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AHC Media

Microdermal implants are growing trend — Will you know what to do?

Literature offers little help with positioning, moving issues

By **Joy Daughtery Dickinson**, Executive Editor

A patient shows up for outpatient surgery and informs you she has a microdermal implant. You're not sure exactly what that is or what that means in terms of pressure points, friction when moving, or other issues.

The time to educate yourself is now, sources say. There's just one problem.

"There is very little in the literature on how to care for patients with microdermal implants who present for operative or other invasive procedures," says **Linda J. Wanzer**, DNP, RN, CNOR, assistant professor, chair/director, Perioperative Clinical Nurse Specialist Program, Graduate School of Nursing, Uniformed Services University of the Health Sciences in Bethesda, MD. The issue isn't addressed in the recommended practices from the Association of periOperative Registered Nurses (AORN) either, says Wanzer, who has submitted a manuscript to AORN on "Practitioner and Institutional Readiness in Managing Patients with Piercing(s) in the Perioperative Setting."

Other names for the implants are "body modification" and "sporting jewelry." These implants are used to pierce the body permanently, according to http://www.dermalimplant.net. However, the appearance is skin decoration,

EXECUTIVE SUMMARY

A microdermal implant typically consists of an anchor or footplate imbedded under the skin with a metal pin extension extending through the surface of the skin for the jewelry or appliance to be attached. They present challenges, including positioning and moving patients.

- Have a confidential patient assessment that builds trust so the patient will reveal all implants before surgery.
- Remove the jewelry art/accessory. Position the patient to prevent direct pressure on the surface of the implant. Document any skin breakdown.
- Place gauze over the metal extension, and tape it in position to avoid getting caught on equipment or supplies.

the web site says. A microdermal implant typically consists of an anchor or footplate imbedded under the skin with a metal pin extension extending through the surface of the skin for the jewelry or appliance to be attached, Wanzer says.

There are three subgroups of implants, according to **T. Forcht Dagi**, MD, DMedSc, FAANS, FACS, serves as chair of the American College of Surgeon's Committee on Perioperative Care and a surgeon. He is a visiting professor at Harvard Medical School in Boston and professor at Queens University Belfast, Northern Ireland, UK.

The first type is subdermal, in which the anchor is implanted beneath the skin but doesn't go through the skin. Instead, a shape protrudes through the skin. The second type is a transdermal implant in which a piece of the anchor exits the skin and the patient screws in a decorative "topper." The third type is microdermal, or a single-point piercing, that penetrates the skin only once. They are smaller and have a small anchor below the skin and an interchangeable topper. "The transdermal tend to be larger, and the microdermal tend to be smaller," Dagi says.

Regardless of the type of implant, the problems are similar, which include pressure, skin breakdown, and infection, he says. Here are some suggestions:

• Show dignity and privacy.

"Assessment is a real key," says **Bonnie G. Denholm**, MS, BSN, RN, CNOR, perioperative nursing specialist at AORN. "Then communication is the other key."

Do as much preplanning as possible, Denholm advises. Identify all areas that are pierced or have subdermal implants, she says. Once the nurse finds out where they are, the locations should be communicated to all members of the team and included in the timeout at the beginning of the procedure, if possible, so it increases awareness.

Some patients aren't comfortable disclosing the implants, sources say. Confidentiality is a must, Denholm says. "There is a need to respect cultural beliefs or values," she says. Showing respect increases trust, "which makes it more likely they are going to tell you if they have an additional piercings you need to know about so you don't find a surprise once surgery starts," Denholm says.

• Pay special attention to positioning.

Pressure due to positioning is a primary issue with these implants, Wanzer says.

If you have a subdermal implant in the arm, shoulder, or bony surface, and the patient lies on that surface for surgery, then he or she can have breakdown of the skin from pressure, Dagi says. "The principal need is to identify and protect the skin from breakdown," he says.

Not all elements of the jewelry "system" can be removed without surgical intervention, Wanzer points out. "At a minimum, remove the `jewelry art/accessory' itself," she advises. Then the issue remains what can be done about the metal extension and the issue of pressure directly under the piercing footplate/anchor.

Rod Hicks, PhD, RN, FNP-BC, FAANP, FAAN, professor at Western University in Pomona, CA, says, "Staff would need to position the patient in

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Editorial Questions
Questions or comments? Call Joy Daughtery Dickinson at (229) 551-9195.

a manner that prevents direct pressure on the surface that then radiates through the implant to the underlying tissue structures." Hicks is a co-author of Wanzer's AORN article.

Document any skin breakdown before and after the procedure, Denholm says. "Acknowledge you identified some additional pressure points and what you did about them," she says. "You can assess after the procedure to make sure the padding was effective."

Implants in the scalp can present particular challenges, Wanzer says. Use a gel headrest, as long as the metal part of the implant isn't resting on the pad itself, she says. "You may need to use the horseshoe headrest or potentially even the Mayfield headrest, depending on where the implant is in relation to the positioning needs for the procedure," Wanzer says.

Additional considerations are the length of the procedure and the side that the procedure will impact, Denholm says. For example, she says, determine if the implant will be in the way of the surgeon's approach. Also consider whether the procedure will last longer than two hours, Denholm says. "That's a guideline at which the procedure is considered a longer one," with more risk for injury related to pressure, she says.

• **Take special care when moving patients.**

The primary issue when moving is integumentary compromise due to trauma at the site during patient transfer procedures, Wanzer says. Issues can include tugging, shearing, or the implant getting caught in drapes, gown, cords, or other items, she says.

After removing the jewelry art/accessory, "place gauze over the metal extension, and tape it in position to avoid getting caught on equipment, drapes, or bedding material, etc.," Wanzer says.

Subdermal implants also could be at risk during moves, Denholm says. "With subdermal, they're probably more secure under the skin, but depending on how deep they are, there could be a risk to tear tissue if you don't use proper lifting techniques," she says.

In summary, preop assessment, communication, and documentation are all key pieces, Denholm says. "Identify all barriers for optimal outcomes so you can plan for them," she advises. *(For concerns related to potential electric arcing, see story, above right. For information on corneal implants, see story, p. 108.)*

RESOuRCE

For more information and to see photographs of microdermal implant piercings, go to http://www.dermalimplant.net. ■

Could that implant cause electric arcing?

If electrocautery is used during surgery on a patient with a microdermal implant, do you need to be concerned about potential electric arcing? Yes, if there is not proper grounding and you have a metal implant, sources tell *Same-Day Surgery*.

"The key is to do an assessment ahead of time so you have time to plan," says **Bonnie G. Denholm**, MS, BSN, RN, CNOR, perioperative nursing specialist at AORN. "Notify the manufacturer of the electrocautery unit and dispersive electrodes so you can get advice on the pathway of electricity if the implant will be in the way."

Check with the surgeon to determine whether bipolar energy is an option, Denholm says. "That takes away the risk of alternative site burn that may be related to a metal implant," she says.

The risk for burns is minimized if using isolated generator technology, says **Linda J. Wanzer**, DNP, RN, CNOR, assistant professor, chair/director, Perioperative Clinical Nurse Specialist Program, Graduate School of Nursing, Uniformed Services University of the Health Sciences in Bethesda, MD.

Minimize direct contact with the active electrode, Wanzer advises, and use "holster" devices for the electrode pencil. To avoid the concentration of radio frequency current leakage to one area, do not loop or wrap electrode cords around objects to secure on the drapes, Wanzer says. Use special precaution near or over the area of where the metal piercing is located, she adds.

Remove pieces of the implant that can be removed, says **T. Forcht Dagi**, MD, DMedSc, FAANS, FACS, serves as chair of the American College of Surgeon's Committee on Perioperative Care and a surgeon. He is a visiting professor at Harvard Medical School in Boston and professor at Queens University Belfast, Northern Ireland, UK. Drape the body parts with the implants out of the surgical field, Dagi advises.

If possible, nothing in the skin and nothing unprotected that pierces the skin should be in contact with something that could create a circuit, he says. "Create a barrier between the skin and any metallic surface that can close a circuit," Dagi says. Take precautions, even with subdermal implants, he says.

"I know of no case in which this has happened, but I would still worry about the possibility of the burn if the subdermal implant is so close to the skin that you get a closed circuit and current from electrocautery might arc through the skin and create a burn," Dagi says.

The answer is to pad, isolate, and take precautions to make sure there's not a circuit, he summarizes. ■

Corneal implants carry special concerns

A new form of implants, under the cornea, concern outpatient surgery staff who might be placing those patients in the prone position.

Corneal implants involve metal pieces that are placed under the conjunctiva so that a decorate shape is seen just to the outside of the iris. The concern is that the prone position puts direct pressure on the eyes, says **Linda J. Wanzer**, CIV, USUHS, COL(ret), DNP, MSN, RN, CNOR, assistant professor, chair/director, Perioperative Clinical Nurse Specialist Program, Graduate School of Nursing, Uniformed Services University of the Health Sciences in Bethesda, MD. Consider taking these actions, Wanzer advises:

- Use positioning devices to minimize pressure on the eyes.
- Once the patient is in position, double check the eyes before proceeding with the procedure.
- Re-check the patient periodically during the procedure to minimize the effects of "shifts" due to minor movements during surgery. *(Editor's note: To see photographs of corneal implants, go to http://www.richmondeye.com/focus6.asp.)* ■

ASCA claims victory in quality reporting

In what the Ambulatory Surgery Center Association (ASCA) is labeling a victory in the final ASC quality reporting elements, the Centers for Medicare and Medicaid Services (CMS) accepted the association's proposal to exclude any secondary payer claims from the data completeness calculation.[1]

CMS will use only claims in which Medicare is the primary payer in calculating data completeness, the ASCA said.[1]

"As suggested by ASCA, the agency is excluding secondary claims from the calculation of successful reporting for the first year to account for the fact that ASCs will not be submitting secondary claims with G-codes until Jan. 1, 2013," the ASCA said in comments to *Same-Day Surgery*. The association is waiting for the details of public reporting.

According to the ASCA, CMS incorporated other feedback from ASCA, such as providing more flexibility to ASCs. As recommended by ASCA, CMS finalized the data completeness threshold at 50%, which gives ASCs some flexibility as they will be considered successful reporters if they include the quality data codes on 50% or more of their Medicare claims.

"Another addition is deciding not to validate the data through a burdensome process such as a medical record review," the ASCA said.[1]

A copy of the final changes is available at http://bit.ly/NgCpGb. The relevant part of the notice begins on page 1,534. The implementation date of the quality reporting program is Oct. 1, 2012.

REFERENCE

1. Ambulatory Surgery Center Association. Additional ASC quality reporting elements finalized. *Gov Affairs Update* 2012; 2(29). Accessed at http://bit.ly/TkLL4q.

RESOURCES

The Ambulatory Surgery Center Association (ASCA) recently held a webinar on ASC quality reporting. A list of frequently asked questions is available at http://bit.ly/MULDoT. Slides and a video are available at http://bit.ly/KlJBuX. ■

Falls are up in benchmarks released by quality group

In the Quality Report released by the ASC Quality Collaboration, falls in ambulatory surgery centers (ASCs) have increased for the first quarter 2012 to 0.153 per 1,000 admissions. This number is higher than the second, third, or fourth quarters of 2011, the group reports.

"Falls are an important issue for patients having outpatient procedures or surgery because virtually all patients receive sedatives, anesthetics, and/or pain medications as a routine part of their care," the report says. "The use of these medications increases the likelihood of a fall."

This report presents aggregated performance data for six ASC facility-level quality measures developed by the ASC Quality Collaboration and endorsed by the National Quality Forum. For first quarter 2012, the results are:

- rate of wrong site, side, patient, procedure, implant events, 0.039 per 1,000 admissions;
- rate of patient burns, 0.021 per 1,000 admissions;
- rate of hospital transfers/admissions, 1.193 per 1,000 admissions;
- percentage of ASC admissions with antibiotics ordered who received prophylactic IV antibiotics on time, 97%;
- percentage of ASC admissions with appropriate surgical site hair removal, 99%.

The first quarter data was collected from 1,349

ASCs, including 889 multispecialty ASCs and 460 single-specialty ASCs. They represent every state except Vermont. The organizations that collected and submitted clinical quality data were the Ambulatory Surgery Center Association, Ambulatory Surgical Centers of America (ASCOA), AmSurg, Healthcare Facilities Accreditation Program (HFAP), Health Inventures, HCA Ambulatory Surgery Division, Nueterra, Surgical Care Affiliates (SCA), Symbion, and United Surgical Partners International (USPI). *(For the full results, go to http://www.ascquality.org/qualityreport.cfm. For more information, contact Donna Slosburg, executive director, ASC Quality Collaboration, at donnaslosburg@ascquality.org.)* ■

Randomized surveys for injection safety in ASCs

The Department of Health and Human Services (HHS) is scaling back its oversight of needle safety issues in ambulatory care and ambulatory surgery centers (ASCs), though noting that some 3,200 inspections done in fiscal years 2010 and 2011 "have found that deficient infection control practices are widespread in ASCs," according to a report by the Government Accountability Office (GAO).

The deficient practices were not specifically described in the report, and HHS referred inquiries back to its written statement included in the GAO report as an appendix. HHS stated therein that the outpatient settings have been "required to correct these deficient practices" that were detected in a survey program that began after the 2008 outbreak of hepatitis C virus in a Las Vegas endoscopy clinic. That highly publicized outbreak resulted in nine cases of confirmed HCV transmission to patients and another 100 people that were possibly infected in the now-shuttered clinic. It resulted in a partnership between two HHS agencies, the Centers for Disease Control and Prevention (CDC) and the Centers for Medicare and Medicaid Services (CMS). An infection control worksheet was developed that the CMS subsequently used to survey injection safety and other infection control measures in the ambulatory settings, many of which are not accredited by The Joint Commission and have heretofore operated well under the radar. *(The link to the ASC worksheet used by Medicare accreditation surveyors can be found at http://go.cms.gov/aRcc6b.)*

"CMS stopped collecting individual Worksheets from State Survey Agencies for each ASC survey conducted after FY 2011," the HHS said in the GAO report. "With over 3,000 Worksheets collected, we believe there is sufficient data to support detailed analysis of ASC infection control practices nationally. CMS was also interested in relieving the State Survey Agencies, which are operating in a resource-constrained environment, of the burden associated with preparing a consolidated Worksheet and submitting it to our contractor after each ASC survey. In its recommendation, GAO has been sensitive to CMS's concerns about the burden on State Survey Agencies, suggesting that CMS could limit this data collection to a random sample of ASCs, adjusting the sample size, and collecting the data less frequently than every year. Consistent with these GAO suggestions, CMS plans to resume collection of the Infection Control Surveyor Worksheet beginning in FY 2013 for a state-stratified, randomly selected subset of ASCs surveyed in that year, and will repeat this sampling and data collection approximately every three years thereafter." *(Editor's note: To access the GAO report, go to http://www.gao.gov/assets/600/592406.pdf. For information about a meeting between the Ambulatory Surgery Center Association and the CDC about single-use vials, see story, below. For more information on the "One and Only Campaign, go to www.oneandonlycampaign.org.)* ■

ASCA and the CDC discuss single-dose vials

Representatives of the Ambulatory Surgery Center Association (ASCA) met with Centers for Disease Control and Prevention (CDC) staff to discuss issues affecting the industry, particularly injectable drugs packaged in single-dose and multi-dose vials.[1]

Representatives of the CDC gave ASCA an overview of the process behind their recommendations. An outline of past and recent outbreaks of infectious diseases associated with unsafe injection practices also was discussed by the CDC.

The ASCA representatives voiced concerns from members regarding the lack of science behind these recommendations. They asked for clarity from the agency as to why a more nuanced process pertaining to single-use vials could not be developed that would protect patients while eliminating the drug waste that occurs. They also briefed the agency on the different injectable drugs that ASCA members were having difficulty obtaining or are difficult to find in appropriate doses. Finally, they responded to the CDC's notion that ASCs could use a compounding pharmacy to divide single-use vials via the US Pharmacopoeia (USP) 797. These facilities are not always located close enough to the

ASC to make their use a viable option. For example, there are no compounding pharmacists in Wyoming

Members of the CDC staff stated that they would develop a clearer explanation for their position on single-use vials and pledged to work with the ASCA and others to address the drug shortage and drug packaging issues that are impacting patient care in ASCs. *(For more on the drug shortage, see story, below.)*

REFERENCES

1. Ambulatory Surgery Center Association. ASCA meets with the CDC to discuss single-use vials. *Gov Affairs Update* July 26, 2012; 2(28). ■

ASCA meets with FDA about drug shortages

Representations of the Ambulatory Surgery Center Association (ASCA) recently met with the Food and Drug Administration (FDA) to discuss drug shortages and the labeling of pharmaceutical vials as single-use or single-dose.[1]

Clinical Coordinator **Cynthia Armstrong,** RN, from the Surgery Center of Rockville, MD, discussed how it has become difficult to find some drugs, especially injectable anesthesia drugs. Armstrong shared that she was offered a supply of propofol for 30 times the usual price. Members of the FDA staff noted that in some cases, these situations might be localized distribution problems rather than actual shortages. They made the following suggestions:

- ASCs that are having difficulty obtaining a drug should email the FDA at drugshortages@fda.hhs.gov, noting the drug, the dosage, the ASC's location, and the name of the distributor involved.
- The ASC should contact the drug manufacturer directly to ascertain if this is a localized distribution problem or a shortage.
- Any ASC that is approached by a "gray market" distributor or receives an ad from such a distributor should notify the FDA and forward the ad material to the FDA at drugshortages@fda.hhs.gov. *(For additional information on drug shortages, see the April 2011 issue of* Same-Day Surgery. *Also visit ASCA's Drug Shortages Information Center at http://bit.ly/H3mGow.)*

Senate committee releases report on shortages

A Senate hearing was held July 25 to examine why healthcare providers are struggling to obtain short-supply prescription drugs for their patients.[2]

During the hearing, Chairman John D. Rockefeller IV (D-WV) released a report outlining the markup of drug prices by third-party distributors within the drug supply and distribution process. In the report, the paths of 300 drugs were followed from manufacturer to final provider, and in one case a drug's cost was marked up by 8,471% by the time it reached the end user.

The hearing was held by the Senate Committee on Commerce, Science, and Transportation and was the result of a joint Congressional investigation.

President Obama recently signed into law the reauthorization of the "Prescription Drug User Fee Act," which is effective Oct. 1, 2012. The law requires manufacturers of certain drugs to report to the Department of Health and Human Services (HHS) any plan to discontinue or interrupt the manufacturing of a drug that could lead to a meaningful disruption in the supply of that drug. The law also allows hospitals owned and operated by the same entity to repackage drugs into smaller units before the FDA issues final guidance. It also directs the comptroller general to "conduct a study to examine the cause of drug shortages and formulate recommendations on how to prevent or alleviate such shortages." *(We tweeted about this news on Aug. 6. Follow us on Twitter @SameDaySurgery.)*

REFERENCES

1. Ambulatory Surgery Center Association. ASCA Representatives Meet with FDA Regarding Drug Shortages and Single-Dose Vials. *Gov Affairs Update* Aug. 16, 2012; 2(31).
2. Ambulatory Surgery Center Association. ASCA meets with the CDC to discuss single-use vials. *Gov Affairs Update* July 26, 2012; 2(28). ■

Same-Day Surgery Manager

Are staff happy, and do you care? You should

Use these ideas to boost staff satisfaction

By **Stephen W. Earnhart,** MS
CEO
Earnhart & Associates
Houston, TX

Checklist: No. 1: Patient satisfaction survey results. No. 2: Physician satisfaction survey results. Surveys complete! Yes!

I admit to being more concerned about the above than what is happening with my own staff in my own centers. Deliberate? No. I just don't think of checking on my own staff members to see if their needs are met. I am paying them and providing benefits. Isn't that enough? What else do they need?

Some will say "a job where their needs are met, and they are happy!" Really? I need to ensure that as well? As if dealing with patients, anesthesia, surgeons, and that new VP that doesn't know squat wasn't enough. Now this? With unemployment running high and good jobs rare, one would think that just having a job should meet their needs and make them happy. Apparently not.

Years ago I was working with a hospital (or it could have been a surgery center) and looking at the cost per case and other benchmarks for them. A nurse came into the cubby I was working in. "This is the worse place in the world to work," she blubbered out. "The management is horrible, and everyone hates it here. They treat us like crap! Put that in your stupid report!" With that she spun around and ran out the door, as she was crying.

I sat there a moment, stunned at what just happened. I tried to shake it off, but I couldn't continue my work. I started flipping through my questions and information I had to complete for the client on their facility. I had lots of issues on productivity, patient and physician satisfaction, manhours per case, return on investment, and the like. I was surprised to find that I have nothing at all on staff satisfaction. I was sitting in a $75 million dollar facility that had no idea how satisfied their staff members were in their jobs. The major key to patient and surgeon satisfaction was not even mentioned.

From that day forward, I added "staff satisfaction" to all our reports. I have changed around the questions and methods over the years, but here is a start to seeing how happy your staff is:

• **Hold a one-on-one meeting with each staff member twice a year.** You should ask:

— "Are you happy here?" (Most will tell you what you want to hear. Read on.)

— "Who are your friends at work?" (I know; it's personal. But ask anyway.)

— "What activity at (your facility name here) do you enjoy the most?" (If they say "everything," they are lying. No one likes everything about any job. Press on!

— "Do you have any stresses at your job that can be resolved by talking about them? (You will be surprised at how few will mention money, unless, of course, you are just cheap.)

— "Is there anything I can do that would make your employment here better or more satisfying for you?" (Surprisingly, the answer to this question usually requires very, very minor work adjustments.)

— "What are your long-term goals here?"

— "If you could, what would you do that would make people look forward to coming to work here?"

• **Assign every member of your staff some routine function to do each month.**

Keep it simple, brief, and obtainable. Overwhelmingly, staff members enjoy being part of the process. Have a list of tasks that would be great to be done that take very effort to do, and ask staff members to sign up for them. Can't think of any? I can:

— Check for outdated magazines in the waiting room, and discard the old and worn.

— Help with the preop and postop patient calls.

— "Monitor" the waiting room to hear what patients are saying out there. The staff member wears street clothes and just sits there with a magazine and listens to comments made by patients and their families.

— Walk around the department looking for stained ceiling tiles, accumulating debris, etc., and report them to housekeeping.

— Collect data for your quality improvement program.

— "Audit" charts or records for completeness.

— Check other hospitals' or surgery centers' social media sites to see what they're doing that you aren't. Another easy way to find out what's happening elsewhere is to follow Same-Day Surgery on Twitter (@SameDaySurgery).

— Go to surgeons' offices and visit with their staff about your services.

— Assemble charts, folders, etc.

— Use a labelmaker to replace dirty or worn labels on drawers.

• **At every staff meeting, make sure there is some reference to how the staff is doing.**

Ask for volunteers to give a five-minute update on staffing issues not related to the usual, such as whose birthday is coming up, an after-hours meeting place for interested staff, book reviews, great websites to visit (such as www.earnhart.com and same-daysurgery.com), new movie reviews, interesting hobbies staff members have, etc.

In other words, get involved in what is going on with your staff!

Let your human resources department know what you're thinking of doing, and get their input. They can offer many more suggestions for keeping your staff happy and productive. *[Editor's note: Earnhart & Associates is a consulting firm specializing in all aspects of outpatient surgery development and man-*

agement. Earnhart & Associates new address is 238 S. Egret Bay Blvd., Suite 285, Houston, TX 77573-2682. Phone: (512) 297.7575. Fax: (512) 233.2979. E-mail: searnhart@earnhart.com. Web: www.earnhart.com.] ■

91% of hospitals predict growth in outpatient ORs

Results of a nationwide survey of hospital executives who make decisions regarding capital equipment in hospitals indicated that operating room (OR) caseloads and costs will continue to rise over the next three years, driven by growth in both outpatient and inpatient procedures.

The survey found the following:

• Half (49%) report that their OR case volume has increased in the past 12 months, while nearly three-quarters (73%) predict their OR case volume will increase over the next three years.

• While 39% see their inpatient OR case volume growing in the next three years, 91% see their outpatient OR case volume growing during that same period.

• These hospital decision-makers believe that increasing OR efficiency and throughput (73%), more closely managing overall workflow (57%), cutting spending on supplies (52%), and reducing overtime (35%) are strategies that can reduce hospital costs.

Hospital decision-makers agree by a significant majority (79%) that "Information technology solutions are a strategic driver of success in the operating room." An overwhelming 96% agree that information technology helps recruit outstanding physicians and nursing staff. Fifty-seven percent say that it is very important, while 39% say that it is somewhat important.

What capabilities are hospital senior executives looking for in perioperative IT solutions? The top choices were "scheduling: better/accurate scheduling" (20%), "integration: better integration between systems/departments/integrating the anesthesia module/seamless workflow" (16%), and "information: storage: access/real-time/electronic records" (12%).

OR benefits from departmental solutions

One of the more interesting findings addressed the question of using enterprise-wide solutions versus implementing departmental systems for scheduling in the OR.

Seventy-six percent agreed with the statement that "Scheduling the OR is inherently different from scheduling other services in the hospital and therefore requires a uniquely tailored process and information technology solution."

How do hospital executives judge a vendor's ability to fit into their organization's IT landscape? The most important elements, survey respondents said, were the ability to integrate or interface with existing information systems; the quality and functionality of the product itself; and word-of-mouth, referrals, recommendations, or the reputation of a particular vendor.

Surgical Information Systems (SIS), a provider of perioperative information systems, released results of the survey. It was conducted by an independent national polling organization. The survey included 142 hospital decision-makers. ■

EXECUTIVE SUMMARY

A nationwide survey was conducted of hospital executives who make decisions regarding capital equipment in hospitals.

• Half (49%) report that their OR case volume has increased in the past 12 months, while nearly three-quarters (73%) predict their OR case volume will increase over the next three years.

• Ninety-one percent predict their outpatient OR case volume will grow during that same period.

• Respondents said increasing OR efficiency and throughput (73%), more closely managing overall workflow (57%), cutting spending on supplies (52%), and reducing overtime (35%) can reduce hospital costs.

New *Sentinel Event Alert*: Safe use of opioids

Although patients might need the strong pain relief that only opioids can provide, a *Sentinel Event Alert* issued by The Joint Commission urges healthcare providers to take specific steps to prevent serious complications or even deaths from opioid use.

Opioid analgesics rank among the drugs most frequently associated with adverse drug events. Research shows that opioids such as morphine, oxycodone, and methadone can slow breathing to dangerous levels, as well as cause other problems such as dizziness, nausea, and falls. The reasons for such adverse events include dosing errors, improper monitoring of patients, and interactions with other drugs, according to The Joint Commission's Sentinel Event Database. Reports also show that some patients, such as those who have sleep

apnea, are obese, or very ill, might be at higher risk for harm from opioids.

"Assessing and managing pain is critical to patients who otherwise would suffer, but avoiding the harm that accompanies the adverse effects of powerful opioid analgesics is equally important," says **Mark R. Chassin**, MD, FACP, MPP, MPH, president of The Joint Commission. Healthcare providers should educate staff members about the evidence-based actions recommended in the alert, Chassin said. Accidental opioid overuse "is absolutely preventable," he said.

The Joint Commission alert recommends that healthcare organizations take the following actions:

- Implement effective practices, such as monitoring patients who are receiving opioids on an ongoing basis, use pain management specialists or pharmacists to review pain management plans, and track opioid incidents.
- Use available technology to improve prescribing safety of opioids such as creating alerts for dosing limits, using tall man lettering in electronic ordering systems, using a conversion support system to calculate correct dosages, and using patient-controlled analgesia (PCA).
- Provide education and training for staff and patients about the safe use of opioids.
- Use standardized tools to screen patients for risk factors such as oversedation and respiratory depression.

The alert also includes details about respiratory depression risk factors and offers information relevant to opioid risks and safety. The Joint Commission sought input for the alert from experts including the University of Wisconsin Hospital and Clinics, the Hackensack (NJ) University Medical Center, and the University Medical Center in Tucson, AZ. *(See story about children who developed serious adverse effects or died after taking codeine for pain relief after tonsillectomy and/or adenoidectomy for obstructive sleep apnea syndrome, below.)*

RESOURCES

To access the *Sentinel Event Alert*, go to http://bit.ly/OOMevr.

The Food and Drug Administration's *Blueprint for Prescriber Education for Extended-Release and Long-Acting Opioid Analgesics* is available at http://1.usa.gov/Me9N1A. ■

EXECUTIVE SUMMARY

A *Sentinel Event Alert* from The Joint Commission urges healthcare providers to take specific steps to prevent serious complications or even deaths from opioid use.

- Monitor patients who are receiving opioids on an ongoing basis, and use pain management specialists or pharmacists to review pain management plans. Track opioid incidents.
- Improve prescribing safety with steps such as creating alerts for dosing limits, using tall man lettering in electronic ordering systems, using a conversion support system to calculate correct dosages, and using patient-controlled analgesia.
- Educate and train staff and patients about the safe use of opioids.
- Use standardized tools to screen patients for risk factors such as oversedation and respiratory depression.

Codeine & tonsillectony can be a lethal mix

The Food and Drug Administration (FDA) is reviewing reports of children who developed serious adverse effects or died after taking codeine for pain relief after tonsillectomy and/or adenoidectomy for obstructive sleep apnea syndrome. Recently, three pediatric deaths and one non-fatal but life-threatening case of respiratory depression were documented in the medical literature.

These children (ages 2-5) had evidence of an inherited (genetic) ability to convert codeine into life-threatening or fatal amounts of morphine in the body. All children had received doses of codeine that were within the typical dose range.

When codeine is ingested, it is converted to morphine in the liver by an enzyme called cytochrome P450 2D6 (CYP2D6). Some people have DNA variations that make this enzyme more active, causing codeine to be converted to morphine faster and more completely than in other people. These "ultra-rapid metabolizers" are more likely to have higher than normal amounts of morphine in their blood after taking codeine. High levels of morphine can result in breathing difficulty, which may be fatal. Taking codeine after tonsillectomy and/or adenoidectomy might increase the risk for breathing problems and death in children who are "ultra-rapid metabolizers." *(See the FDA Drug Safety Communication for additional information, including a Data Summary, at http://1.usa.gov/ND0C9U.)*

Healthcare professionals should be aware of the risks of using codeine in children, particularly in those who have undergone tonsillectomy and/or adenoidectomy for obstructive sleep apnea syndrome. If prescribing codeine-containing drugs, the lowest effective dose for the shortest time should be used on an as-needed basis (i.e., not scheduled around the clock).

Parents and caregivers who observe unusual sleepiness, confusion, or difficult or noisy breathing in their child should seek medical attention immediately, as these are signs of overdose.■

Pilot program slashes colorectal SSIs by 33%

Hospital saves $168,000-$280,000 in one year

A patient safety team including researchers in the Johns Hopkins Armstrong Institute for Patient Safety and Quality reported a one-third cut in the rate of costly and potentially lethal surgical site infections (SSIs) following colorectal operations after requiring use of a simple safety checklist and urging caregivers to speak up if they see potentially unsafe practices. [A copy of the checklist is included with the online edition of this month's issue. For assistance, contact customer service at (800) 688-2421 or customerservice@ahcmedia.com.]

The decreased incidence of SSIs, described by Johns Hopkins researchers in the August issue of the Journal of the American College of Surgeons, suggests that systematic creation of a culture of patient safety in which frontline staff members are encouraged to challenge anyone and anything that puts patients at risk can effectively address complex safety concerns in high-risk patients.

Researchers estimate that, if applied to all types of surgical procedures, locally developed checklists and similar culture change programs could reduce the total number of SSIs by 170,000 and result in a nationwide cost savings of $102 million to $170 million annually.

"Applied to other areas of medicine, that cost savings could make a sizable dent in medical inflation while saving lives," said senior author Martin Makary, MD, MPH, an associate professor of surgery at the Johns Hopkins University School of Medicine.

As the most common complication after colorectal operations, SSIs occur in 15-30% of these patients, resulting in longer hospital stays, frequent readmissions, and subsequent need for treatment, at an estimated cost of $1 billion annually. In addition, disability and quality of life often are affected. Study leader Elizabeth Wick, MD, an assistant professor of surgery at the Johns Hopkins University School of Medicine, said, "We're thrilled to see such a positive outcome in an area where it has traditionally been very tough to move the needle. Until now, there's been little evidence on how to effectively address SSIs among this group of patients." The nature of colorectal procedures — cutting in the bacteria-rich environment of the bowel — lends itself to a high risk of infection, Wick said.

The Johns Hopkins study reflects increasing pressure on hospitals to reduce preventable harm, Wick notes. The Centers for Medicare and Medicaid Services (CMS) already is using SSI rates as a quality indicator and, in some instances, the agency is refusing to reimburse hospitals for the costs associated with treating these infections. But despite heightened attention and required reporting on process measures, SSI rates remain high, even among hospitals with near-perfect compliance with national guidelines, Wick says.

Using a pilot study protocol for high risk patients set by the American College of Surgeons National Surgical Quality Improvement Program, Wick and her colleagues collected baseline SSI rates after colorectal surgeries at The Johns Hopkins Hospital (JHH) for one year leading up to and following the Hopkins safety team's checklist and "speak up" interventions.

In the first year of the study, beginning in July 2009, 76 of 278 patients at JHH, or 27.3%, developed an SSI after colorectal surgery. The rate dropped to 18.2% in the subsequent year after interventions were in place, with 59 of 324 patients contracting an SSI. Procedures for which data was collected include colectomies and proctectomies, removal of part of or the entire colon and rectum, respectively.

Researchers estimate that 28 infections were prevented in 2010 to 2011, which resulted in an estimated cost savings of between $168,000 and $280,000 for the hospital in just one year. This is the reported cost to the hospital/patient of an SSI in the literature. Assuming a nationwide annual incidence of 1.7 million total SSIs per year, researchers estimate widespread application of the Johns Hopkins safety program across all surgical specialties could save more than $100 million annually.

The team's approach is based on a program developed and championed by patient safety experts in Hopkins' Armstrong Institute for Patient Safety and Quality. The Comprehensive Unit-based Safety Program (CUSP) emphasizes careful measurement of a safety issue, research to develop a likely solution, and team-

EXECUTIVE SUMMARY

Surgical site infections (SSIs) following colorectal operations were cut by one-third when a simple safety checklist was implemented, along with encouragement to caregivers to speak up about potentially unsafe practices. *(A copy of the checklist is included with the online edition of this newsletter.)*

- SSIs occur in 15-30% of patients who have colorectal surgeries.
- Researchers estimate that 28 infections were prevented in 2010 to 2011 at their hospital, which resulted in an estimated cost savings of between $168,000 and $280,000 for just one year.

driven culture changes that eliminate barriers to challenging unsafe practice.

Based on an initial safety survey and monthly meetings, a CUSP team of surgeons, nurses, operating room technicians, and anesthesiologists identified six key interventions. Those included standardization of skin preparation, prescription of preoperative chlorhexidine showers, restricted use of by-mouth bowel cleansing solution before procedures, warming of patients in the pre-anesthesia area, adoption of enhanced sterile techniques for bowel and skin portions of the case, and addressing lapses in prophylactic antibiotics. *(To see how nurse staffing and burnout can impact SSIs and other infections, see story, below.)*

RESOuRCE

For more information on the Comprehensive Unit-based Safety Program (CUSP), go to http://bit.ly/lwKn0c. ■

Nurse staffing, burnout linked to infections

(We tweeted about this news on Aug. 1. To receive breaking news as it happens, follow us on Twitter @SameDaySurgery.)

Nurse burnout and staffing woes lead to higher healthcare-associated infection rates (HAIs) and costs healthcare providers millions of additional dollars annually, according to a study published in the August issue of the American Journal of Infection Control, the official publication of the Association for Professionals in Infection Control and Epidemiology (APIC).

Researchers from the Center for Health Outcomes and Policy Research at the University of Pennsylvania School of Nursing analyzed data previously collected by the Pennsylvania Health Care Cost Containment Council, the American Hospital Association Annual Survey, and a 2006 survey of more than 7,000 registered nurses from 161 hospitals in Pennsylvania to study the effect of nurse staffing and burnout on surgical site infections (SSI) and catheter-associated urinary tract infections (CAUTI), two of the most common HAIs. Job-related burnout was determined by analyzing the emotional exhaustion subscale from the Maslach Burnout Inventory-Human Services Survey (MBI-HSS) that was obtained from nurse survey responses. The MBI-HSS filters 22 items on job-related attitudes into emotional exhaustion, depersonalization, and personal accomplishment, identifying emotional exhaustion as the key component to burnout syndrome. More than one-third of survey respondents received an emotional exhaustion score of 27 or greater, the MBI-HSS definition for healthcare personnel burnout.

Comparing CAUTI rates with nurses' patient loads (5.7 patients on average), the researchers found that for each additional patient assigned to a nurse, there was roughly one additional infection per 1,000 patients (or 1,351 additional infections per year, calculated across the survey population). Additionally, each 10% increase in a hospital's high-burnout nurses corresponded with nearly one additional CAUTI and two additional SSIs per 1,000 patients annually. The average rate of SSIs across hospitals was 5 per 1,000 patients; for CAUTIs, it was 9 per 1,000 patients.

Using the per-patient average costs associated with SSIs ($11,087 to $29,443 each) and CAUTIs ($749 to $832 each), the researchers estimate that if nurse burnout rates could be reduced to 10% from an average of 30%, Pennsylvania hospitals could prevent an estimated 4,160 infections annually with an associated savings of $41 million.

"Healthcare facilities can improve nurse staffing and other elements of the care environment and alleviate job-related burnout in nurses at a much lower cost than those associated with healthcare-associated infections," conclude the authors. "By reducing nurse burnout, we can improve the well-being of nurses while improving the quality of patient care." ■

CNE/CME INSTRuCTIONS

Physicians and nurses participate in this CNE/ CME program and earn credit for this activity by following these instructions.

1. Read and study the activity, using the provided references for further research.
2. Log on to **www.cmecity.com** to take a post-test; tests can be taken after each issue or collectively at the end of the semester. *First-time users will have to register on the site using the 8-digit subscriber number printed on their mailing label, invoice or renewal notice.*
3. Pass the online tests with a score of 100%; you will be allowed to answer the questions as many times as needed to achieve a score of 100%.
4. After successfully completing the last test of the semester, your browser will be automatically directed to the activity evaluation form, which you will submit online.
5. Once the completed evaluation is received, a credit letter will be e-mailed to you instantly. ■

COMING IN FUTURE MONTHS

- Tips for ACL surgeries in pediatric athletes
- Can you determine if that temp worker is dangerous?
- Advice for quality measure reporting
- Reduce insurance cost with a wellness program – Here's how

CNE/CME OBJECTIVES

- **Identify** clinical, managerial, regulatory, or social issues relating to ambulatory surgery care.
- **Describe** how current issues in ambulatory surgery affect clinical and management practices.
- **Incorporate** practical solutions to ambulatory surgery issues and concerns into daily practices.

CNE/CME QUESTIONS

1. Which of the following statements is true regarding subdermal implants when moving a patient, according to Bonnie G. Denholm, MS, BSN, RN, CNOR, perioperative nursing specialist at the Association of periOperative Registered Nurses.
   A. Subdermal implants do not present any risk during moves.
   B. Subdermal implants could be at risk to tear tissue if you don't use proper lifting techniques.

2. What steps should be taking with corneal implants, according to Linda J. Wanzer, CIV, USUHS, COL(ret), DNP, MSN, RN, CNOR, assistant professor, chair/director, Perioperative Clinical Nurse Specialist Program, Graduate School of Nursing, Uniformed Services University of the Health?
   A. Use positioning devices to minimize pressure on the eyes.
   B. Once the patient is in position, double check the eyes before proceeding with the procedure.
   C. Re-check the patient periodically during the procedure to minimize the effects of "shifts" due to minor movements during surgery.
   D. All of the above.

3. In a nationwide survey was conducted of hospital executives who make decisions regarding capital equipment in hospitals, what percent predicted their outpatient OR case volume will grow over the next three years?
   A. Thirty-nine percent
   B. Fifty-one percent
   C. Seventy-five percent
   D. Ninety-one percent

4. A *Sentinel Event Alert* from The Joint Commission urges healthcare providers to take what steps to prevent serious complications or even deaths from opioid use?
   A. Monitor patients who are receiving opioids on an ongoing basis/
   B. Use pain management specialists or pharmacists to review pain management plans.
   C. Track opioid incidents.
   D. All of the above.

Complete for Surgeons:
Wick, S. Gearhart, J. Efron,
Choti, & Marohn

Patient Sticker

Colorectal SSI Project Intervention Checklist

☐ 1. CHLORAPREP WASHCLOTHS AT HOME

☐ 2. PRE-OP WARMING: Bair hugger placed on patient in pre-op. Temp on ***admission*** to PREP=_____
Temp when ***leaving*** PREP= _____

☐ 3. Did patient do mechanical bowel prep_____
And take **all** oral antibiotics_____

☐ 4. ROOM TEMPERATURE: warmed to 72 degrees prior to patient arrival

☐ 5. ANTIBIOTIC SELECTION
☐ Standard: Cefotetan 2gm or Cefoxitin 2gm

☐ Penicillin Allergy: Clindamycin plus
Gentamicin 5mg/kg

☐ 6. SKIN PREPARATION: Chloraprep completed by RN

☐ 7. INSTRUMENTS: Clean and dirty instruments separated

☐ 8. HYPEROXIA: In OR_____
In PACU or ICU_____

Place completed form in "Colorectal Envelope"

Source: The Johns Hopkins Hospital, Baltimore, MD.

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