Ebola surgical protocols enhance safety of patients and personnel

In the months since Ebola patients were first treated in US hospitals, much progress has been made in establishing protocols to protect patients and healthcare workers from harm.

Though the number of Ebola patients in the US remains small compared with the thousands in African countries, the disease continues to claim lives. At press time, four Americans who may have been exposed to the Ebola virus in Sierra Leone were under observation at Nebraska Medicine in Omaha, and one who had contracted Ebola was being treated at the National Institutes of Health Clinical Center in Bethesda, Maryland. According to the Centers for Disease Control and Prevention (CDC), state health officials have identified and designated 54 hospitals as Ebola treatment centers. These centers supplement the three national biocontainment centers at Nebraska Medicine, Emory University Hospital in Atlanta, and the National Institutes of Health.

In addition to the designated treatment centers, the CDC has been working with state and local public health officials to identify Ebola assessment hospitals for those individuals being actively

Continued on page 7

Best business practices shared during annual conference

Some 300 surgical services leaders from across the US gathered in Orlando in February for the OR Business Management Conference to escape from winter and absorb the collective wisdom of a stellar group of presenters and exhibitors.

Presentations on Lean management, scheduling innovations, staff relationships, nurse education, and cost-saving measures—to name some—gave attendees tools and techniques to take back to their facilities. Numerous exhibitors showcased their latest products and services, and informal social events provided valuable networking opportunities.

“It was one of the best conferences I have been to—extremely informative,” said Christopher A. DuBay, CST, BAS, perioperative business manager at McLaren Port Huron Hospital in Port Huron, Michigan.

During a preconference workshop, Andi Dewes, BSN, RN, director of clinical solutions at

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Editorial

Every perioperative services staff member, at every level, contributes to the success or failure of the department. Exceptional leaders understand this, and they are most successful when they discourage intimidation and invite everyone to take ownership of their roles.

Teamwork in the OR is the next frontier in quality perioperative care, according to David A. Wyatt, MA, BSN, RN, CNOR, who received AORN’s 2015 Award for Excellence in Perioperative Nursing. Wyatt is associate operating officer, perioperative services, and associate nursing officer, surgery patient care center, at Vanderbilt University in Nashville, Tennessee.

At the recent AORN Surgical Conference & Expo, Wyatt recalled watching the perioperative services team swing into action when a 19-year-old trauma patient was admitted: “It was very calm, very rehearsed, and people understood very clearly what their roles were,” he said.

The surgery went well, and later—when the patient returned for a non-emergent procedure—one nurse insisted on bathing the patient after surgery even though it meant delaying the next case. Because of everything the patient and the family had experienced, this nurse understood the value of such a gesture, and she was willing to stand up to the surgeon whose schedule was affected, Wyatt said.

During AORN’s General Education session, Mike Abrashoff, former commander of the USS Benfold, explained how he turned a low-performing crew into a model for other naval teams to emulate. By getting to know everyone on the ship, actively soliciting their ideas, and being open to change, Abrashoff engaged every crew member.

“At the end of the day, it all comes down to how well we work together,” he said. “We are all captains of our own ship.”

Involving the entire team is also key to the success of new models of patient care. For example, staff at Nebraska Medicine in Omaha have collaborated to develop surgical protocols for patients under investigation (PUI) for Ebola (cover story).

“It took a lot of work for the OR team to set up these processes and procedures, but there now is a high level of confidence among the staff that they are prepared to perform a surgical procedure on a PUI if need be,” notes Shelly Schwedhelm, MSN, RN, executive director, emergency preparedness and infection prevention at Nebraska Medicine.

In the same vein, implementing a perioperative surgical home requires the commitment of everyone from top leaders to therapists and case managers (p 15). “Everybody has to work together as a group, and everybody has to have a very clear mission,” says Zeev Kain, MD, MBA, professor and chair of University of California, Irvine.

Recent research has found that teams that can communicate well, participate equally, and read emotions effectively are “smarter” than those that do not.

“General intelligence, whether in individuals or teams, is especially crucial for explaining who will do best in novel situations or ones that require learning and adaptation to changing circumstances,” say the authors—conditions that are present every day in the OR.

Reference

Rich Bluni will kick off OR Manager Conference with new spin on ‘engagement’

Many healthcare professionals are all too familiar with the phenomenon of becoming burned out. In the midst of the intense work environment and long hours, they often struggle to remember why they do what they do, and they become disconnected.

When Rich Bluni, RN, LHRM, kicks off this year’s OR Manager Conference, he will emphasize the importance of engagement, prompting OR professionals to reconnect with their passion for healthcare.

The conference, which takes place October 7-9 at the Gaylord Opryland in Nashville, Tennessee, features four tracks, including ambulatory surgery centers, new manager, OR business management, and a masters series, all of which will offer OR professionals a variety of tools and strategies to use in their own facilities.

What makes you tick?
Bluni, Studer Group coach and author of Oh No…Not More of that Fluffy Stuff!, will use humor and his 20 years of healthcare experience to remind OR leaders why the “fluffy stuff,” such as gratitude, is sometimes what is most important in driving engagement and providing quality care.

“It’s very easy to get so focused on the brain and start to slip away from the heart,” he told OR Manager. “A lot of times when people get burned out, they find that it has very little to do with their intellectual process or the ‘what’ or the ‘how,’ and it has everything to do with the ‘why.’”

Engagement starts with you, Bluni says, and with knowing...
your “why”—“Why are you here? Why are you in healthcare? What are you in the OR? Why do you do what you do?” he asks. And once these questions are answered, the results are evident. When people are engaged with their “why,” Bluni says, they:
• are happier
• are easier to teach
• care more
• are better team players
• get better and safer results.

Lead by example
Bluni’s fast-paced experiences as a flight nurse, in the ICU, as an ER manager, and in risk management used up a lot of his energy, and he found himself burned out and dreading his work.

“I sat back and reevaluated, and I became obsessed with trying to learn how to fall back in love with what I did,” he says. “I treated it like relationship counseling—my relationship with being a nurse, my relationship with healthcare—what did I need to do to rehabilitate that? I didn’t want to be a victim, so I decided to do something about it.”

This reexamination led to the practices that Bluni shares today with the organizations and professionals he consults.

“If somebody who’s a leader is feeling disengaged, then everybody that works with them or for them is going to feel disengaged,” he says.

“If you think about a marriage engagement, you’re making a commitment to be present with someone. So when you’re thinking about engagement in an OR setting, that’s probably one of the areas, if not one of the top areas, where you want people to be engaged.”

Effective leadership starts with the leaders themselves, Bluni says. “It sounds cliché, but people say you can’t love anybody unless you love yourself, and you can’t lead anybody if you’re not feeling like a leader,” he points out. “When you fly, they always tell you if the oxygen mask falls, you should first put the oxygen mask on yourself before you put it on somebody who might need help, and if you think about it, that’s counterintuitive to what people in healthcare do.”

Everyone is important
Bluni will also explore the concept of being a “just a.” “People say, ‘I’m just a scrub,’ ‘I’m just a tech,’ ‘I’m just an aide,’ ‘I’m just a float nurse.’ And when people call themselves ‘just a’s,’ they minimize their importance,” he says. “In healthcare, certainly in the OR, there is no such thing as a ‘just a.’”

—Mai Hanoon

For more information about the OR Manager Conference, visit www.ormanagerconference.com.

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Ebola

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monitored who may or may not develop symptoms of Ebola.

The Department of Health and Human Services has made funding available for Ebola preparedness that includes Ebola treatment and assessment hospitals (http://www.grants.gov/view-opportunity.html?oppId=274709).

"Every state is now looking at which hospitals have the infrastructure to serve as Ebola assessment hospitals," Shelly Schwedhelm, MSN, RN, executive director, emergency preparedness and infection prevention at Nebraska Medicine, told OR Manager. Those hospitals will evaluate and care for a patient under investigation (PUI) for a period of time until Ebola is either ruled in or ruled out.

"This can be challenging," she says, "because as soon as someone has symptom onset, it can be another 72 hours before the virus would be at a level in their blood to test positive."

If Ebola is ruled out, the PUI will go home. If Ebola is ruled in, the patient will be transported from the assessment hospital to an Ebola treatment center.

"All of these new protocols, guidelines, treatment centers, and assessment centers have sprung up just in the past several months," says Schwedhelm, a former OR Manager of the Year. "Now managers have to start thinking about what will be next."

What if a patient under investigation to rule out Ebola diagnosis is in need of an emergent surgical procedure?

Surgical protocol

Perioperative leaders need to proactively prepare for a PUI who may need an emergent surgical procedure, says Schwedhelm.

Numerous ethical and clinical considerations must be weighed in order to make a sound decision about whether to proceed with an emergent surgical intervention, she says.

The Nebraska Medicine perioperative services department has developed a process based on the surgical protocol for patients under investigation for Ebola provided by the American College of Surgeons (ACS) (https://www.facs.org/surgeons/ebola/surgical-protocol).

The ACS protocol begins with the following statement: "Elective surgical procedures should not be performed in cases of suspected or confirmed Ebola (EVD). Emergency operations can be considered in cases as defined by the CDC: Persons under investigation, probable cases, and early confirmed cases," and follows with specific training protocols for these aspects:

• preprocedure timeout/checklist
• appropriate levels of personal protective equipment (PPE), levels I, II, III, and surgical drape/equipment protection
• surgical approach

• patient transport and transfer to the OR
• donning and doffing process
• specimen and waste handling.

PUI considerations

Once PUIs are identified, they are quarantined in the emergency department (ED) at Nebraska Medicine. Patients with confirmed Ebola are cared for in the biocontainment unit.

When developing the process for the ED, Schwedhelm says, it was important to have physician and nursing champions from the front lines. Other key individuals include infection preventionists, local health department personnel, facility administrators, and laboratory personnel. Individuals from the OR and radiology also were included.

The team identified a set of three rooms in a side hallway of the ED that could be cordoned off and didn’t impact egress out of the unit or safety.

The patient is isolated in one room for the duration of care, a second room is designated for supplies and specific isolation needs, and the third room is used for trash and equipment, such as an x-ray machine and ECG machine, until the patient is ruled in or ruled out to have Ebola.

The family is provided with a room that is adjacent to the clinical area. The patient’s family is questioned about possible symp-
Continued from page 7

toms or environmental exposure. If no one has any symptoms, the local health department takes over tracking and monitoring of family members.

PPE protocols for a patient under investigation are the same as those used in the biocontainment unit, says infection preventionist Kelly Berg, BSN, RN, CNOR.

They are based on splash risk and include gloves, surgical gown, surgical boots, N95 mask, full face shield, and a hood that covers the neck and head region.

Having a donning and doffing partner in the ED is also important. Both are dressed in full PPE. The donning partner makes sure everyone gets into their PPE correctly. This is done in the clean zone before stepping into the patient’s room.

The doffing partner helps the caregivers take their PPE off after patient care is completed in the designated area.

Preprocedure briefing

If a decision is made that the PUI will need to undergo a surgical procedure, all clinicians who will be involved in the intervention assemble for a preprocedure briefing. This group will include anesthesia personnel, surgeons, OR team members, ED nurses, infection preventionists, perioperative nursing leadership, industrial hygienists, security personnel, transporters, and postoperative care unit (PACU) nurses.

“The goal of the preprocedure briefing is to make sure the entire team understands every step of the process,” says Mark Emodi, MHA, BSN, RN, director of perioperative services.

The briefing begins with the selection of a designated OR for the procedure as it relates to the general flow of the department. Then staff discuss the ability to isolate the room, and whether the room has the facilities for donning and doffing procedures.

The briefing continues with the:

- route and steps staff and security personnel will follow for transport from the ED to the OR
- intraoperative sequence of the procedure as well as sharps handling, which instruments to have available, PPE, specimens, and whether the procedure will be minimally invasive or open
- phase 1 recovery steps and postoperative processing of instruments, linen, and trash
- route and steps to follow for transport back to the ED after surgery.

“After we go over all processes and answer any questions anyone might have, we activate the protocol to transport the patient from the ED to the OR,” says Emodi.

Patient transport

Nebraska Medicine has developed an algorithm for transport of a PUI from the ED to the OR or another department for a diagnostic intervention.

For transport, the patient will be moved directly to the identified OR suite, as are other patients needing a surgical procedure. The difference will be the controlled course and security personnel to control traffic along the route and to escort the patient and transporters from the ED to the OR, says Kim Hayes, BSN, RN, infection preventionist.

Security personnel will also be placed outside each door of the room where the procedure is being done to make sure no one inadvertently walks into the room.

During transport, the security people wear their regular uniforms and then don surgical attire to enter and guard the restricted areas of the OR.

The direct patient care transport personnel wear biocontain-
Patient safety

Intra-operative Considerations

- A trained PPE Donner to inspect clinicians donning PPE procedures
- Remove as much trash and linen possible before the patient enters the OR
- Use minimal instrumentation
- Utilization of blunt needles/instruments
- Avoid hand to hand passage of sharps, consider neutral zone passing
- Surgical methods to reduce the amount of blood loss (MIS)
- Incise patient using cautery vs. scalpel
- Keep instrumentation free from bio-burden during procedure
- Protective face respirator NIOSH-certified (N-95) or higher

Immediate Post-procedure Considerations

- Communicate to team procedure is nearing completion
- Phase 1 recovery to be completed in the OR suite
- Instrument preparation to be completed in OR
  - Back table to soak instrument sets in sterile water
  - Remove gross contamination, below the water line
  - Place instrument in closed container
  - Apply pre-soak enzymatic cleaner
- Contain all contaminated items and place in sterilizer bags
  - Trash, linens, plastic covering, disposable sharps
- OR staff in PPE will perform the initial OR cleaning using a bleach concentration
- Transport autoclave items to the designated area for processing
- Transport patient to receiving unit, reversing the Algorithm

Another deviation from standard is that the case is completely set up and counts completed before the patient enters the room. All trash is removed before the patient enters the room to reduce the waste that has to be autoclaved following the procedure.

Also, the entire OR team is present and donned in PPE before the patient enters the room. The ACS recommends the following intraoperative PPE:

- AAMI level 4 impervious surgical gowns for staff and drapes over the patient
- Leg coverings with full plastic film coating over the fabric, not

Continued on page 10

OR preparation

Before the patient enters the OR, anything in the room that is not absolutely necessary for the procedure is removed, says Emodi. The equipment that must stay in the room is covered with plastic (sidebar, p 8).

“A good step we came up with in the development of our process was to cover the OR bed with plastic underneath the mattresses to prevent any fluid from leaking into the internal workings of the OR table,” he says.

In addition, a table is set up with basins of water, enzymatic cleaners, and a rinse basin for cleaning the instruments. Furthermore, the staff in full PPE will use autoclave bags for processing trash and linens generated by the case.

Suction canisters are prefilled with a neutralizing agent, and, Emodi notes, they should not be filled with more than 500 mL of blood or body fluids during the procedure. Additionally, the fluid generated during instrument decontamination would follow the same process and limitations as fluid from the surgical field. Based on experience at the Nebraska biocontainment unit, that is the maximum quantity for successful sterilization.
just over the foot area
• strong consideration for a surgical helmet with an integrated AAMI level 4 gown or a long full plastic face shield that comes down over the neck
• fluid-resistant surgical mask (eg, N95 mask)
• double gloves, with extra long surgical gloves as the outer layer
• cape-style, fluid-impervious hoods (place hood on prior to gown placement to allow for full neck coverage).

**Intraoperative considerations**

Depending on the surgical procedure, the team will want to limit the sharps they use and limit the hand-to-hand passing of sharp instruments by using a basin or neutral zone, says Emodi (sidebar, p 9). He notes that the ACS recommends performing procedures minimally invasively.

“Even though it will expose our instrumentation to a substantial risk, the blood loss and risk of getting splattered would be lessened by using a minimally invasive approach,” he says.

Other ACS recommendations include:
• using instruments, rather than fingers, to grasp needles, retract tissue, and load/unload needles and scalpels
• using alternative cutting methods such as blunt electrocautery
• using round-tipped instead of sharp-tipped scalpel blades
• using blunt-tip suture needles when possible
• no needles or sharps on the Mayo stand
• no recapping of needles.

Considerations from the anesthesiologist’s perspective include using IV sedation, narcotics, and muscle relaxants throughout the procedure. Instead of an anesthesia gas machine, the anesthesiologist uses a ventilator that can be sequestered until the patient is determined to be positive or negative for Ebola.

A respiratory therapist will assist with the ventilator during the procedure and during recovery.

The protocols for decontamination of a ventilator have already been written for the biocontainment unit, says Hayes. Some parts can be autoclaved, and the rest can be decontaminated following the standard protocols.

During the procedure, runners are assigned at each OR entrance to get any needed instruments or supplies that are not in the room. The runners wear gloves and place the items into a basin held by the circulating nurse.

Any specimens are kept moist until the end of the case.

“We have a special process developed to transfer specimens to the laboratory,” says Morgan Shradar, BSN, RN, OR lead nurse and biocontainment unit nurse. The specimens stay in formalin for 24 hours before they are processed.

Once a specimen is collected during the case, the circulating nurse double-bags the specimen container, wipes it down with bleach wipes at each step, and hands it to the laboratory staff member for direct transport to the processing center.

“We have the luxury of having a public health lab here at Nebraska Medicine, which is where they process a majority of the specimens,” says Hayes.

**Postoperative procedures**

A PACU nurse dons PPE and recovers the patient in the OR (sidebar, p 9). While the patient is being recovered, the OR team cleans the gross bioburden off the instruments in basins of water and bags all linens and supplies that were used or not used. Once the patient is stable, the PACU nurse notifies the ED that the patient will be returning.

All of the security is again put in place to protect the patient’s route back to the ED and to protect the route the instruments and trash bags will take to the biocontainment unit to be sterilized.

An autoclave that reprocesses reusable medical devices cannot be used to sterilize instruments, linen, and waste that may have been in contact with the Ebola virus.

The instruments are treated with a presoak enzymatic cleaner, placed in closed containers, and then placed in a case cart, which is wiped down with bleach. The trash bags are also wiped down with bleach and put into a plastic cart, which is also wiped down with bleach. The staff transporting the instruments and trash are dressed in appropriate PPE for the designated area.

Staff in the biocontainment unit are alerted and will be waiting to receive the instruments and trash bags. Donning the appropriate...
PPE, the staff designated to process the instruments and waste will receive the items and begin the terminal sterilization. When the patient leaves, the OR team does the initial decontamination of the room, and then they doff in the OR doffing area and shower in the locker room.

The used OR will be sequestered for 48 hours to allow the virus to desiccate on its own, which is the same protocol used in the biocontainment unit. Then the staff will clean the furniture and equipment with bleach, and the OR will have ultraviolet light treatment for 8 hours. The room is terminally cleaned before being put back into service.

“It took a lot of work for the OR team to set up these processes and procedures,” says Schwedhelm, “but there now is a high level of confidence among the staff that they are prepared to perform a surgical procedure on a PUI if need be.”

—Judith M. Mathias, MA, RN

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Vital Statistics
Our Annual Salary/Career Surveys for OR managers and ambulatory surgery centers have been e-mailed, and we are eager to see the responses. If you are a survey recipient, please take a few moments to complete and return the survey. Your comments will provide a snapshot of the state of the industry. Look for results to be published in the fall 2015 issues of OR Manager.
Surgical Information Systems, Alpharetta, Georgia, and Amy Smith, MSN, RN, NEA-BC, president, Accelerate Healthcare Management, discussed ways to optimize scheduling and ensure patient safety. They also explained how new trends like the perioperative surgical home will change healthcare delivery (see p 15 and March OR Manager cover story).

Other provocative topics were addressed during the general sessions, summarized below.

**Anticipating the future**

Keith Siddel, PhDc, JD, MBA, CHC, opened the conference with an engaging look at the state of the business. Siddel, a healthcare attorney based in Monterey, California, explained how the Affordable Care Act (ACA) has affected the bottom line for hospitals and ambulatory surgery centers alike.

“The ACA has solved some problems while creating some unintended consequences,” Siddel said. The rate of uninsured patients has dropped by 5% over the past year, he noted, but with deductibles as high as $6,000, many patients are skipping preventative or recommended care that could keep them healthier.

Between 2009 and 2014, according to Siddel, the mix of employer-offered health plans has shifted; PPO plans went down 16% and HMOs 29%, while high-deductible plans went up 225%. Within a few years, he predicted, high-deductible plans will be the only option available to employees.

The Centers for Medicare & Medicaid (CMS), he said, plans to continue reducing reimbursement based on volume of services provided.

“They’re shifting 30% of reimbursement to quality or value through alternative payment plans. By the end of 2018, CMS hopes to have 50% of all payments to healthcare providers linked to something other than quantity.”

Changes in technology are exciting but in some ways also concerning to our current business model. “In 2013-2014, more money was invested in tech startups in healthcare than in any previous year,” Siddel said. “This will change the way we do business.”

The increasing prevalence of sensors, diagnostic apps available on smartphones, and remote ac-
cess to physicians, for example, will allow patients to get much of their healthcare at home.

“More than 80% of all medical conditions that take people to the emergency room can be treated through a smartphone app,” Siddel said.

The physician can diagnose the patient and call in a prescription, and the information is entered into the electronic medical record. The patient receives a satisfaction survey, and if the patient is unhappy with the doctor, another doctor calls back immediately and has another conversation. “This is a model that will appeal to a lot of people,” he said.

A new book by Eric Topol, The Patient Will See You Now, predicts that today’s hospitals will eventually be extinct, Siddel added.

“The hospital bed of the future will be in your home, the biosensors will monitor your vital signs, smartphones will analyze them and transmit the data, smart pill boxes will track whether you’ve taken your medication, and there will even be a smart floor to determine what your gait is,” he said.

At some point, Siddel believes, hospitals will become intensive care units; patients will come there only when they can’t get care anywhere else.

Meanwhile, he noted, to avoid the high costs in the US, some patients are flocking to places like Dubai for their healthcare.

Ashley Furniture, for example, has a medical travel company and a global network of 28 centers of excellence in eight countries where medical care is offered, he said. Ashley employees who get medical care outside of the US have no deductible, no copay, and no coinsurance, and they are paid $5,000.

In addition, their spouses are sent for up to 17 days to stay in a four-star hotel, and they are provided with transportation, 24-hour nurse case management, and a travel coordinator.

“This is changing the way we think about healthcare,” Siddel said.

So what can healthcare leaders do to ensure their businesses will continue to thrive?

Siddel offered these suggestions:

• complete a market analysis to understand who your competitors are
• build reimbursement models for all your payers
• analyze your service lines
• evaluate denials and payments
• examine your operational costs
• identify all compliance risks
• scrutinize your charge structure—know what you’re billing, how you’re billing, and how it fits within the market and impacts your reimbursement.

“The OR is the engine of the healthcare institution,” he said. “If you and your departments aren’t successful, the hospital won’t be.”

Removing generational barriers

During a lunch presentation, Mary Jane Edwards, RN, CNOR, FACHE, director, Deloitte Consulting LLP, McLean, Virginia, debunked some myths about generational stereotypes of Baby Boomers, Generation X, and Generation Y.

Noting that definitions of generations tend to vary, Edwards categorized them as follows: Baby Boomers, those born between 1943 and 1964; Generation X, those born from 1965 to 1980; and Generation Y, also known as Millennials, those born between 1981 and 2001.

As of 2012, almost 21% of the US workforce was 55 years old or older, Edwards said. Some popular literature projects that, by 2025, Millennials will make up 75% of the workforce; however, the Bureau of Labor Statistics estimates that number as just 44%. Thus, the notion that Baby Boomers will be completely displaced by Millennials in the next 10 years is misguided, Edwards says.

Still, there is a need to understand what’s important to the different age groups and to recognize there are some common threads. For example, challenging work is something equally valued by Baby Boomers and Millennials.

Furthermore, she said, a recent survey spanning all generations found that one in three employees lacked allegiance to their organization and planned to leave within 2 years, 40% said they felt trapped, and just 25% said they were truly loyal to the organization and intended to stay for the long term.

The top reasons to stay with an organization were:
• interesting, challenging work
• a chance to learn and grow
• great people
• fair pay
• a great boss.

“You need to consider these factors as you evaluate what is important to your team members,” Edwards said.

She urged attendees to examine whether they harbor generational bias. “Ageism,” she explained, “is a system of stereotypes, policies, norms, and behaviors that discriminate against, restrict, and
dehumanize people because of their age.” Successfully managing across generations in the workplace, according to Edwards, requires leaders to reflect on whether ageism influences their decisions.

“Evaluate your own communication style and how you transmit your feelings to team members,” she cautioned. “Regardless of their age and generation, you need to respect each person as an individual.”

Maintaining balance and civility

The physical and psychological problems caused by stress take a huge toll on healthcare workers and cost organizations billions of dollars annually, according to Susan Bailey, BSN, RN, CNML, CNOR, clinical director, perioperative services, and medical center laser safety officer, Kaiser Permanente Baldwin Park Medical Center, Baldwin Park, California.

“It’s important to become self-aware of how stress is affecting you as an individual,” Bailey said, because it affects your behavior in the workplace and your immunity.

In her presentation on stress and resiliency, Bailey said that some of the things that help to create hardness are commitment, control, and challenge.

Earlier in her career as a trauma nurse, Bailey said, she didn’t realize the toll that a highly stressful work environment was taking on her body. Over time, she began seeking ways to counteract the adverse physiological effects of stress. Proper breathing, for example, is a simple but highly effective remedy for decreasing stress and tension.

As an OR leader, Bailey encourages her staff to decompress. She recently implemented “instant recess,” during which staff might do a dance or have a short chair yoga session.

“It’s a way to get out of the norm and get rid of stress. Little things like that really do help your staff,” she said. “It’s just amazing.”

Another source of stress and tension that’s less easily remedied is a hostile work environment. Kathleen Daw, BSN, RN, ADN, CNOR, assistant department administrator for perioperative services, KPOC, Irvine Medical Center, Irvine, California, has done extensive research on this topic.

In her presentation, Daw cited some sobering statistics from the American Nurses Association: 48% of nurses and other staff report that they have experienced strong verbal abuse, 53% of student nurses have been put down by staff nurses, and 93% of nurses have witnessed lateral hostility in the workplace.

Examples of bullying include eye rolling, snide remarks, abruptness, failure to respect privacy, broken confidences, and withholding patient or practice information.

According to a research study published in the 2011 issue of the Journal of Nursing Administration, she said, 85% of nurses have experienced hostility, and of those, 19% said they would leave their position while 20.5% said they were considering leaving—adding up to nearly 40% of those polled.

The Joint Commission has called upon healthcare leaders to recognize and correct disruptive behavior, be aware of staff and their ability to manage stress, and give them the resources and tools to develop stress management strategies.

Solutions, Daw said, include education, leadership training, having an open door policy, and having a zero tolerance policy.

“The hardest part of all this is implementation,” Daw said. She suggested including some training during new employee orientation, providing all-staff inservice on lateral hostility and the code of conduct, having support from human resources and the nurse quality council, conducting one-on-one rounding, using survey tools for feedback, and having an employee assistance program.

“As collaboration and teamwork decline, patients are at a much higher risk for near misses or even sentinel events,” Daw noted. “Intimidation will decrease the culture of safety in an operating room, in a department, or even in an entire organization if it’s not dealt with.”

Looking ahead

Next year’s OR Business Management Conference will be held February 22-24, 2016, in Phoenix. Anyone wishing to present at the conference is invited to submit a proposal by May 1, 2015.

For more information, please contact Elizabeth Wood at ewood@accessintel.com or Elana Lilienfeld at elilienfeld@accessintel.com.”

—Elizabeth Wood
Part 1 of this two-part series, published in the March issue of OR Manager, discussed the perioperative surgical home (PSH) concept. In this article, healthcare providers who are in the planning stages of a PSH as well as those with several years of experience with using this model of care will share their recommendations. The goal is to provide helpful insights no matter where the nurse leader is in launching a PSH.

Team effort

Creating a PSH has to be a team effort, according to Zeev Kain, MD, MBA, professor and chair at University of California, Irvine (UCI). Dr Kain is in charge of the PSH at UCI, one of the first in the nation to demonstrate the effectiveness of the concept.

“We had literally hundreds of people involved in this,” he says. At UC Irvine Health, the clinical, medical education, and research enterprises of UCI, the PSH was first implemented with patients undergoing joint replacement surgery and later extended to other surgical lines such as spine surgery, cystectomy, and nephrectomy.

Weekly meetings were held with multiple teams of stakeholders, including nutritionists, case managers, information technology staff, physical therapy, occupational therapy, nurses, surgeons, anesthesiologists, and many others. An important part was helping people through the change process.

“The most difficult part of building a surgical home is not the processes you have to implement, it’s the change,” Dr Kain says. He recommends reading about the eight stages of change outlined in John Kotter’s book, Our Iceberg Is Melting.

He also encourages leaders to involve all stakeholders and reach out to existing resources such as staff in the quality and decision support departments.

“This is a group sport,” he says. “It has to include everybody, and everybody has to work together as a group, and everybody has to have a very clear mission. If there is just one group of people who believe in this, it’s not going to happen.”

Of course, the team needs to have leadership. In the case of Advocate Lutheran in Chicago, where the PSH is in the planning stage, there is a team of leaders: David Young, MD, an anesthesiologist and medical director of presurgical testing at Advocate Lutheran and a partner in Surgical Directions, a consulting firm in Chicago; Mary Kay Bissing, DO, chair of the anesthesia department and primary project champion; Cindy Mayhal-Van Brenk, RN, OR director; and Fleurette Kiokemeister, RN, project manager. “We collaborate with other team members to optimize the patient experience,” Dr Young says.

The team has to incorporate the key elements of the PSH into the perioperative, intraoperative, and postoperative phases (sidebar, p 16). Exploring these processes often reveals a wealth of opportunity.

“One we took the lid off and thought about how we could reorganize to make the surgery experience more patient centered, there was this whole host of things we could do,” says Kayser Enneking, MD, professor of anesthesiology, who heads up the PSH effort at UF Health Shands, Gainesville, Florida, with Diane Skorupski, MS, RN, NE-BC, CNOR, associate vice president of perioperative services. The PSH pilot there began in earnest 2 years ago.

Preoperative planning

The decision point for surgery on the part of both the surgeon and the patient marks the start of the PSH. Once the decision is made, patients need to be evaluated for surgery, but what sets the PSH apart from standard models of care is a focus on what Dr Kain refers to as “optimizing” the patient for surgery rather than just clearing the patient for surgery.

“It’s not just semantics, it’s a conceptual difference,” he says. For example, if a patient scheduled to undergo spine surgery had a hemoglobin of 9 g/dL 4 weeks before surgery, Dr Kain says, typically a blood transfusion would be ordered. “But a blood transfusion leads to increased costs,” he notes. “Wouldn’t it make more sense to treat the patient’s anemia first?”

Traditionally, patients visit a preoperative clinic before surgery, but Dr Kain calls the approach wasteful. “Healthy patients who are having a simple surgery may not need to be seen in the preoperative clinic,” he says.

At Advocate Lutheran, Dr Young says that, in addition to medical comorbidities, the plan is to assess the patients’ nutritional status. “We want to get a snap-
shot of where the patient is as far as their overall health,” he says. Having early preoperative contact with the patient is key.

For instance, patients undergoing ileostomy procedures often are readmitted because of dehydration from fluid loss. To prevent readmission, those patients will now have a peripherally inserted central catheter placed before surgery so they can go home and receive IV fluids after discharge.

At the University of Alabama at Birmingham (UAB), another organization that has been a leader in the PSH, most surgical patients are evaluated in the preoperative assessment and treatment clinic, which is staffed by anesthesiologists, nurse practitioners (NPs), and residents.

“We try to identify medical problems that may need to be improved, if possible, before the procedure so we can improve patient outcomes,” says Arthur Boudreaux, MD, professor and vice chair of the department of anesthesiology at the UAB School of Medicine and former chief of staff for UAB Medicine, who refers to the process of prehabilitation.

Based on literature review, UAB has developed algorithms to determine what preoperative tests are needed, such as an electrocardiogram (ECG) or electrolyte panel, which helps eliminate unnecessary testing. The algorithms also help guide medical preparation, for example, how to manage antiplatelet drugs in patients with drug-eluting stents.

Results of the evaluation may sometimes mean putting off surgery. “A patient may have been scheduled in the surgeon’s block time, but it might be better to move the patient 2 weeks later so that nutritional deficits can be corrected,” Dr Boudreaux says. The clinic staff collaborate with the surgeon to make the decision.

Another advantage of the clinic is that patients don’t need to go to multiple departments for tasks such as completing financial forms. “We have finance people in our clinics, and all the precertifications, data entry, and other admission paperwork are handled there,” Dr Boudreaux says.


**Key elements of the perioperative surgical home**

Below are the key elements of a perioperative surgical home (PSH), by phase of care. The elements must be linked together into the larger program to truly function as a PSH.

<table>
<thead>
<tr>
<th>Preoperative</th>
<th>Intraoperative</th>
<th>Postoperative (usually from discharge to 30 days postop)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission through a centralized perioperative area or clinic</td>
<td>Integrated pain management</td>
<td>Integrated pain management</td>
</tr>
<tr>
<td>Early preadmission assessments</td>
<td>Fast-track surgery and discharge home</td>
<td>Early postoperative mobilization by physical therapy and integrated acute care and rehabilitation care</td>
</tr>
<tr>
<td>Centralized systems to gather health and other information about patients before hospital admission</td>
<td>Precise fluid management</td>
<td>Improved coordination of care from postoperative to discharge home</td>
</tr>
<tr>
<td>A triage system to identify which patients need to attend a preadmission clinic or program</td>
<td>OR delay reduction techniques</td>
<td>Improved discharge protocol</td>
</tr>
<tr>
<td>Use of a multidisciplinary team-based clinical care process within the hospital to coordinate complex surgical preparation of patients before surgery</td>
<td>Increased OR efficiency through improved OR flow</td>
<td>Increased patient and caretaker education concerning postdischarge care</td>
</tr>
<tr>
<td></td>
<td>Scheduling initiatives to reduce cancellations and increase efficiency</td>
<td></td>
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</tbody>
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The PSH places more emphasis on identifying high-risk patients. Without an integrated approach, “we really fail on identifying patients at high risk,” Dr Kain says. He recommends using the American College of Surgeons National Surgical Quality Improvement Program risk calculator.

Dr Enneking and Skorupski say that UF Health Shands uses a grid format to identify at-risk patients. The horizontal lines or “threads” consist of comorbidities and the vertical lines correspond to the complexity of the surgery (low, moderate, or high).

“It’s way to help surgeons organize what they need to do for patients and to help our presurgical clinic,” Dr Enneking says. For example, one of the threads is the patient who is more than 80 years old. If the operation is relatively simple, no testing is required, but if the surgery is more complex, a fraility assessment, nutritional assessment, and ECG would be needed.

Dr Young notes that anticipatory planning includes pain management. “We know that it’s more common today for patients to be on pain meds and antianxiolytics, and we know that those patients have more of a challenge with postoperative pain management,” he says. If these patients can be identified, the anesthesiologist can plan a multimodal therapy approach before surgery to manage pain postoperatively. The plan is for a pain management nurse to see patients preoperatively and develop a pain management plan for the hospital and after discharge.

The PSH approach helps hospitals identify not just medical problems, but social support issues as well. “We can recognize that a joint replacement patient doesn’t have any family support instead of finding out the morning of discharge,” Dr Boudreaux says. The clinic staff can get social services involved before surgery.

“During this preoperative period, you have to start planning the patient’s discharge,” Dr Kain says. For instance, patients receive their planned discharge date so they can arrange for transportation and any durable medical equipment needed after discharge. “You want to create a path for the entire process,” he says.

Postoperative care and postdischarge follow-up
“Postoperative management in the US is really disjointed,” Dr Kain says. “If you take a typical hospital, no two patients having the same surgery will be managed the same way postoperatively.”

Under the PSH, postoperative care focuses on enhanced recovery after surgery (ERAS), a multimodal approach designed to promote early recovery of patients. An integral part of ERAS is pain management.

“We have an active acute care pain management service run by anesthesiologists,” Dr. Boudreaux says, adding that the service includes NPs, fellows, and residents. “We also provide postoperative comanagement of patients with the surgeon for some services such as orthopedic.” He adds that comanagement can also be provided by internists or hospitalists.

Most complications after surgery are medically related ones that can be prevented, according
Quality improvement

to Dr Kain. He says UCI folded the acute pain service staff into the PSH and notes that hospitals might want to consider using physicians on the acute pain service to manage the postoperative phase.

“You first have to extend their training,” he says, citing examples of how to manage medical conditions and pacemakers. Four NPs and a fellow in orthopedic medicine round on patients to monitor progress. He says clinical pathways are built such that the default decision is to do something. For example, nurses know when patients should first get out of bed and don’t have to wait for a physician order.

This phase also includes early removal of drains and catheters, multimodal sedation, early ambulation, nutritional needs, and discharge readiness protocols.

One of the major differences between a PSH and standard care comes after the patient leaves the hospital. Follow-up typically occurs through at least 30 days and includes an individualized recovery pathway.

UC Irvine Health uses what they call a “handshake” to improve coordination of care. “We call the primary care provider and send a perioperative summary that is much more functional based, not just a report on the surgery,” Dr Kain says. That includes a report on the status of comorbidities. Total joint patients are told to call the orthopedic clinic if problems occur after surgery so that staff can guide the patient appropriately.

At UAB, patients currently receive a call, but Dr. Boudreaux says the clinicians are considering adding a dedicated follow-up clinic. He points to medication reconciliation done before surgery as a valuable technique for reducing readmissions and suggests a pharmacist in the clinic can help with accurate medication reconciliation.

At Advocate Lutheran, the plan is to have patients who are discharged to home receive a visit from a home health nurse during the first 24 hours. The nurse will contact the patient’s primary care provider about any needs. The long-term plan is for daily rounding on patients in skilled nursing facilities to better manage care, facilitate discharge, and cut costs.

It’s important to have additional resources in place to ensure patients meet predefined milestones of a particular diagnosis-related group or service line. Milestones include making appointments and assessing whether patients are eating properly and whether their pain is controlled.

**Metrics matter**

Metrics are an integral component of the PSH but not easy to develop. “Metrics are one of the hardest parts of doing process improvement,” Dr Enneking says. As the team develops each part of the PSH, she says, “We look at how the project metrics fit into the overall metrics.”

Dr Young says it’s best to establish metrics early in the process. Advocate Lutheran is tracking turnover time, cost of case, length of stay, 30-day readmissions, patient satisfaction, and surgical site infections.

Skorupski says another example of an effective metric in use at UF Health Shands is preparation defects. “That is an overall metric of how well we have managed the project between the time we decided the patient will have surgery to when the patient arrives in the OR,” she says.

At UAB, a web-based internal dashboard gives real-time feedback on a daily basis, Dr Boudreaux says. And at UCI, physicians and NPs use the dashboard to identify which patients they need to round on.

A robust quality improvement program that incorporates tools such as Lean and Six Sigma helps keep the program on track. “Any improvement program that teaches you about pathways and reducing variability is good,” Dr Kain says.

**Putting the patient in the center**

The PSH is “a way for patients to get what they’re supposed to get based on evidence-based practices, patient safety events are minimized, hospital-acquired infections are minimized, and patients are satisfied and have an experience that meets expectations,” Dr Boudreaux says.

Perhaps the American Society of Anesthesiologists website sums it up best: “Each patient will receive the right care, at the right place, and the right time.”

Cynthia Saver, MS, RN, is president of CLS Development, Inc., Columbia, Maryland, which provides editorial services to healthcare publications.

**Reference**


Diane Skorupski and David Young will be presenters at the OR Manager Conference, October 7-9, in Nashville. Visit www.ormanagerconference.com.
The changing healthcare environment is forcing physicians and hospitals to find new ways of working together to achieve top performance. As payers move to value-based purchasing and providers raise the bar on quality, efficiency, and cost savings, a sustainable model that drives results is essential.

One effective physician–hospital model built around integration, alignment, and engagement of physicians is a comanagement agreement (sidebar, p 21).

A growing number of hospitals are entering into these arrangements with physician groups to manage key service lines. Lutheran Medical Center in Wheat Ridge, Colorado, entered into a comanagement agreement with their general surgeons 4 years ago. Lutheran is a 338-bed hospital with 11 ORs and six major service lines. The three largest are general surgery, orthopedics, and gynecology. The general surgery group is composed of 14 partners and 24 surgeons.

Implementing a successful comanagement agreement requires a lot of effort and collaboration, and sustaining it year over year can be challenging, but the improvements achieved at Lutheran attest to the value of this type of structure.

What and why?
What is a comanagement agreement, and why have one?

Deborah Hedrick, MA, RN, NEA-BC, director of perioperative and women’s services at Lutheran, defines a comanagement agreement as: “a legal document between a physician group and a hospital or healthcare system that will engage physicians in improving quality of care, processes, and efficiencies, and help to develop strategies for the betterment of a service line.”

Comanagement agreements can be structured differently, from a simple contract to the formation of a limited liability company (LLC).

At Lutheran, they chose the simplest model, contracting directly with the surgical group. “That eliminated the need for the surgeons to form an LLC, which meant minimal financial investment for the group. It also allowed them to remain independent and assume an increased role in the hospital’s quality service and financial departments,” Hedrick says.

Among the reasons why Hedrick says a comanagement agreement is good for the OR:
• The physicians will become more actively involved in seeking improvement and striving for excellence for their service line and the hospital.
• It helps develop collaboration with the physician group selected and establishes trust and buy-in with that group.
• It improves communication and processes within the OR and on the surgical unit.

In 2010, before the comanagement agreement was implemented, Hedrick says there was little trust between the surgeons and hospital administration.

Lutheran was engaging with a larger healthcare system, and she became the new director of perioperative services, replacing a 30-year veteran. Those changes had a huge impact on the “fear factor,” she says. “The staff and physicians were used to the retiring OR director and her style, and they didn’t know what I or the new healthcare system would ask of them or what changes were going to come.”

By 2011, reimbursement and volume were decreasing while competition was increasing. A major orthopedic group left the hospital and built a specialty hospital nearby.

“We knew we needed our surgeons to help us improve,” Hedrick says. The OR committee believed a comanagement agreement would help build trust and develop stronger relationships among the surgeons, OR leaders, and hospital administrators.

Partners, benefits
Once the decision was made to develop a comanagement agreement, qualified physician partners had to be identified. They had to share common goals with OR and hospital leaders, and the partnering relationship had to be validated.

The general surgery group already had leadership roles on the medical executive, credentialing, and tumor board committees, and they were very willing to take on additional roles for other committees, says Hedrick. “They wanted to increase the quality of care of their patients and were very willing to go over outcomes data and help make decisions,” she says.

Benefits of the comanagement agreement were thoroughly discussed with all parties. Among the benefits for the hospital:
• Physicians will be engaged in service line challenges and opportunities.
• If structured properly, the comanagement agreement will
result in a positive return on investment.
• Physicians will be available to address hospital quality, service growth, and efficiencies.
• Legal risks are low.

Benefits for the physicians included:
• They will have an increased voice in improving their service line, from the preoperative areas to the postoperative surgical unit.
• They will be compensated for their time invested and their quality achievements.
• Improved operations will increase their effectiveness and enhance the patient’s experience.
• Legal risks are low.

Next steps
A working group was formed to develop the comanagement agreement, quality and service metrics, and a structure to meet those metrics and measure results.

In addition, an independent consultant was hired to assist with the initial agreement. Hedrick recommends keeping the consultant until the agreement is signed by all parties to help mediate the “rough spots” that will occur, especially when trying to reach agreement on the metrics.

**Developing the agreement.** To ensure compliance with Department of Health and Human Services Office of Inspector General requirements, Hedrick says to ask the following questions:
• Does the arrangement meet the needs of the hospital other than for referrals?
• Are the physician hours reasonable for the services rendered? Hedrick says they decided on 216 hours a month.
• Is the compensation structure reasonable for the services rendered? Do a fair market analysis to find out, she says.
• Are the tasks outlined in that agreement consistent with industry practice?
• Is there formal oversight over the agreement to confirm that services are being provided?

That is one of the glitches that happens with comanagement agreements, says Hedrick. No one has any oversight.

**Developing quality metrics.** “When developing quality metrics, you have to first lay the groundwork,” says Jill McCormick, MHSA, project manager, performance improvement, Lutheran Medical Center. “Trust in data is key,” says McCormick. “We laid the groundwork by providing data that were meaningful, not just data to collect data.”

Next, the working group iden-
was instrumental in implementing processes and improving scores. All of the committee members met monthly for the first year and quarterly thereafter. “We felt some of the monthly reporting that came out of them was redundant,” says Hedrick.

The hospital chief executive officer (CEO), chief operating officer (COO), and vice president for business development and strategy attend the strategic advisory committee meetings to discuss capital equipment requests as well as overall hospital and OR financial data.

Discussions in the OR committee focus on topics such as staffing patterns, OR utilization, new technologies, procedures and equipment, OR start times, and turnovers.

Supply committee members look at utilization of supplies and equipment and review supply preference cards. They also identify opportunities to standardize supplies for specific surgical procedures.

The surgical service line committee is unique, says Hedrick, in that it also gives her oversight of the postoperative surgical unit. This group focuses on patient satisfaction, length of stay, and developing pathways for the general surgery patients.

Committee accomplishments
The OR committee saw an increase in outpatient satisfaction scores from 83.4% to 99% after recommending a change in venue for discussions between surgeons and family members after a case. Previously, those discussions took place in the family waiting area. Moving them to consult rooms has given the families more privacy.

Turnover times were around 40 minutes. To lower this, the OR committee recommended that the RN stay and turn over the room instead of accompanying the patient to the postanesthesia care unit (PACU). The surgical assistant (SA) would go with the patient instead. There was pushback from the SAs, but the surgeons, who have an excellent relationship with the SAs, backed the committee recommendation. Turnover time is now down to 33 minutes.

The loss of a large part of their orthopedic business reduced OR utilization to 40%. The OR committee recommended shutting down rooms on Mondays and Fridays, which increased the overall suite utilization to 60%.

Much of the work was accomplished through the surgical service line committee. As the comanagement contract moved into the second year, care paths were implemented. Laparoscopic appendectomy was the first care path. Financial analysts from administration were brought in to present data to the committee on fixed costs, variable costs, and overall costs of the case. With these data, the committee found big opportunities for standardization but then decided cost accounting data weren’t the best type to use.

Instead, following the OR business manager’s recommendation, the committee focused on preference cards and which items did not need to be opened for each case. “The committee members saw first hand what equipment other surgeons were using and the costs of different types of equipment,” says McCormick. As a result, supply costs per case decreased $271. Salary expense per case also decreased $45 (sidebar, p 23).
Comanagement challenges

“Dealing with physicians can be challenging,” says Bryan Baer, MD, general surgeon and medical director of surgical services at Lutheran Medical Center. “There are egos, and there are patterns that are pretty well set that will become issues when you try to get them to change,” he says.

Development of an agreement has to be done step by step. “We had to start with building a team that we were comfortable with. Then we went on to building our metrics and deciding how to implement them, how to get everyone on board, how to follow up, and how to deal with physicians who were outliers,” says Dr. Baer.

Key to success is a lead physician who is respected by the staff and administration. Dr. Baer, who was the lead physician involved in Lutheran’s comanagement agreement, says it was easy for him to get buy-in on changes from his general surgery partners, but it was more difficult to persuade surgeons from other units and other staff. Face-to-face discussions helped.

Once the team was put together, they had to decide how meetings would be set up and who would go to them. “We had enough variable interest in our group that it was easy to assign a physician who had interest in materials management or perioperative services or strategic planning, but it was not so easy to make sure they were given the time to attend the meetings,” says Dr. Baer.

In the beginning, Dr. Baer was the cochair of each committee with Hedrick, but the time commitment was burdensome. The cochairmanship was then divided up among the physicians on the committees.

Having an agenda that was attainable in a 1-hour meeting was also a challenge. “We often had so much work to do, we couldn’t get it done in that 1 hour,” he says.

Physicians were given assignments to bring to the next meeting, but the assignments weren’t getting done and they would be put off for another month. Another problem was underestimating how long it would take to complete the assignments.

Dr. Baer says they found it helpful to remind physicians via phone calls or e-mail.

During meetings, sometimes robust discussions would sidetrack the agenda. “You need someone who is leading those meetings who will control those discussions and keep them to 10 minutes,” he says.

Once assignments were completed and changes were made, the next challenge was how to disseminate the information. Initially, physicians were supposed to communicate the information to their departments. “We found early on that multiple venues were needed, such as posters, face-to-face discussions, attending department meetings, and then having department chairs discuss the changes with their colleagues,” says Dr. Baer.

Finally, there was the challenge of how to deal with outliers. “You try to be flexible,” says Dr. Baer. “You know there will be issues when physicians don’t agree with the process. You have to show them the data. Usually, once they see their colleagues changing their processes, they will jump on board because they don’t want to be left behind,” he says.

Going forward

Hedrick says they are now working on their fourth-year comanagement agreement, but they have new legal council. When they submitted the agreement for approval, it was returned to them because it was deemed too expensive.

“We want to keep this agreement because it has been so beneficial, and our relationships are so meaningful,” she says. “So, we are back to the drawing board.”

—Judith M. Mathias, MA, RN

Reference

Streamline selection and stocking to make supplies available and affordable

There are two ways to approach supply cost reduction. One is to minimize direct supply costs by optimizing product selection, controlling utilization, reducing waste, and negotiating more favorable prices. The other is to attack indirect supply costs driven by high inventories—the excess holding and labor costs associated with excessive supply stocks.

The only way to reduce inventory holding costs and materials-related labor costs is to streamline your supply management processes. That means reducing supplies on hand and improving supply logistics. The overall goal is to ensure the right supplies are available at the right time and at the right cost.

Lay the groundwork

The first step to streamlining your supply chain is to simplify the OR’s underlying supply management infrastructure. This will not only reduce materials on hand, it will set the stage for more efficient supply logistics. Focus on three objectives:

**Standardize products.** The more products you stock, the more you will spend on product, product handling, and staff training. To begin improving supply management efficiency, identify opportunities to combine demand for like products into a smaller number of items.

For example, disposable laparoscopic supplies often are purchased from three different vendors. Standardizing trocars, staplers, and other supplies so they can be obtained from just one vendor will simplify the inventory while providing the opportunity to leverage preferred group purchasing organization (GPO) pricing.

The greatest obstacle to product standardization is physician acceptance. An interdisciplinary value analysis committee (VAC) can help.

A strong VAC applies evidence-based analysis and critical thinking to surgical supply decisions. Using a fact-based process, physicians work with others to examine supply alternatives in terms of functional requirements, quality, cost, infection control implications, patient risk, staff education, and financial and reimbursement implications.

Effective VACs allow physicians to take part in supply standardization. The goal is agreement. Selected products do not need to be the cheapest, just as standardized as possible to allow supply chain efficiency.

**Reduce stocking locations.** In many hospitals, the same supply items are stored in the surgical suite, the sterile core, the materials supply room, and central sterile processing. By definition, multiple stocking locations force OR managers to maintain larger inventories. This practice also makes it harder for staff to know how much of a supply is actually on hand, even with the best location file.

Having multiple backup locations may create a perception of safety, but in fact such redundancy makes it easier to lose track of stocks that are running dangerously low.

The best practice is to consolidate stocking locations as much as possible. For example, at a hospital we visited recently, we helped staff consolidate fibrin sealant from four stocking locations to one.

In general, room inventories should include only a minimal stock of urgent/emergent supplies, such as suture, dressing, tape, and other items staff need to access rapidly. Specialty suites can also include high-demand specialty-specific supplies. Optimal management of holding and labor costs is stored in the core. If this is not possible, make sure supplies are stored in only one secondary stocking location.

**Establish par levels.** Appropriate par levels ensure an adequate stock is on hand while inventories are kept as low as possible. The par level calculation is based on item utilization, order lead time, and safety stock.

For example, a department uses 15 gowns per day, and it takes 3 days for replacements to arrive after reorder. Materials management and nursing staff agree that appropriate safety stock, based on reasonable usage fluctuation, is 15 gowns. The par level calculation for this item would be:

\[(15 \times 3) + 15 = 60 \text{ units}\]

When inventory on hand is reduced to 60 gowns, it is time to reorder.

You should also calculate a par maximum for each supply item. This is the quantity of inventory that should not be exceeded to prevent increased holding costs.
related to obsolescence, insurance, space, and loss of reinvestment capital. In addition, facilitate reorder accuracy by specifying whether items are ordered individually, by the box, or using another unit of measure.

**Control reorder process**

After you have reduced product types, stocking locations, and stocking levels, the next step is to maintain a lean inventory by controlling the supply reorder process. Barcode and scanner systems are becoming more common in hospital ORs. Weight-based reorder systems are available, but they are expensive and can be vulnerable to human error. One less expensive option is a manual Kanban system.

Kanban (Japanese for “signal”) is a visual inventory reminder system. Each item in a stocking area has a signal card that lists item number, par level, reorder quantity, and other key information (image below). The card is secured to the inventory at the par level minimum. For instance, if the par level for a stapler reload is two boxes, the Kanban card could be fixed with a rubber band to the last two boxes on the shelf. When the picker gets to that card, he or she removes it and places it in a “to be ordered” envelope (image on p 26).

Reorder staff regularly collect Kanban cards from the envelopes. This system significantly reduces time spent checking stocks and reordering products.

One variation on Kanban is the two-bin system. For each item, half of the stock is placed in one bin and half in another. When a bin is empty, the picker places it on a reorder rack, triggering the reorder process. Some hospitals have combined electronic and Kanban systems. Staff use scanners to check and manage stocks, but Kanban cards provide an extra layer of safety.

**Think through logistics**

Staff can pick cases more efficiently if you reduce the number of steps needed to search for inventory. Redesign storage areas with the end user in mind. You may want to begin by creating a current-state map of your OR’s material processes. Analyzing this map can help you develop a more efficient future-state case picking algorithm.

As much as possible, create a picking process that allows for one continuous forward movement, with no need to backtrack or zigzag. Three concepts are helpful:

- **Organize supplies based on picking order.** Stocking locations should be arranged by product category (drapes, disposables, sutures, etc). Within each category, arrange items by service line. For supplies that come in several sizes, organize items from small to large, going from left to right.

- **Structure pick list cards based on supply order.** Pick list cards should list items in the order in which they are stocked in storage areas. Optimally, locator codes are sequential, either numerically or alphabetically.

- **Make labels work for staff.** Shelf labels should include rack, shelf, and bin codes. Item labels should include the item number, product description, vendor name, catalog number, and reorder point (including the par and min/max levels).

- **Make item codes intuitive.** If a sponge comes in sizes 1, 2, and 3, item codes should be, for example, SPG-1, SPG-2, and SPG-3 (not SPG-362, CJ7TX, and U-76HS).

Better supply logistics will not only make picking more efficient, they will make restocking easier and allow staff to locate items quickly in urgent situations.

**Preference cards play key role**

Preference cards can have a significant impact on efficiency. Pick lists are generated from preference cards, so inaccurate preference cards increase the time staff spend picking supplies.

Picking mistakes cause the circulating nurse to spend excessive time outside the OR and can extend case times. The need to return unused supplies to storage incurs additional labor costs. In addition, “artificially low” stocks can trigger unnecessary orders. Staff reorder supplies, not knowing that items will be returned to inventory later that day or the next morning.

Preference cards require standardization and consistent up-
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keep. Audit cards frequently for unused or rarely used items. As part of this process, ask surgeons to review and sign off on their preference cards at least annually.

In addition, create a process for updating preference cards on an ongoing basis. Accurate preference cards improve efficiency and surgeon satisfaction while decreasing patient risk.

Data integrity is important
All the strategies discussed above depend on accurate and usable materials data. In hospitals with a poorly maintained materials management information system (MMIS), several problems can hinder efforts to streamline the supply chain:

Lack of uniform category codes. When category codes are not used consistently, it is difficult to identify product standardization opportunities. Create a uniform and accurate process for applying category codes.

Duplicate items. When the same item is listed in the MMIS under different names and codes, it is hard to analyze utilization and establish accurate par levels. This problem is often worse in large health systems with multiple legacy systems.

The solution is to establish uniform naming and coding conventions for supply items.

In addition, restrict the number of staff members who have the ability to add new supplies to the master table. Create a documented process for entering new supply items, and train staff to use the process correctly.

Discrepancy between information systems. In many hospitals, MMIS item files do not match item names and codes in the electronic medical record (EMR). This leads to errors in case picking and supply reordering. Make sure the EMR file is updated frequently with feeds from the MMIS item file.

Create trust
OR leaders may miss an often overlooked symptom of poor supply chain practices—lack of trust between their staff and materials management. OR staff are not confident that materials management will ensure adequate stocks. Materials staff do not trust the OR to manage supply levels and reorder points effectively.

Creating a streamlined supply system can help erase mistrust and foster cooperation. That will help all perioperative team members work together to meet clinical supply needs while achieving efficient business operations.

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.
Fremont Surgery Center stands in America’s heartland, about 30 miles northwest of Omaha, Nebraska. It faces economic conditions typical of ambulatory surgery centers (ASCs) across the country: stable revenue but minimal growth prospects. Last year, however, Fremont made a strategic move that placed it in the industry’s vanguard.

Fremont was a multispecialty ASC with three ORs, one procedure room, and 21 surgeons. Administrator Tracy Hoeft-Hoffman, MSN, MBA, RN, CASC, explains, “The ASC had matured. Reimbursement was flat, and we were not seeing any increase in case volume. We were profitable, but profits were beginning to decline. Also, the physician employment model was changing: The majority of new medical school graduates now prefer to be hospital employees rather than to run a practice.”

The owners asked the governing board to investigate options for the future. As a result, in February 2014 Fremont merged with a local hospital. It now operates as a hospital outpatient department (HOPD) for county-owned Fremont Health.

Price is based on fair market value.

A wave of mergers

Even as surgical procedures continue to move outside the hospital and ASCs become more popular with surgeons and patients, the financial and professional considerations mentioned above are creating a wave of mergers. When new ASCs are built, they tend to be sponsored by hospitals or by ASC management companies. For example, in September 2013, the New England Baptist Outpatient Care Center opened in the Boston suburb of Dedham, Massachusetts; its owner and developer is New England Baptist Hospital in Boston. Part of the goal, say hospital leaders, was to reach out to suburban outpatients while freeing up inpatient space in the main hospital.

Among the nation’s newest ASCs is one that was opened in November 2014 by Montefiore Health System in Bronx, New York. With 12 operating rooms and four procedure rooms, the ASC is part of a “hospital without beds” providing primary and specialty care in a new campus of the main hospital, according to a Montefiore news release. “The new campus reflects this evolution in the delivery of healthcare,” the release states.

From the perspective of the free-standing, independent ASC, however, becoming part of that evolution is likely to mean losing some or all of its independence and joining a larger organization.

Kyle Tormoehlen, MBA, ASA, co-owner of Healthcare Transaction Advisors in Lone Tree, Colorado, is a healthcare consultant specializing in ASCs. During his 20 years in the industry, Tormoehlen has seen an increasing
Another distinction is the financial structure; most ASCs are for-profit entities, and that is part of their attraction for larger healthcare organizations.

In an article in *SurgiStrategies*, Tormoehlen comments, “Profits, more specifically cash flows, are the fundamental building block driving the value of ASCs. All things being equal, higher profits translate into higher value.” However, that means they operate under different rules than, for example, community hospitals.

Surgical services staff at Spivey Station Surgery Center in Jonesboro, Georgia, experienced firsthand the challenge of trying to adjust to a hospital merger. Spivey Station was originally created as a joint venture between a group of 30 physicians and Southern Regional Medical Center, which is affiliated with Emory Healthcare in Atlanta. In 2013, the physicians sold their share to Southern Regional, which then converted the ASC to an HOPD.

The merger created a variety of legal and administrative complications. Spivey Station had to obtain a new tax number, Medicare number, and business license. It had to discard its electronic medical record system as well as billing and documentation systems and convert to the hospital’s systems. The physicians had to be recredentialled. In addition, as a hospital unit, Spivey Station could not maintain its for-profit status.

“You can’t run an ASC as an HOPD,” notes administrator Vangie Dennis, BSN, RN, CNOR, CMLSO. After another round of paperwork and a period of staff discontent, Spivey Station reverted to ASC status. It is still owned by the hospital, which is now considering a full merger with Emory.

**Choosing a partner**

The decision to seek a merger rests with the owners, but, as Spivey Station illustrates, the legwork and implementation ultimately fall to the staff. In cases such as Freight’s, administrators and nurse managers may be called upon to help organize the search for a partner and negotiating position. Governing board members may be new to the concept of selling a business, and may call on managers as well as outside consultants or attorneys to guide the process.

Eligible partners could include hospitals and health systems seeking ready-made access to the ASC market. Hospitals, in turn, may provide access to insurance plans and higher reimbursement rates. The ASC may also decide to join a large ASC company such as AmSurg, Pinnacle III, Practice Partners in Healthcare, or Surgical Care Affiliates.

There are many others, some dedicated to certain specialties. Some physician practices are still interested in becoming ASC investors, and private equity firms have begun to recognize the investment potential of ASCs. It is possible, of course, for a small group of ASCs to join forces to share a local market, rather than remaining competitors. State regulators will have a say in such arrangements.

The nature and preferences of the participants will influence the relationship they choose. The most dramatic is the merger, in which two or more companies mutually agree to join together and become a single company.
An acquisition is the purchase of a smaller company by a larger one. This is usually the case when a hospital acquires an ASC.

Either way, the previous owners lose their ability to control the operations. Often when a hospital acquires (or merges with) an ASC, it will convert the ASC into an HOPD. The ASC staff become hospital employees—sharing hospital benefits but losing autonomy.

A joint venture begins with an agreement between two equal members to work together on a specific project and share in the risks or to pursue a common economic goal. For an ASC, a joint venture could be based on an agreement with a management company or another ASC to combine resources to provide services in a particular market and share profits and losses. The members share power in decision making based on the operating agreement, typically with votes based on their share of equity.

Unlike a business partnership, where each person is responsible for legal and financial obligations, the joint venture is a separate entity. It acquires capital, equipment, and possibly real estate from members, who then have equity in the organization.

For ASCs, the most common form of joint venture is with a management company. The benefit to the ASC is that its owners usually retain some equity, and therefore some control, according to Tormoehlen.

“ASC management companies seek to own less than 100% of the center’s equity,” he says. “As such, the physician investors are still part-owners and financially aligned with the ASC.”

In this type of joint venture, the management company contributes expertise in operating ASCs, market share, purchasing volume that allows better pricing, and other economies of scale.

However, Tormoehlen warns, they also charge fees for their efforts, generally 5% to 7% of revenue.

Finding a match
Many ASCs have found that getting out of an ownership arrangement is more difficult than choosing to enter one. With multiple owners and valuable property at stake, negotiations can be tricky.

“Owners have different motivations for facilitating or blocking a transaction,” Tormoehlen says.

Based on consultants’ recommendations, business publications, and the experiences of ASC leaders, there are several basic steps to take when developing a purchase or other agreement to modify an ASC’s ownership.

The owners and governing board should appoint a committee to represent the ASC in finding a buyer or investor. All owners must approve the final agreement, but it is more efficient to have a few people managing the process. Most ASCs will find it useful to have a consultant or attorney with experience in managing mergers.

The first step is to let potential buyers know you are available. Draw up a letter explaining the type of arrangement you are looking for and a general description of the ASC, such as square footage and number of ORs. Send this request for proposals to potential candidates such as local hospitals and management companies; do not expect them to find you.

When you receive proposals, review them in terms of the advantages they present to the present owners, and select a finalist.

In Fremont’s case, the rural location did not present many candidates, Hoeft-Hoffman recalls. The board’s first choice had been a joint venture, but no nearby facilities were available, and the hospital required full ownership. That was the final arrangement.

Due diligence
The next phase involves fact finding, or, in legal terms, due diligence. The prospective buyers or investors request information about the ASC’s operations, revenue, debt, ownership, case volume, specialties, and patient population. It is up to the ASC to dig through files and provide those documents.

“We had to pull files from past 5 years and project our volume for the coming year,” Hoeft-Hoffman says.

Because she has a business degree, the board asked her to help organize the process, Hoeft-Hoffman explains. Fremont also hired a valuation consultant.

The value of an ASC to a buyer is a combination of its income and future prospects. The latter may include staff and physician expertise, equipment, and the land and buildings it owns.

“ASCs will often attract very qualified nursing staff because

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ASCs do not require them to work evenings or weekends like hospitals,” Tormoehlen notes. Following due diligence, if the parties agree to proceed with the deal, it is time to set a price—often a multiple of profit but with other factors included. Healthcare appraisal companies that specialize in ASCs can help navigate the financial arrangements, and attorneys can do the same for legal issues. The final contract will cover the disposal of assets, liabilities, and working capital, and specify details such as the closing date.

The price must reflect “fair market value,” a specific term that regulators will apply. “If an ASC underprices its ownership units, it can be viewed as having offered units based on the volume or value of referrals. Such an offering may be in violation of federal anti-kickback laws,” Tormoehlen explains.

Do you need a certificate of need?
In 27 states, according to a list compiled by the American Association for Accreditation of Ambulatory Surgery Facilities (AAAASF), a new or modified ASC must obtain a certificate of need (CON) (sidebar). A CON program is designed to make healthcare more widely available while reducing costs by avoiding excess capacity.

Obtaining a CON may seem like an additional burden, but having one may raise an ASC’s value, Tormoehlen says. In a CON state, no location can be clustered with competing facilities. “A purchaser is willing to pay a higher price because a CON requirement restricts competition and therefore reduces the risk related to new competition,” he says.

Facing the future
As Spivey Station staff learned, the period following a change in ownership can be stressful. Jobs change; the environment changes. Fremont staff found that, even with a commitment to reorganization, partners aren’t always available at first.

Hoeft-Hoffman says that if Fremont Health had not become the ASC’s new owner, there would have been alternative measures. Among them were finding a management company, looking for general investors, selling the real estate and renting it back, or making no change.

As of February, the staff and owners were getting used to having less autonomy and to having a more vertical management structure.  

—Paula DeJohn

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