeon meeting, and follow up as needed with surgeons' office managers.

The SSEC plays a critical role in monitoring and managing the

Continued on page 24

21673

Do you know a colleague who deserves to be *OR Manager of the Year*?

Then nominate him or her for **OR Manager™ Conference's OR Manager of the Year award!**

Each year, OR Manager™ Conference honors a manager or director as the OR Manager of the Year. The recipient receives a complimentary registration to OR Manager Conference and all expenses paid, including airfare, hotel and meals. The OR Manager of the Year award will be presented during the luncheon on Tuesday, September 24.

To nominate a leader for the OR Manager of the Year, please write a letter of approximately 300 words describing why this person deserves the award. Additional letters are welcome. **The deadline to submit a nomination is June 28, 2013.**

You can submit your nomination online at www.ORManagerConference.com or mail your letter to:

OR Manager™ Conference
 OR Manager of the Year
 4 Choke Cherry Road, 2nd Floor
 Rockville, MD 20850

OR Manager™ Conference | September 23-25, 2013
 Gaylord National Resort | National Harbor, Maryland

Thinking about getting electronic whiteboards?
 To learn about no-risk, free trials visit:
PatientStreamInc.com/ORM

OR	Status	Timing	In	Pt Type	Loc	MRN
M-07	⚠	Arrive: 09:54 Start: 12:00 Length: 4:00	12:27	IP	5E	Z732589
M-08	🕒	Arrive: 09:30 Start: 13:35 Length: 0:45	13:31	OP	MPAC	Z900863
M-10	🕒	Arrive: 08:23 Start: 00:10 Length: 5:28		IP	5SE	Z528352
M-11	🕒	Arrive: 14:20 Start: 14:20	14:54	IP	MOR	Z484865

MID COAST HOSPITAL

OPERATING ROOM UNIT COORDINATOR

32-40 hours/week, days

Mid Coast Hospital is looking to hire an experienced Operating Room RN to fill our Unit Coordinator role. The Unit Coordinator (UC) assists in the management of the unit, and practices nursing independently. The UC is recognized as a hospital-wide resource person in a specific area of nursing expertise and demonstrates leadership abilities in clinical and professional roles. The UC demonstrates positive guest relations through effective communication skills, patient advocacy and maintaining collaborative relationships. Unit Coordinators contribute to improvements in standards of care, support departmental policies and utilize resources. Bachelors of Science Degree in Nursing (BSN) or Masters Degree in Nursing (MSN) required.

Mid Coast Hospital, a Magnet facility, is located in Brunswick, Maine. We are an independent, community, non-profit hospital accredited by the Joint Commission. Our 92-bed facility serves a population of approximately 84,000. Our active medical staff, representing 30 primary care and specialty areas, is the envy of most communities.

Mid Coast Hospital offers a competitive salary and benefits package; compensation commensurate with experience. We invite you to explore the opportunities for professional growth at Mid Coast Hospital by applying online at www.midcoasthealth.com/jobs

An affiliate of MID COAST HEALTH SEARVICE
 AN EQUAL OPPORTUNITY EMPLOYER

MID COAST HOSPITAL

Nurse Director

Mid Coast Hospital is searching for a Nurse Director to work in its' dynamic and growing Surgical Services Department. As a member of the nursing leadership team, the Nurse Director's primary area of responsibility is to ensure optimal patient/family outcomes by maintaining a caring and healing environment. Furthermore, this person will have leadership and management responsibility for the day to day operations of the Operating Room/PACU/Sterile Supply units. The qualified candidate will have a minimum of five (5) years experience in an Operating Room setting as well as leadership and management experience. Bachelors of Science Degree in Nursing (BSN) or Masters Degree in Nursing (MSN) required.

Mid Coast Hospital, a Magnet facility, is located in Brunswick, Maine. We are an independent, community, non-profit hospital accredited by the Joint Commission. Our 92-bed facility serves a population of approximately 84,000. Our active medical staff, representing 30 primary care and specialty areas, is the envy of most communities.

Mid Coast Hospital offers a competitive salary and benefits package; compensation commensurate with experience. We invite you to explore the opportunities for professional growth at Mid Coast Hospital by applying online at www.midcoasthealth.com/jobs

To learn more about Mid Coast Hospital, please visit our web site at www.midcoasthealth.com.

An affiliate of MID COAST HEALTH SEARVICE
 AN EQUAL OPPORTUNITY EMPLOYER

OR business performance

Block Time Release

Tailoring auto-release to specialty needs will enable the OR to backfill more unscheduled time. Here is one possible schedule.

Specialty	Days
Plastics	10
Head and neck	7
Orthopedic	7
Gynecology	7
Urology	7
Neurosurgery	3
General surgery	3
Vascular	3
Spine	3
Transplant	2
Cardiac	24 hrs

Continued from page 22

new schedule. The committee has the ultimate authority to enforce policies by reassigning block time when necessary. As much as possible, the SSEC should make decisions based upon actual data, reviewing utilization on a monthly basis and reporting back to surgeons quarterly. Surgeons who fall short of their utilization threshold should be allowed 3 months' "probation" to improve their utilization.

When you need to reassign block time, reduce surgeon time by entire blocks. Do not shorten existing blocks. For instance, a thoracic surgeon who cannot fully utilize a weekly block could be transitioned to 3 blocks per month.

Leverage utilization gains

Greater efficiency makes the schedule easier for surgeons to access, and performing more cases within the same time frame increases surgeon revenue. Longer blocks also facilitate the management of specialty nursing teams. In addition, surgeons appreciate a schedule that

	Maximum annual utilization	Actual volume percentage	Case capacity per OR
Inpatient	900 cases	40%	360
Outpatient	1,400 cases	60%	840
Total			1,200
Current total volume			22,000 cases
Ideal per-room capacity			1,200 cases
Rooms required			18.3 (or 19)

their peers administer according to clear and transparent rules.

A better block time system helps make the nursing schedule more predictable, which can improve nurse satisfaction and retention. Reduced schedule variability also improves anesthesiologist satisfaction because higher utilization rates allow anesthesiologists to increase their income by attending more cases per day.

Higher utilization also enables OR leaders to reduce costs by balancing capacity with demand. An efficiently utilized surgical suite can accommodate 900 inpatient cases or 1,400 outpatient cases per year. Suppose you have a volume of 22,000 cases per year and a 40/60 blend of inpatient and outpatient procedures. You can easily calculate your ideal per-room capacity and total room requirements for a given department (chart).

Improving overall utilization will likely enable you to close one or more rooms. Analyze case volume data by day of the week, and adjust your room plan to accommodate typical volume peaks.

Then create an efficient step-down schedule. Most surgery departments close rooms through the afternoon and evening as case activity diminishes. Drawing down capacity too quickly creates bottlenecks that extend surgery times, but reducing capacity too slowly creates waste.

To design the most efficient step-down schedule, begin by cal-

culating the department's average number of cases per hour. For each hour, calculate the standard deviation (using an Excel spreadsheet or engineering calculator). You can use these calculations to shape a step-down curve that accommodates case volume while minimizing variable costs.

A large medical center in the Midwest recently used utilization improvements to reduce OR capacity from 27 to 22 rooms. This historically understaffed organization reduced its OR staff by 5 RN FTEs and 5 OR technician FTEs, and the anesthesia department cut positions for 1 physician and 5 certified registered nurse anesthetists. The cost savings increased overall profitability.

Coming up

Once a hospital strengthens OR profitability, it can grow revenue by increasing total case volume. The next "OR Business Performance" will show how to design and execute an effective service line strategy that drives volume growth. Learn how to use data to identify the best strategic opportunities and create a provider-centered organization that wins strong surgeon loyalty. ♦

This column is written by the perioperative services experts at Surgical Directions (www.surgicaldirections.com) to offer advice on how to grow revenue, control costs, and increase department profitability.

A close-up, high-angle photograph of a silver laptop, showing the keyboard and the bottom edge of the screen. The laptop is open and positioned diagonally across the top left of the page.

Popular OR Manager Webinars Are Now Available!

OR Manager offers webinars twice a month on topics of vital interest to managers and directors of the operating room. Learn from the comfort and convenience of your home or office!

If you missed one of our webinars, don't worry, you can get access to the recordings. Here are some of the best-selling webinars:

- **Do You Really Know How Well Your ORs Are Being Cleaned?**

Hear about the latest research for establishing an evidence-based method for validating how well your ORs are being cleaned, presented by researcher Philip Carling, MD. He discusses how the OR can set forth policies, establish cleaning validation, and educate cleaning personnel.

- **The Perioperative Impact on Value-Based Purchasing (VBP)**

In this on-demand webinar, you will hear what's new in VBP and learn about specific strategies that perioperative nurses can employ to improve quality and performance. You will also hear about what to anticipate in the future for VBP.

- **Improving the Collaboration of the Perioperative Team to Reduce SSIs**

Reducing surgical site infections is everyone's responsibility. An infection prevention expert discusses how patients and health care providers can collaborate in preventing infections during the patient's journey from the physician's office through the surgical facility and back home again.

- **Best Practice Block Scheduling and Tips for Implementation**

Learn how to create a successful block program that meets both hospital utilization targets and surgeon needs. This includes an effective scheduling program, the creation and enforcement of strong block policies, and an effective governance structure.

Webinars are approved for **Continuing Education Credits**. Your purchase of these on-demand webinars comes with access to an online CE portal where you can take the webinar post-test, earn continuing education credit hours, and print your certificate.

Register today for an on-demand webinar!
www.ormanager.com/webinars

Starting in the office to improve postop outcomes

OR teams are accustomed to using checklists to keep patients safe during surgery. Could extending presurgical checklists to the physician's office or clinic produce even better results?

The new Strong for Surgery initiative in Washington State is introducing checklists into offices and clinics to help address issues like nutrition, glycemic control, and medication management. The aim is to help ward off complications even before patients arrive at the hospital or surgery center.

Strong for Surgery seeks to standardize evidence-based practices in 4 areas for patients having elective surgery:

- nutritional status
- blood sugar control
- optimizing medications
- smoking cessation.

Free tools, including checklists and an implementation guide, are at www.becertain.org/strong_for_surgery/hospitals. The website has special sections for providers and patients.

"Surgical preparedness is becoming part of the basic conversation about planning for surgery, and the patient shares in the process," says Thomas Varghese, Jr, MD, MS, Strong for Surgery's medical director.

"If we shift the spotlight to when we first engage with patients in the clinic, then we have an opportunity to get better outcomes."

Roots of the project

Strong for Surgery is a program of CERTAIN, the state's learning system for health care, which partners with the Surgical Care Outcomes Assessment Program, or SCOAP, a voluntary quality improvement program that targets care such as timely antibiotic administration, patient warming,

**"
The aim is
evidence-based
care.
"**

venous thromboembolism prevention, and others.

Strong for Surgery, piloted at 5 hospitals, is rolling out to all 55 of Washington State's hospitals using the same learning network developed for SCOAP.

Members of the Strong for Surgery team work with offices and clinics on an implementation plan appropriate for each clinic's culture and workflow.

Benefits for hospitals

The program promises to benefit hospitals and surgery centers by contributing to better postoperative results, Dr Varghese notes. That becomes more important as facilities are measured on quality and begin to see reimbursement affected by their performance.

"Our patients are getting sicker, and we are serving an older population," he says. "If we don't take advantage of the opportunity to see if there's anything we can do to improve patients' outcomes before they come to the hospital, we're at the mercy of whatever situations come through the door."

Though the program is aimed at care for elective patients, Dr Varghese thinks it can also carry over to emergencies. As clinicians become familiar with the Strong for Surgery checklists, he notes, they will be more aware of issues like malnutrition.

"Ideally, you would want to op-

imize their nutritional status," he notes. But with an urgent patient, "we can at least alert the inpatient team, including nurses and dietitians, of the patient's nutritional status. We think this earlier notification will benefit all patients."

Here's a look at the 4 Strong for Surgery areas:

Nutrition

Nutritional status is the single most important independent predictor of outcome for any type of surgery, evidence shows. SCOAP's data indicates that patients with an albumin level of <3.0 g/dL have a two- to three-fold increase in rates of reoperation and/or death.

The Strong for Surgery checklist addresses 3 areas:

- screening for malnutrition
- lab tests for albumin level to stratify risk
- screening for use of nutritional supplements.

Glycemic control

Blood glucose control for diabetic patients having surgery reduces the risk of surgical site infections and promotes healing.

As many as one-third of surgical patients have undiagnosed diabetes. Checking blood glucose before surgery may identify these patients so steps can be taken to control blood glucose levels before surgery.

The Strong for Surgery checklist has guidelines for blood glucose screening and management.

Smoking cessation

Smoking increases the incidence of pulmonary complications after anesthesia by as much as 6 times, studies have found. Smoking is an independent risk factor for complications ranging from lung function disorders to impaired wound

For You

Continued from page 12

tion. Other employees, physicians, and residents receive information about the program as well.

Now the meetings often focus on sharing cases (protecting the privacy of the second victim) so peer supporters can learn from one another. Hirschinger says the meetings sometimes include guest speakers on topics such as end-of-life issues, active listening, and grief and bereavement.

Tools of the trade

Team members use an evidence-based, three-tiered model to facilitate clinician support and help second victims transition through six stages of emotional recovery (illustration).

The forYOU Team provides printed resources to supplement personal intervention. A brochure for staff describes the program's goals and services as well as common reactions to stressful events and ways to cope. Another brochure targets the team member's family, describing how second victims feel and suggesting strategies for how to help. MUHS invites other hospitals to access the brochures at <http://www.muhealth.org/secondvictim>.

Making the business case

Costs for the program include education and 24/7 call. Call is rotated among the team leaders in each of the 6 MUHS facilities, although most of the time, the pager doesn't sound because volunteers are embedded in the units. Scott is attempting to determine the effect of the program on staff turnover. In one case, an ICU nurse who had written a resignation letter before contacting the forYOU Team is still working and thriving a year after her second-victim experience.

Scott estimates it would cost about \$150,000 to hire and train an ICU nurse in her geographic area, which means "If you save one nurse, you have paid for many years of expenses."

Starting a program

OR directors who want to start a similar program should discuss the idea with managers and front-line staff, Mills says. "Pull some of the research on second victims and set up lifeguards in your own area." Anesthesiologists, surgical technologists, and surgeons can also participate.

Another strategy is to hold group debriefings after an unexpected, negative outcome—

that way, ICU, OR, and PACU staff can see how personnel were affected by the event and provide support. Scott cautions that it's important to have someone with debriefing training, knowledge, and skills to facilitate the process.

Caring for the caregiver

The forYOU Team's guiding principle of "providing care and support to our staff" is lived each day. "We want to have compassionate, caring caregivers," says Hirschinger.

"Take care of your people so they can take care of your patients," adds Mills. ❖

—*Cynthia Saver, MS, RN*

Cynthia Saver, a freelance writer, is president, CLS Development, Inc, Columbia, Maryland.

References

- Scott S D, Hirschinger L E, Cox K R, et al. Caring for our own: Deploying a systemwide second victim rapid response team. *Joint Comm J Qual Patient Saf.* 2010;36(5):233-240.
- Scott S D, Hirschinger L E, Cox K R, et al. Natural history of recovery for the healthcare provider "second victim" after adverse patient events. *Qual Saf Health Care.* 2009;18(5):325-330.

healing and cardiovascular events.

The Strong for Surgery checklist serves as a guide for risk stratification and provides resources for encouraging patients to quit smoking.

Medication management

A thorough review of all medications, over-the-counter drugs, and supplements is important so patients can be advised which medications to continue and which to stop before surgery.

The checklist includes items related to bleeding risks, beta-blockers, and aspirin for cardiac protection.

Seeking collaboration

Dr Varghese says he and his team are interested in working with and learning from others around the country who are also seeking to improve surgical outcomes.

"As we roll this out in Washington, our goal is to collaborate with

national partners as well," he says.

Strong for Surgery is funded by grants from the Agency for Healthcare Research and Quality, the state's Life Science Discovery Fund, and the Nestle Health Care Institute for the building of its quality improvement platform, which does not promote commercial products. ❖

Learn more about Strong for Surgery at www.strongforsurgery.org.

Ambulatory Surgery Centers

Escorts essential for ensuring postop patient safety

Before any elective surgery, patients are expected to arrange for an escort who will take responsibility for them at discharge—someone who will drive them home and possibly care for them as they recover from the effects of anesthesia.

Despite a strict policy that patients must have a “responsible adult escort,” on occasion a postanesthesia care unit nurse has faced the dilemma of a patient whose escort has failed to appear and who, in embarrassment or bravado, insists, “I’ll be fine.”

In the ambulatory surgery setting, a lone, impaired patient could present more of a problem than elsewhere. A physician may refuse to schedule a case without assurance from the patient that an escort is available; hospitals have the option, as a last resort, of admitting the patient. An ambulatory surgery center (ASC), in contrast, depends on the physician to bring up the escort issue, but is responsible for enforcing the policy much later, when the patient is waiting to leave and no bed is available.

“
**No escort?
No
discharge.**
”

Research indicates it is extremely rare for an unescorted patient to leave an ASC, which would violate accreditation and Medicare rules, or to injure himself or another person.

Nevertheless, the generally healthy patient population and careful patient selection associated with ASCs should not imply less need for vigilance.

In no shape to drive

“This issue plagues doctors’ offices and facilities alike,” notes Robert Langer, MD, a Flushing, New York-based anesthesiologist who specializes in outpatient procedures. “Studies show that even after sedation, reaction time

can be slowed for up to 8 hours. Obviously, allowing someone to drive themselves home would be ill advised.”

Even an apparently recovered patient is still at risk. “In the young and healthy patient population, having light sedation for outpatient procedures, the anesthesia wears off fairly completely in an hour or two. Patients can get themselves around pretty well without problems. The issue is that you never know if the patient has some underlying problem that may lead to a complication, and without an escort to recognize and act on the patient’s behalf, there is a risk that something bad could happen to the patient. Then, we run into the issue of liability,” Dr Langer explains.

The Pennsylvania Patient Safety Authority (PPSA) in 2007 found ASCs in that state had varying rules for patient discharge. Following a review of 20 knee arthroscopy cases, the PPSA issued an advisory warning ASCs that “compared to healthy individuals, patients showed impaired driving skills and lower alertness lev-

Ambulatory Surgery Advisory Board

Lee Anne Blackwell, BSN, EMBA, RN, CNOR
Vice president, clinical services,
Practice Partners in Healthcare, Inc,
Birmingham, Alabama

Nancy Burden, MS, RN, CAPA, CPAN
Director, Ambulatory Surgery, BayCare
Health System, Clearwater, Florida

Rebecca Craig, BA, RN, CNOR, CASC
CEO, Harmony Surgery Center, Fort
Collins, Colorado and MCR Surgery
Center, Loveland, Colorado

Stephanie Ellis, RN, CPC
Ellis Medical Consulting, Inc
Brentwood, Tennessee

Rikki Knight, BS, MHA, RN
Clinical director, Lakeview Surgery
Center, West Des Moines, Iowa

Donna DeFazio Quinn, BSN, MBA, RN, CPAN, CAPA
Director, Orthopaedic Surgery Center
Concord, New Hampshire

Mary Stewart, BSN, RN
Chief Clinical Officer, Springfield Clinic,
Springfield, Illinois

Debra Stinchcomb, BSN, RN, CASC
Consultant, Progressive Surgical Solu-
tions, LLC, Fayetteville, Arkansas

els preoperatively and at 2 hours postoperatively." It was not safe for patients to drive until 24 hours had passed after receiving general anesthesia.

A 2004 study of 103 endoscopy patients, published in *Gastroenterology Nursing*, found the following symptoms remaining after surgery:

- 94% could not remember the physician's instructions
- 67% could not remember the nurse's instructions
- 31% said they could not have managed without a caregiver
- 29% did not feel normal the morning after the procedure
- 24% experienced pain after leaving the ASC
- 12% became dizzy or fell after the procedure
- 9% were still disoriented after arriving home
- 7% reported nausea or vomiting.

The study, which was designed to identify conditions that were present the day after surgery, reinforced the evidence that patients also need help getting home. "The telephone survey showed a significant number of patients experienced a postprocedure issue," the authors conclude.

With more complex procedures being performed at ASCs, the chance of a patient being less healthy to begin with has increased. Recognizing the need to balance the convenience of ambulatory surgery with the need for follow-up care, accrediting and professional organizations require escorts following any type of sedation other than local anesthetic. The Joint Commission, Accreditation Association for Ambulatory Health Care, American Society

of PeriAnesthesia Nurses, and American Society of Anesthesiologists have guidelines or standards calling for escorts for discharged patients.

Why no escort?

A 2005 study by Frances Chung, FRCPC, medical director of the ambulatory surgical unit at Toronto Western Hospital, found that 2 out of 1,000 ambulatory surgery patients, or 0.2%, did not have an escort present at discharge. Patients without escorts were more likely to be female. Their age ranged from 18 to 72, and the most common procedure was termination of pregnancy, where escorts were absent in 1.2% of cases. However, the study found no difference in the clinical outcomes or readmission rate to the hospital related to absence of an escort.

Specific demographics are hard to come by, but anecdotal evidence indicates escorts may be hard to find for individuals living alone with no close family or friends or those whose family members are working. In one case, 3 months were needed to coordinate the schedules of patient, escort, and surgeon.

Most patients, and nearly all health care facilities, are aware of the risks and avoid endangering themselves or the public. Reports of arrests for driving under the influence of drugs administered in surgery are either nonexistent or inaccurately combined with alcohol-related incidents.

Denver attorney John Buckley, a former emergency medical technician, has heard of situations in which a defendant was found to be impaired following surgery,

but he has never encountered one personally. "I think it's pretty rare," he says.

According to Buckley, ASCs should be proactive in making sure an escort is available. "They should not begin the procedure unless they have a driver present," he says. That is the policy at many ASCs, yet patients are still sometimes left stranded.

At Mountain Laurel Surgery Center in Honesdale, Pennsylvania, the rule is that each patient must arrive with an escort, and the escort must stay on the premises while the procedure is done. The center specializes in upper endoscopies and colonoscopies. "We want to have the escort there to hear the postdischarge information," explains Patricia Williams, RN, director of nursing. "The doctor sees the patient to discuss the results, but the patient may not remember."

If the escort is not there, the staff finds someone else. "We don't let a patient leave alone," Williams says. "We walk them to the car and make sure they get in ok."

Lakeview Surgery Center in West Des Moines, Iowa, ensures that a driver is present at the time of admission; if not, the procedure is cancelled. Any driver who needs to leave during a procedure must provide a cell phone number. "We are sticklers on this subject," administrator Rikki Knight says. Patients who may think they do not need escorts include those having local anesthesia and those who visit frequently, for example, for pain management. "They still need escorts," Knight says.

Lakeview has also seen a growing number of elderly patients

who have no one to care for them. These patients need home care as well as drivers, she says.

What about taxis?

Peacock Limousine Service in Centennial, Colorado, specializes in ferrying clients to proms, weddings, and other celebrations. However, manager Victor Joseph receives 2 or 3 calls per month from Denver-area hospitals and surgery centers requesting patient transport. "We do offer that," Joseph says, "but we don't advertise it, and we don't have medical training."

In New York, there are several "ambulette" services that provide nonemergency patient transport in urban areas. Drivers have some training and assist patients in and out of buildings.

Jefferson Regional Medical Center in Pittsburgh has for the past 5 years contracted with a local ambulance company to take patients home following outpatient surgery. When patients are unable to arrange for an escort, Jefferson pays the company to send a medically trained driver to take them home.

However, there is no US service to compare with that of the United Kingdom, whose National Health Service (NHS) employs "ambulance care assistants" to drive patients to and from surgery and other medical care. The assistants have basic medical training and, according to the NHS web site, "they often see the same people on a regular basis and get to know them."

A taxi driver cannot help in case of a medical problem and will leave the patient at the curb without further assistance, and thus does not meet the definition of the "responsible adult"

required for accreditation. Some ASCs have used taxis as a last resort, but patients must be fully recovered before leaving the facility.

Loss of balance

There are other means of transportation, such as buses, bicycles, and walking, but these are problematic, Dr Langer says. Anesthesia affects equilibrium as well as reaction time. "I would consider biking equivalent to driving—a danger to both patient and others—and if no other option were available, I would not provide anesthesia to that patient that day," he says.

Dr Langer says he would allow a colonoscopy patient to walk home, but only if the person was young and healthy and lived close to the physician's office or ASC. Even then, the patient would be asked to stay longer to allow more of the sedation to wear off. "So far, we have not had any problems with that policy," he says. "However, there is still a liability risk, as a slower reaction time may leave the patient at risk to be hit by a car they didn't see."

Public transportation poses similar risks; patients need to climb stairs to board buses or trains and may experience complications in a crowd of strangers. "Being trapped on a train if something were to go wrong would be truly frightening," Dr Langer says. "If the problem resulted in unconsciousness, who would speak for the patient to say what was wrong?"

For that reason, he treats public transportation the same as driving, and he will not provide anesthesia for unescorted patients relying on it.

Reducing the risk

While patient safety is the primary reason to insist on escorts, ASCs have tried to address their own liability risks as well. Many ask or require patients to sign a release form saying they were advised of the need for an escort and refused. Whether such forms release ASCs from further liability is uncertain, especially if the patient signs one while sedated.

It helps to have a written policy explaining the reasons a patient cannot leave unescorted; many of them do not realize the degree of impairment that follows anesthesia, and they may very well feel competent after waking.

Meanwhile, the most practical approach is to do everything possible to ensure that an escort will be present. This includes obtaining telephone numbers of as many contacts as possible before the procedure. At many facilities, escorts must sign a form containing contact information and certifying that they intend to drive the patient home. Even more reliable is the increasingly common policy of requiring the escort to arrive with the patient and remain in the building during the procedure. ❖

—Paula DeJohn

References

- Chung F, Imasogie N, Ho J, et al. Frequency and implications of ambulatory surgery without a patient escort. *Can J Anaesth*. 2005;52:1022-1026.
- Gall S, Bull J. Clinical risk: discharging patients with no one at home. *Gastroenterol Nurs* 2004 May/June;27(3):111-114.
- Pennsylvania Patient Safety Authority. Should patients be accompanied when discharged from ambulatory surgery? *Patient Saf Advis* 2007 Sep;4(3):100-103.

Learn more about the roles and responsibilities of the perioperative nurses, OR directors, and OR managers who manage OR departments in hospitals and in ASCs in this new special report from *OR Manager*.

Order yours online using promo code REPORT13 and you'll save \$20!

For over 20 years, the *OR Manager* publication has asked OR directors and managers in hospitals and ambulatory surgery centers (ASCs) to share anonymously information about their salaries, benefits, and management responsibilities.

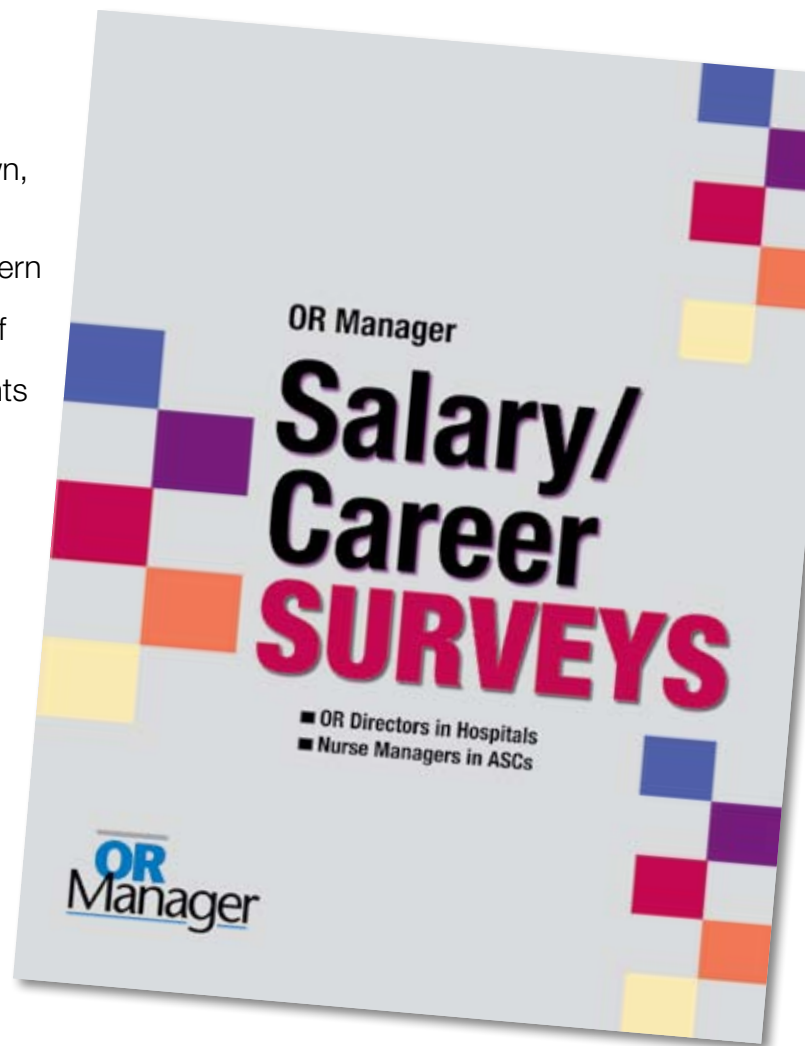
The table of contents includes:

- Turnover rates stable, use of temp staff is down, annual survey finds
- Staffing for surgery centers is in a holding pattern
- Beyond bucks: Best ideas for recognizing staff
- Assisting at surgery: 1 in 3 ORs using assistants don't require special qualifications
- Half of OR directors plan to retire by the end of the current decade
- Survey: ASC economic conditions may be easing pages
- Teaching hospitals adding business managers

Regular Price: ~~\$199~~

Your Price: \$179

Format: Downloadable PDF



Order your special report online using promo code REPORT13 and you'll save \$20!

www.ormanager.com

4 Choke Cherry Road
2nd Floor
Rockville, MD 20850

At a Glance

Better communication may not reduce readmissions

Direct communication between inpatient and outpatient providers at patient discharge was not associated with 30-day readmission, finds a study.

The most common reason for lack of direct communication was the inpatient provider's perception that the discharge summary was adequate. Direct communication was more likely for patients cared for by hospitalists, patients with a high expectation for re-admission, and patients covered under Medicare or privately insured.

The results suggest that enhancing interprovider communication may not prevent readmissions, the authors say.

—*Oduyebo I, Lehmann C U, Pollock C E et al, JAMA Intern Med. Published online ahead of print March 25, 2013*

Timing of preop antibiotic not linked to SSIs

Timing of prophylactic antibiotic administration is not significantly associated with the occurrence of surgical site infections (SSIs), finds a study. Timing included a median of 28 minutes before inci-

sion, within 60 minutes of incision, and more than 60 minutes before incision.

Among nearly 32,500 patients in Veterans Affairs Hospitals, researchers found a significant association between choice of antibiotic and SSIs in orthopedic and colorectal patients, but none between SSIs and prophylactic antibiotic timing.

—*Hawn M T, Richman J S, Vick C, et al. JAMA Surg. Published online ahead of print March 20, 2013.*

Intuitive Surgical faces lawsuits on da Vinci training

At least 10 lawsuits have been filed against Intuitive Surgical Inc, Sunnyvale, California, which is alleged to have put patients at risk by not providing adequate surgeon training on its da Vinci surgical robot.

In one lawsuit brought by the wife of a patient who died after robotic surgery, the surgeon had never used the da Vinci without supervision.

Legal depositions show that sales representatives were often in the OR to advise newly trained surgeons who were having technical difficulties with the robot.

Salesmen lobbied hospitals to scale back training for surgeons to speed use of the robots, according to internal company e-mails introduced in the lawsuits.

—*www.bloomberg.com/news/2013-03-21/intuitive-robot-surgery-training-seen-lacking-in-lawsuits.html*
—*www.nytimes.com/2013/03/26/health/salesmen-in-the-surgical-suite.html?emc=eta1&_r=0*

Poor supervision tied to anesthesia errors

Anesthesiology residents who reported a greater incidence of errors with negative patient consequences also reported poorer supervision by faculty, a survey finds.

Of more than 600 residents responding, 7.5% said they performed procedures for which they were not properly trained, 4% reported making mistakes with negative patient consequences, and 3% noted multiple medication errors in the past year.

Supervision scores were inversely correlated with the frequency of errors.

—*De Oliveira G S, Rahmani, R, Fitzgerald P C, Anesth Analg. April 2013;116:892-897.*