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IN THIS ISSUE

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Outpatient surgery managers take swift action to stop spread of swine flu

Outpatient surgery managers are ordering more surgical masks, asking staff and patients about recent travel to areas with swine flu outbreaks, and reinforcing hand hygiene in preparation for a potential swine flu pandemic.

"We have ordered masks with no problem," reports **Peggy Alteri**, RN, BSN, MPS, CASC, administrator and CEO of Holdings, which owns and operates two freestanding surgery centers in Syracuse, NY, and president of the MMAE consulting firm, which specializes in ambulatory surgery development and accreditation. The 200 masks are for staff who interview patients, says Alteri, who also is president of the New York State Association of Ambulatory Surgery Centers.

"These masks will be worn by staff in 'high-risk' situations," says Alteri, who also is president of New York State Association of ASCs. High-risk situations include patients who have traveled to areas of swine flu pandemics and are symptomatic, or are simply symptomatic but haven't traveled to those areas, she says. "The intent is that we would screen the patients who are high risk at the time of pre-testing and before their surgery."

The Centers for Disease Control and Prevention (CDC) has rolled out pandemic-level infection control guidelines for health care facilities treating patients with the swine flu strain. **(See recommendations, p. 55.)** As of May 6, the CDC had confirmed 642 cases in 41 states. From an initial epicenter in Mexico City, the swine flu also has been detected in

Special focus in next issue: How not to get sued

In next month's issue of *Same-Day Surgery*, we'll share the best ideas for avoiding liability in the outpatient surgery program. We'll tell you about sources of lawsuits in this area. We'll tell you about new federal regulations that affect you and explain how to comply. We'll warn you about potential problems with your contracts. We'll also tell you how to avoid poor surgical outcomes. Don't miss this special issue of *Same-Day Surgery!*

22 countries. A pandemic had not been officially declared by the Word Health Organization (WHO), but the situation is changing rapidly. Though cases were still being confirmed in Mexico at press time, health officials there estimate that the death count is 29 out of some 822 cases. At press time, there has been two fatalities reported in the United States. The CDC has taken the initial steps to begin seeding and producing vaccine. Federal officials have said it likely will be months before a vaccine can be produced.

When the federal government declared an official "public health emergency," officials shipped millions of doses of antiviral drugs to states reporting cases of swine flu and other states. At press time, the Food and Drug Administration was working with the CDC to distribute diagnostic tests to local and state public health labs.

Richard E. Besser, MD, acting director of the CDC, suggested that businesses should make contingency plans for workers who might call in sick. At a media briefing, he said, "Hopefully, this outbreak would not progress, but leaning forward and thinking about what you would do is one of the most important things individuals and communities can undertake right now."

Two of the probable swine flu cases are at the University of Chicago Medical Center, where both employees were reported to be at home and recovering well. The two had no patient contact and limited staff contact, the hospital reported. The hospital is screening employees, members of the university community, and patient with flu symptoms, it reported. Additionally, the hospital has posted employees at its entrances to monitor patients for flu symptoms, and anyone entering the hospital is being asked to use hand sanitizer.

Alteri sent a memo to her staff that said if they had traveled to Mexico or New York City, they are at high risk for swine flu and should report that travel to the administrator. She also pointed out that there was a suspected case in Cortland, NY. She instructed staff to ask all pre-testing and surgical patients if they had recently traveled to Mexico, California, New York City, or are from the Cortland, NY, area. "This question is to be asked of EVERY patient, and whether they have

EXECUTIVE SUMMARY

Outpatient surgery managers are taking a close look at staff and patient travel, as well as reinforcing hand hygiene, in response to recently reported cases of the swine flu.

- Ask staff and patients about recent travel to cases of reported outbreaks. If a patient has traveled to one of those areas or is symptomatic, please advise an anesthesia provider so the patient can be assessed.
- Consider stocking up on surgical masks and distributing them to staff.
- Answer your staff's questions. **(A Q&A is included with the online issue.)**
- Follow guidelines from the Centers for Disease Control and Prevention. **(See p. 55.)**

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RESOURCES

For more information on preparation for the swine flu and pandemics, see:

- **Centers for Disease Control and Prevention.** Web: www.cdc.gov/swineflu.
- **Center for Infectious Disease Research & Policy.** Web: www.cidrap.umn.edu/cidrap/content/influenza/swineflu/index.html.
- **Department of Health and Human Services.** Web: www.pandemicflu.gov. Click on "health care planning."

The **Association for Professionals in Infection Control and Epidemiology** (APIC) has infection preventionists available for consulting. This information is available at www.apicconsulting.com. APIC Consulting Services Inc.'s (ACSI's) consultants have experience in all aspects of infection prevention and control, including emerging pathogens and emergency preparedness. ACSI's clients include all types of health care facilities.

traveled to these areas or not needs to be documented," Alteri said in her memo. "If a patient has traveled to one of these areas, or is symptomatic, please advise an anesthesiologist, and an assessment of the patient will be done."

She instructed staff that if they are symptomatic and are experiencing any two of the following symptoms, they should not report to work, and they should seek immediate medical attention: fever, cough, sore throat, body aches, headache, and chills. "Please provide me with a document from your physician that you have been screened for swine flu," Alteri told staff. Additionally, she attached a list of frequently asked questions from the New York State Department of Health. **[A copy of Alteri's memo and the FAQs are included with the online issue of *Same-Day Surgery*. For assistance, contact customer service at (800) 688-2421 or customerservice@ahcmedia.com.]**

At FWI Healthcare, an Edgerton, OH-based consulting firm primarily for ambulatory health care providers, employees were discouraged from visiting Mexico over spring break due to dangers associated with the drug cartels and other factors, says **Roger Pence**, president. That advice ended up paying off in terms of limiting staff members' exposure to the swine flu, he reports.

Managers at FWI Healthcare's centers have reinforced their practices regarding hand washing and coughing/sneezing, monitored employee's health conditions, and checked each patient's health status as appropriate, he says. **(For ideas on how to reinforce hand hygiene, see story, p. 57.)** When patients show flulike symptoms, depending on the severity, staff ask the surgeons, anesthesiologists, or medical directors to evaluate the patients' physical condition and determine if they are healthy enough for surgery.

In terms of staff, "our centers have a personnel policy that permits the administrator to have them assessed, by a physician, send them home, or relieve them of direct patient care, if they are suspected of being infectious," Pence says.

If your location is hard hit by the swine flu, consider offering masks to employees as a "good will bonus" to keep them healthy and as a psychological benefit, he advises. "In fact, if the center has an adequate supply, why not offer them to patients and family members, or even the general public?" Pence says. "It might be a real marketing ploy." **(For more information about influenza, see these *Same-Day Surgery* articles: "States and providers tackle influenza — Declination statements boost vaccinations," which includes a sample declination statement, December 2008, p. 128; "Outbreak leads to 70% absentee rate — Norovirus event brings pandemic lessons, November 2007, p. 134; and a package of stories on preparing for a pandemic, including a protocol for patients and staff suffering from respiratory illness, in the October 2006 issue, pp. 109-114.)** ■

Recommendations issued for suspected swine flu

CDC issues guidelines for bronchoscopy

The Centers for Disease Control and Prevention (CDC) has issued the following guidelines to prevention nosocomial transmission of an emerging swine influenza virus:

Any patients who are confirmed, probable, or suspected cases and present for care at a healthcare facility should be placed directly into individual rooms with the door kept closed. Healthcare personnel interacting with the patients should follow the infection control guidance in this document. For the purposes of this guidance, healthcare personnel are defined as persons, including employees, students, contractors, attending clinicians, and volunteers, whose

activities involve contact with patients in a healthcare or laboratory setting.

Procedures that are likely to generate aerosols (e.g., bronchoscopy, elective intubation, suctioning, administering nebulized medications), should be done in a location with negative-pressure air handling whenever feasible. An airborne infection isolation room (AIIR) with negative pressure air handling with 6 to 12 air changes per hour can be used. Air can be exhausted directly outside or be recirculated after filtration by a high-efficiency particulate air (HEPA) filter. Facilities should monitor and document the proper negative-pressure function of AIIRs, including those in operating rooms, intensive care units, emergency departments, and procedure rooms.

Procedures for transport of patients in isolation precautions should be followed. Facilities should also ensure that plans are in place to communicate information about suspected cases that are transferred to other departments in the facility (e.g., radiology, laboratory) and other facilities. *The ill person should wear a surgical mask to contain secretions when outside of the patient room,* and should be encouraged to perform hand hygiene frequently and follow respiratory hygiene/cough etiquette practices [available at www.cdc.gov/flu/professionals/infectioncontrol/resphygiene.htm].

(Editor's note: For the complete CDC guidelines, go to www.cdc.gov/swineflu/guidelines_infection_control.htm.) ■

Surgery programs reduce infections to zero, or close

(Editor's note: In this second part of a two-part series on infection control issues in ambulatory surgery, we give you information about how infection rates are dramatically low at two facilities. In last month's issue, we told you about a model program in North Carolina, as well as recent incidents at a hospital and surgery center.)

Would you like to reduce your surgical infection rate to zero, or close? Some outpatient surgery programs have found that using a chlorhexidine diacetate (CHD) skin prep is a major step toward achieving this status.

"It's the new standard of care," says **Melody Mena**, RN, RNFA, CNOR, managing director of surgical services at Spivey Station Surgery Center, formerly The Surgery Center at Mount Zion, in Jonesboro, GA. The center has been infection-free "since the beginning of time," she reports.

Converting to the CHD skin prep required working closely with physicians, who had preferences for about 50 different prep products, Mena says. "One of things we did was we presented the information to physicians and got them to standardize to one prep," which was CloraPrep (Cardinal Health; Leawood, KS), she adds.

New England Baptist Hospital in Boston also made the switch to CHD skin prep, and the switch was one of several changes that led the hospital from a 0.7 infection rate to a 0.2 infection rate over five years, reports **Maureen Spencer**, RN, MEd, CIC, infection control manager. Spencer spoke on surgical-site infections at this year's meeting of the Association of periOperative Registered Nurses (AORN). The infection rate is particularly outstanding considering that the hospital specializes in orthopedics, which nationally have a 1.25% infection rate, says Spencer, quoting statistics from the Centers for Disease Control and Prevention (CDC).

One focus per year

How did they accomplish this feat? "Each year, we selected an area to focus on, and we focused on it for the entire year," she says.

The first year, New England Baptist ensured that staff were following written policies and procedures for environmental areas such as surgical attire, reprocessing of instruments, and turnover of rooms. "We didn't want to jump ahead," Spencer says. "First, we wanted to make sure policies were being followed."

Other focuses during the five-year effort included antimicrobial wound dressings, participation in the Surgical Care Improvement Project (SCIP), and an evaluation of antimicrobial sutures. Also, the surgery department shut down over the holidays for a complete cleaning and painting facelift that included new laminated flooring in all ORs. The changes totaled $250,000, Spencer says.

Cleaning also is a focus at Spivey Station, where the ORs are terminally cleaned every day, Mena says. At other facilities, "this is one thing that falls by wayside: pre-op decontamination of the ORs," she says. Every day at Spivey Station, all items are removed from the rooms, the walls are wet vacuumed, and every surface is cleaned. "We can't control what patients come through the door and what [disease] they may have," Mena says. "They may be carriers."

Consider the example of a patient who comes in on a Monday with methicillin-resistant *Staphylococcus aureus* (MRSA) to a surgery center that doesn't terminally clean until Sunday, she says. "Our logic is that we should have the same standard of care across the entire week," Mena says.

Spivey Station staff work diligently to avoid cross-contamination, Mena says. The surgery center has been organized so that clean items come in one side, and dirty ones go out the other.

"We're not taking dirty instruments into a main hallway with a clean case cart with sterile supplies," Mena says. "It's a flow issue." **(For more steps taken by these outpatient surgery programs, see story, below.)**

Also, Spivey Station tracks patients for up to 90 days for postoperative infections, she says. The center doesn't simply rely on physicians for that information, Mena notes. "They don't really like to report that," she says. At discharge, the staff provide patients with a hotline number to call if they develop any symptoms of infection.

When focusing on infection control reduction, keep in mind that one of the keys is collaboration, Spencer says. "It's got to be supported from the top down, and ORs have to open doors and let [infection preventionists] in," Spencer says. "We have to work together, to open their eyes." ■

How to get staff to wash their hands

Do you want to make sure your staff members are washing their hands? Then ask the patients whether they did.

This advice comes from Spivey Station Surgery Center in Jonesboro, GA, formerly The Surgery Center at Mount Zion, which has a zero infection rate.

Staff members are required to announce to patients that they are washing their hands for the patient's protection, says **Melody Mena**, RN, RNFA, CNOR, managing director of surgical services at Spivey Station. Even office staff are required to wash hands every time they eat, go to the bathroom, or travel into patient care areas, Mena says.

Signs are posted on every sink that say, "Please make sure your care provider washes their hands today." "We are incorporating the patients to be direct participants in our infection control program," Mena says. These steps support accreditation requirements from The Joint Commission for patients to be active participants in their care, she says.

Staff members hand a satisfaction survey all patients before they leave the center, which questions them about hand hygiene compliance. Staff have to reach 95% compliance, or they automatically lose 1% of their merit raise, she reports.

Infection rate drops 0.5

Hand hygiene also is a focus at New England Baptist Hospital, Boston, which reduced its surgical infection rate from 0.7 to 0.2 over a five-year period, according to **Maureen Spencer**, RN, MEd, CIC, infection control manager. Spencer addressed surgical infection rates at this year's annual meeting of the Association of periOperative Registered Nurses (AORN).

New England Baptist designates thousands annually exclusively for marketing the hand hygiene program. Spencer conducts six hand hygiene programs every year. "We're constantly enforcing it for staff, very creatively," she says.

To make herself visible, Spencer would "camp out" in the cafeteria. "We have to be out with practitioners and staff," she emphasizes. Spencer distributed bottles of sanitizer and free gifts related to that program's themes. Themes included:

- LUAU, which stood for Let Us Always Use good hand hygiene. The theme day included Hawaiian music and food. Participants were given an alcohol hand rub as they entered the cafeteria.
- BEACH Party (Because Everyone Achieves Clean Hands), which included a limbo contest and desserts.
- HOP out of SNOW into Spring. HOP stood for Handwashing Offers Protection, and SNOW stood for Stop Nosocomial Organisms by Washing. The theme day included gifts, raffles, and prizes. **[The Joint Commission has released a new resource to help providers measure hand hygiene compliance. For more information, see *Same-Day Surgery Weekly Alert*, April 17, 2009. For a free subscription to the weekly ezine, contact customer service at (800) 688-2421 or customerservice @ahcmedia.com.]**

Spencer says her philosophy is you continue to reinforce the importance of hand hygiene and use creative eye-catching materials and gifts "to engage the staff and elicit their commitment to infection prevention and hand hygiene," Spencer says. ■

Same-Day Surgery Manager

If you think you have a problem, here's what to do

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

The most frequent request we get at our office is to troubleshoot facilities. This request comes from freestanding surgery centers, hospital ambulatory surgery centers (ASCs), hospital operating rooms, and everything in between. We have almost 550 clients for these services and, amazingly, most have almost the same problem. Thus, as a very late or very early holiday gift, I want to share some of the commonalities we find.

The call for assistance typically comes from a member of the board or surgical committee. It always begins with "We think we might have a problem at our facility . . ."

• **Fact: If you think you have a problem, you do.** From that point, the conversation will start to detail a group of little things that don't add up.

• **Fact: The problem is always a lot of little things. Rarely is it a single issue such as "our lead surgeon unexpectedly retired."** Once the issues have been laid out, start to unravel them to find some common link or source.

• **Fact: Most of the time, all the little problems are interconnected.** Because these issues or problems are so common, I want to review the more obvious with you.

The No. 1 reason we are called is for issues related to revenue or profitability.

"We just are not as profitable as we were in the past, and we cannot pinpoint the cause," we hear. This statement holds true for freestanding ASCs and hospital outpatient departments.

So, where do you look for the root cause? It always begins with the center's Profit & Loss Statement. The more common causes of revenue erosion lie in personnel cost and supply cost, so start there. While hospital revenue statements are more difficult to track, it can be done. You might need help from the finance department, however.

As a rule of thumb, your personnel cost and supply cost usually are close to the same percentage of net revenue (NR). Net revenue is not profits and not gross revenue, but it is your gross revenue minus your contractual adjustments — in other words, the money that actually comes in the door before you deduct expenses. Both personnel cost and supply cost are *typically* about 22%-24% of your NR. The more cases you do, the smaller these percentages *should* be. Newer facilities that still are ramping up their cases (which can take up to 24-36 months) will find that personnel cost will be significantly higher due to the fact that you still need a certain level of staff just to be available for cases. So, if you are relatively new, don't beat yourself up on that — yet!

We always find that centers are overstaffed by at least 10%. That is not necessarily a bad thing, but it is true. Most managers of the departments are clinical, and all of us like a little extra staff available — just in case! However, paring back in difficult times usually helps.

Almost always we find that the supply costs are being inaccurately counted. Whatever system you are using to track your supplies is faulted by human error. The best way to resolve it is audit your own cases to get a benchmark and then backtrack the system to resolve the issue or update your supplies.

Have someone take the surgeon's preference card in hand and literally check off what he/she uses on the cases. For accuracy, take your top 10 procedures, and audit each one five times. Toss out the high cost and the loss cost, and then average the remaining three to get the best overall cost per procedure. If you have the manpower, do it for each surgeon who performs the same case.

Once you have that checklist, have your materials manager price it for you. Don't forget to add any costs from admissions through PACU to get the most accurate cost. Did anyone mention anesthesia costs yet? You need to add the fluids, drugs, tubing, stopcocks, gases, etc., to your expenses. Anesthesia often can add hundreds of dollars per case to your expenses. It's impossible to ignore, but most try.

Have your materials manager quickly scan your supply cost per unit. Often an error can be discovered quickly. We once found an IV tubing set entered into the system for $210 when it should have been $2.10. Look for the obvious.

Space will not allow for all of the other issues related to an audit. I can add more items we look for in a future column. Let me know if you would

like to see more, or if you have any ideas to share. *(Earnhart & Associates is an ambulatory surgery consulting firm specializing in all aspects of outpatient surgery development and management. Contact Earnhart at 13492 Research Blvd., Suite 120-258, Austin, TX 78750-2254. E-mail: searnhart@earnhart.com. Web: www.earnhart.com.)* ■

TJC makes it clear: Get surgical smoke out of OR

The air is clearing in the nation's operating rooms, as The Joint Commission (TJC) places a greater emphasis on evacuating smoke from electrocautery procedures.

In the accrediting process, hospitals have long been required to manage "risk related to hazardous material and waste." In the 2009 Environment of Care standard, The Joint Commission added a note for clarification: "Hazardous gases and vapors include, but are not limited to, glutaraldehyde, ethylene oxide, vapors generated while using cauterizing equipment and lasers, and gases such as nitrous oxide."

This is the first specific mention of surgical smoke in TJC standards, although the National Fire Protection Association (NFPA) code addresses smoke detectors and scavenging of waste anesthetic gases. TJC requires hospitals to comply with NFPA codes.

"We have always interpreted the smoke that's generated from these procedure [as a hazard]," says **Jerry Gervais**, CHFM, CHSP, BSME, associate director and engineer in the Standards Interpretation Group of TJC. "Organizations didn't make that connection so we wanted to be very, very clear about it. The hospital should have a written policy on how they're handling this issue," he says. "By having a written policy, they can require compliance by all employees. They can write in the required safety precautions and hold them accountable."

AORN says reduce exposure

The "clarification" by TJC comes on the heels of a 2008 position statement by the Association of periOperative Registered Nurses (AORN), urging hospitals and surgery centers to reduce exposure to surgical smoke and bioaerosols released in laser and electrosurgical procedures.

In March 2009, the Canada Standards Association issued a voluntary "Plume Scavenging Standard" that provides guidance on systems that evacuate surgical smoke from electrosurgery procedures. Hospitals frequently tout their "smoke-free" campus. Now, the "no-smoking" rule will include the pungent smoke produced when tissue is burned, say OR nurses who have advocated for greater attention to the issue.

Vangie Dennis, RN, CNOR, CMLSO, clinical manager of procedural nursing at Gwinnett Medical Center in Duluth, GA, and a member of the AORN Surgical Smoke Evacuation Task Force, says, "I think the biggest challenge we have is getting the message across to the surgical team that what they're doing has cumulative long-term effects, just as secondhand cigarette smoke does. If you take a look at the constituents of cigarette smoke, it's identical to surgical smoke, only we have additional components," including viable bacteria and viral particles, she adds.

Equipment lacking, nurses report

"Health hazard evaluations" conducted at three hospitals by researchers from the National Institute for Occupational Safety and Health (NIOSH) detected formaldehyde, acetaldehyde, and toluene in surgical smoke, though not above recommended or permissible exposure limits. OR employees complained of irritant symptoms.

Yet too often, hospitals don't have adequate smoke evacuation equipment, says **Kay Ball**, RN, PhD, CNOR, FAAN, a nurse consultant/educator in Columbus, OH, and chair of the AORN Surgical Smoke Evacuation Task Force. Lack of equipment was the No. 1 barrier to complying with smoke evacuation recommendations that was cited in a survey of 777 nurses she conducted as part of her dissertation. **(For more on the survey, as well as information on how outpatient surgery programs are addressing surgical smoke, see story, p. 60.)** "Hospitals need to get smoke evacuation devices for every surgical suite," she says. "There are still a lot of people who are not evacuating surgical smoke."

Other barriers included the noise of the equipment, lack of support from physicians, and complacency of the staff. Freestanding ambulatory surgery centers are more likely to evacuate smoke than hospitals, as are larger or urban facilities, Ball found.

To implement smoke evacuation, begin with a committee that includes OR leaders or "champions," advises Dennis. The committee can conduct

an assessment and determine the needs and concerns of OR staff and physicians, she adds.

For example, if surgeons are concerned about noise or interference with their procedures, investigate products that are insulated and that can be easily incorporated into the OR, Dennis points out. "We addressed the loudness. We made sure the staff understood you didn't have to turn it up to 100%," she says. "On a small smoke-generating procedure, 20% [power on the smoke evacuator] is enough."

Educating your staff

Conduct a trial of the new products, and educate staff about how to use them and why evacuating surgical smoke is important, says Dennis. She conducts education annually. One resource for providers is AORN's surgical smoke toolkit, which includes a sample policy and procedure, competency skill checklist, tips for compliance, and a link to vendors. **(See resource box, below.)**

After implementing a new policy, hospitals should follow up with observations to check for compliance, Dennis says.

Changing habits can be difficult. While facilities typically implemented smoke evacuation along with new laser technology, they have been slow to make smoke evacuation routine in electrosurgical procedures. But facilities are getting the message, says Ball.

"I want to make 2009 the year of smoke evacuation," she says. "I want everyone to realize you can't breathe this in. We need to protect the air of the surgical nurses." ■

SOURCES/RESOURCE

For more information on smoke evacuation, contact:

- **Kay Ball**, PhD, RN, CNOR, FAAN, Perioperative Nurse Consultant/Educator, K&D Medical, Lewis Center, OH. Phone: (614) 975-4972. E-mail: kayball@aol.com.
- **Cynthia Iannelli**, RN, BSN, CNOR, Redding Hospital at Spring Ridge Surgery Center, Wyomissing, PA. Phone: (610) 568-3050. E-mail: Iannellic@readinghospital.org.

To access the **Surgical Smoke Evacuation Toolkit** from the Association of periOperative Registered Nurses (AORN), go to www.aorn.org. Under "Practice Resources," select "Toolkits," then select "Surgical Smoke Evacuation Toolkit."

You can address problems with surgical smoke

Perioperative nurses experience respiratory symptoms at a higher rate — sometimes twice the rate — of others in the United States, based on a recent study conducted by **Kay Ball**, RN, PhD, CNOR, FAAN, perioperative consultant/educator with K&D Medical in Lewis Center, OH. Ball, who is chair of the Association of periOperative Registered Nurses (AORN) Surgical Smoke Evacuation Task Force, conducted the research as part of her PhD dissertation.

In her study of 777 nurses, Ball found, for example, that 22.9% nurses in the study experiences sinus infections/problems, compared to 10.3% of people nationally. Nurses in the study also reported higher rates of allergies (24.2% vs. 18.4%), asthma (10.9% vs. 6.4%), and bronchitis (9% vs. 4.5%).

"The perioperative nurses may be experiencing higher prevalence ratings because of continual inhalation of surgical smoke," Ball said. The reason? "Surgical smoke has been shown to contain toxic gases and small particulate that are hazardous when inhaled," she said. "Also the high potential for the transmission of viable organisms within the plume has been revealed."

Several professional organizations, including the Association of periOperative Registered Nurses (AORN), have supported the classification of surgical smoke as an inhalation hazard and have published recommendations for smoke evacuation that foster a clean air environment in the OR. "Toxic gases create an offensive odor, small particulate matter causes respiratory complications, and pathogens may be transmitted within the surgical smoke to the surgical team," Ball said.

However, not much emphasis has been placed on the inhalation of surgical smoke in ORs, she said. Additionally, smoke evacuation recommendations aren't being followed consistently by periop nurses, Ball said. However, a few facilities stand out, such as The Reading Hospital (TRH) Surgicenter @ Spring Ridge, Wyomissing, PA. The Surgicenter @ Spring Ridge has placed smoke evacuators in every OR.

"Now we're using them for just about everything," says **Cynthia Iannelli**, RN, BSN, CNOR, OR educator and chair of the facility's practice council and steering committee.

Anesthesia staff initiated the change, she says.

"They were feeling the effects of sitting there, and smelling smoke, more than some of us," she says. Iannelli developed a policy and gave a poster presentation for her staff and physicians. **[The policy is included with the online issue of *Same-Day Surgery*. For assistance, contact customer service at (800) 688-2421 or customer service@ahcmedia.com.]** She also wrote a letter for managers to share with surgeons that explains the reasons for wanting to enforce use of the smoke evacuator. **(The letter also is included with the online issue of *SDS.)***

When you're selling physicians and staff on the idea of using smoke evacuators, keep in mind that most don't "buy into the idea that we'll get cancer because we're taking out a tumor with electrosurgical units," Iannelli says. "I found if I told them that probably is a very small risk, however; you're still breathing lots of particle and contaminants that's an irritant to lungs and throat, causes sinus conditions and respiratory conditions, we've gotten more acceptance."

Compliance has been good at her facility, she reports. "They've gotten where they don't fight us at all, and some like it," Iannelli says.

One reason for the acceptance is that their smoke evacuator, Crystal Vision Smoke Evacuator and the handheld electrosurgery-smoke pencil PenEvac (both from I.C. Medical), is user-friendly, she says. **(For manufacturer's contact information, see resource box, below.)** The unit is one piece, as opposed to a clip-on evacuator that can snap off during a case. Also, their unit is set up so that it only comes on when the electrosurgery unit is activated, she says. "You don't have the constant noise from a smoke evacuator going all the time," Iannelli says.

The change has had an impact, with staff reporting less burning in their eyes and less respiratory irritation, she reports. Additionally, it smells better in the room, Iannelli says.

The cost is $35 per case. "That includes the electrosurgery pencil with a shroud, or the one-piece PenEvac that we use, plus any tubing and filters," Iannelli says. "For our facility and the type of cases we do, it is less than $20,000 per year." ■

RESOURCE

For more information about the Crystal Vision Smoke Evacuator ($4,845) and the PenEvac ($550 per case of 20), contact:

- **I.C. Medical**, 2002 W. Quail Ave., Phoenix, AZ 85027. Phone: (623) 780-0700. Fax: (623) 780-0887. E-mail: inquiry@icmedical.com.

National push under way for surgical safety checklist

Removing reliance on memory

If flight crews have to do it before takeoff, why shouldn't surgical teams do it before cutting into a patient?

Safety checklists aren't about second-guessing anyone's clinical judgment, experts say; they're about making sure, in a systematic way, that the team is ready to proceed, rather than relying on sometimes fallible human memory.

Surgical safety checklists, in particular, have received increasing attention in the last few months, thanks to an important study, a pair of major initiatives, and a memorable scene in a popular television show.

On Jan. 29, *The New England Journal of Medicine* published "A surgical safety checklist to reduce morbidity and mortality in a global population," spotlighting the favorable outcomes of using a checklist developed by The World Health Organization (WHO). More recently, the TV show *ER* presented a fictional scenario in which a surgical safety checklist headed off potentially serious problems in a transplant operation. Now the Institute for Healthcare Improvement (IHI) and Washington state-based SCOAP (Surgical Care and Outcome Assessment Program) have implemented programs to get hospitals on board with using a surgical safety checklist, beginning by implementing it in just one OR.

IHI's surgical safety checklist sprint

First announced at its national forum, the IHI's Surgical Checklist Sprint, a voluntary initiative, asks hospitals to implement the use of the checklist in one OR by April 1 "because we advocate doing small tests of change," says **Fran Griffin**, MPH, IHI director. "When you test something small, then you can learn very quickly whether or not it's going to work as it is or you have to make modifications."

Participating hospitals were asked to report to the IHI if they were going to try to implement it

and then follow up as to whether they did. As illustrated in the *ER* episode, Griffin points to the three areas she sees the most push back to using the tool. First is the perception that "we're doing this already." While she says it might be true that hospitals are doing most of the things on the checklist, the intent is do to *all* of these things *all* of the time for *all* patients.

Three purposes of checklist

Griffin says the purpose of the checklist is not to fill out another form, but is threefold: One is to take three pauses at critical points of a surgery in which the whole team stops and pays attention. The second is that, at a minimum, the team is verbally confirming every element of the checklist. "In fact to meet The Joint Commission's Universal Protocol, they have to go beyond the WHO version, but they're verbally confirming every item."

Third is that "the verbal review is done using some reference that doesn't rely on memory." Moving away from reliance on memory is one of the integral components use of the checklist represents. Staff reluctance to use the checklist, she says, is a misperception of the "process that goes along with the document."

"Another pushback we get, and it's not so much push back as much as people being concerned, legitimately so, about the fact that this will not meet the Universal Protocol," Griffin adds. The Universal Protocol, she says, was intended primarily to avoid wrong-site or wrong surgery. The checklist, however, was not designed with this in mind but rather to provide safer surgical care. Griffin insists that the two can be used as complements to one another, especially as the IHI promotes modifying or adapting the checklist to include what elements you want.

The third most common pushback, Griffin says, which they expected to encounter more often then they have, is from physicians. She says often older surgeons are the ones who are most resistant and who might have been trained to think differently about the OR. "They view this as people second-guessing their ability, their judgment, their intellect, and of course we all know that's not the goal here at all."

Griffin and other experts say they don't favor legislation or regulation regarding the list. Rather than being mandated, Griffin hopes it just becomes a standard of care. And unlike the Universal Protocol, which focuses on wrong-site and wrong surgery, which she says is a very rare occurrence, use of the checklist "is not so punitive and blameful to a lot of surgeons."

While she already has seen documents from one state considering mandating the checklist, Griffin says "legislation can sometimes have unintended consequences." The beauty of the Sprint, she says, is that there aren't set-in-stone actions. The intent is to take the three pauses and fulfill what the checklist is designed for. She says the fact that it is a checklist with boxes often gives the wrong perception: that users are supposed to check off the boxes. It's not about checking boxes, but asking the questions and taking the time to note that everything is done or made ready.

"Sometimes people shoot themselves in the foot in making these things more complex than they need to be," Griffin says, "and my worry would be that if you legislated this, it would come out as too prescriptive."

The checklist represents a lot of the characteristics integral to a high-reliability organization (HRO), which is a concept Griffin often speaks about, such as preoccupation with failure. "When we go into the OR, the assumption is that everything is going to go well," she says, but "it's about being ready, recognizing that no matter how good anybody is that nobody is 100% all of the time, humans are fallible, and the policies and processes we're using were designed by humans. So, failure is a given."

The checklist, Griffin says, addresses possible failures "that if they occur are going to put us in the greatest risk of harm to the patient. Failure to give the antibiotic is one. Failure to have the blood in the OR and ready if we need it is another."

Another HRO component, deference to expertise, also is highlighted by the checklist. Griffin asks: Who is the best person in the room to answer questions about the airway? The anesthesiologist, she says. "But prior to the WHO checklist, were people pausing to ask the anesthesiologist: Do you think the airway is easy or difficult today? That information was known to the anesthesiologist, but not the rest of the team," Griffin points out. Deference to expertise means you're going to the one on the team who best knows that answer, such as going to the scrub nurse to ask if the team has everything it needs. Questions include: Did we check the equipment? Did we give the antibiotic?

Griffin points again to eliminating the variability that comes from reliance on memory as one of the key benefits of using the checklist. ■

SCOAP scopes out checklist

SCOAP is a nonprofit, voluntary, physician-led collaborative to improve the quality of surgical care. Among its programs is one promoting use of a surgical checklist. Its goal is to have every hospital using it in every OR in the state by the end of the year. At press time, there were 42 hospitals signed on with the checklist initiative.

Rosa Johnson, ARNP, MN, CPHQ, SCOAP program director, says use of the surgical checklist is "very logical, very practical." The checklist differs a bit from the World Health Organization (WHO) checklist and includes "a number of process-of-care measures. Like being sure that the patient whose blood glucose is high gets treated and beta-blockers are continued." Step Two of the checklist, intended to be checked prior to skin incision, includes elements such as: active warming in place, deep vein thrombosis/pulmonary embolism prevention plan in place, antibiotic re-dosing plan in place, specialty-specific checklist needed, and agreed-upon plan to prevent sharps injury. For these elements, hospitals are asked to track whether each has been confirmed as part of the checklist. *(Editor's note: To view the checklist, visit www.scoap.org.)*

Costco printed poster-sized checklists at no cost to SCOAP that facilities can order. The posters are 2x3 feet and are laminated so hospitals can hang them in ORs and can use them over and over. Another suggestion Johnson makes for implementing the checklist is putting it in the basic sterile pack. Other suggestions are listed on the web site, but Johnson says SCOAP has not been prescriptive on how hospitals use the checklist.

"We basically tell them, like you do anything where you're going to have something really happen, you need to develop a team and you need to have your leaders or champions." SCOAP offers a pre- and post-implementation survey hospitals can use to gauge perceptions on how the checklist has changed safety in the ORs. And she points to one of the greatest benefits of the checklist approach.

"I think it's a very practical way to improve care in the OR and represents the recognition that we are people and we are human and we can't remember everything," Johnson says. Surgical care is complex, she adds. "Just like pilots who can't remember everything, so they have a checklist to remember," Johnson says. "I think it's an acknowledgement that surgeons and staff can't remember everything, and we need a checklist to help us remember." ■

Study says E-prescribing systems boost efficiency

Research in the May issue of the *Journal of the American College of Surgeons* indicates that electronic prescribing systems might allow greater efficiency at hospitals, which could result in long-term cost savings and improved quality of care.

"Although we found that the implementation of an electronic prescribing system at our institution had no substantial impact on the rate of medication errors, we did see considerable gains in efficiency for the ordering process," said **William M. Stone**, MD, FACS, of Mayo Clinic Arizona.

Researchers reviewed implementation of an electronic prescribing system in a multispecialty surgical practice. Before the system, the time required for a provider to place an order was 41.2 minutes. With the system, this time decreased to only 27 seconds

CNE/CME instructions

Physicians and nurses participate in this CNE/CME program by reading the issue, using the references for research, and studying the questions. Participants should select what they believe to be the correct answers, then refer to the answers listed in the answer key to test their knowledge. To clarify confusion on any questions answered incorrectly, consult the source material. **The semester ends with this issue.** You must complete the evaluation form provided and return it in the reply envelope to receive a certificate of completion. When your evaluation is received, a certificate will be mailed to you. ■

COMING IN FUTURE MONTHS

- Adding 24-hour surgical suite vs. putting patients at hotel
- Improve retention: Address staff dissatisfaction
- Special needs of geriatric patients in the OR
- Tip for handling a crisis in PACU

($p < 0.01$). Additionally, personnel were no longer required to clarify and transcribe written orders into an accessible format. Due to the decreased workload, 11 of 56 (19.6%) personnel positions were eliminated, translating to a yearly financial benefit of $445,500. The total capital cost for the implementation project was $2.9 million, with an additional operating cost of $2.3 million. ■

CNE/CME *questions*

- **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.

21. For patients with known or suspected swine flu, The Centers for Disease Control and Prevention recommends a procedure room with negative-pressure air handling for which of the following?
A. Suctioning
B. Bronchoscopy
C. Intubation
D. All of the above

22. At New England Baptist Hospital, what was the focus in the first year of the efforts to reduce infection rates?
A. Managers ensured that staff members were following written policies and procedures for environmental areas.
B. Antimicrobial wound dressings.
C. Surgical Care Improvement Project (SCIP).
D. An evaluation of antimicrobial sutures.

23. At Spivey Stations Surgery Center, what happens if staff members don't reach 95% compliance with hand hygiene guidelines?
A. They are required to attend a one-hour inservice on hand hygiene.
B. They are put on teams to develop educational materials on hand hygiene.
C. They automatically lose 1% of their merit raise.

24. What addition did The Joint Commission make in the 2009 Environment of Care standards?
A. Smoke evacuators are required in every OR.
B. It said hazardous gases and vapors include, but are not limited to, glutaraldehyde, ethylene oxide, vapors generated while using cauterizing equipment and lasers, and gases such as nitrous oxide.
C. Managers are required to teach staff about potentially lethal particles in surgical smoke.

Answers: 21. D; 22. A; 23. C; 24. B.

To: All HCOS Staff
From: Peggy Alteri
Date: April 28, 2009
RE: Swine Flu

Due to the recent outbreak of swine flu, we are taking the following actions:

If you have traveled to Mexico or New York City recently, you are at high risk for swine flu. Please report your travel to the administrator. Please note that there is also a suspected case in Cortland, NY.

Please ask all pre-testing and surgical patients if they have recently traveled to Mexico, NYC, California, or are from the Cortland, New York, area and document in the record. This question is to be asked of EVERY patient and whether they have traveled to these areas or not needs to be documented.

If a patient has traveled to one of these areas, or is symptomatic, please advise an anesthesiologist and an assessment of the patient will be done.

If you are symptomatic, and are experiencing any 2 of the following, do no report to duty and seek immediate medical attention from your primary care physician:

Fever
Cough
Sore Throat
Body aches
Headache
Chills

Please provide me with a document from your physician that you have been screened for swine flu.

I have attached a FAQ sheet from the New York State Department of Health for your information.

Please advise me immediately if you have a concern regarding a patient, yourself, or a co-worker related to swine flu.

Source: Holdings, Syracuse, NY.

Swine Influenza (swine flu) Questions and Answers

What is swine flu?

Swine Influenza, also called swine flu, is a respiratory disease of pigs caused by type A influenza viruses. Outbreaks of swine flu happen regularly in pigs. People do not normally get swine flu, but human infections can and do happen. Most commonly, human cases of swine flu happen in people who are around pigs but it's possible for swine flu viruses to spread from person to person also.

Is swine flu the same as seasonal flu?

No. Seasonal flu is a contagious respiratory illness caused by human influenza viruses. It can cause mild to severe illness and at times can lead to death. Human flu viruses change a little bit every year which is why people can get sick from the flu more than once. It is also why a new flu vaccine is produced each year; the vaccine must be made to protect against the particular viruses circulating that year.

Is this the same as the bird flu that has been in the news in recent years?

No. There are many different types of influenza viruses. The bird flu virus that has been watched closely is categorized as influenza A (H5N1), and is transmitted primarily among birds. This virus has not been found in the United States.

Is swine flu the same as pandemic flu?

No. Rarely, an influenza virus undergoes a major change that results in a completely new virus. If the new virus spreads easily from person to person it is called a pandemic. Swine flu is not the same as pandemic flu. All human influenza pandemics in the past have been caused by human influenza viruses. Swine flu viruses have caused human infections before without becoming a pandemic flu virus. It is unknown whether this current swine flu A (H1N1) virus could become a pandemic.

Are there people infected with swine flu in the U.S.?

Yes. Cases of human infection with swine influenza A (H1N1) have been confirmed in California, Texas, Kansas, Ohio and New York City. It is the same virus found in people in Mexico. The current U.S. case count is provided below.

U.S. Human Cases of Swine Flu Infection

State	# of laboratory confirmed cases
California	7 cases
Kansas	2 cases
New York City	28 cases
Ohio	1 case
Texas	2 cases
Total Count	**40 cases**

International Human Cases of Swine Flu Infection

See: World Health Organization

As of April 27, 2009 1:00 PM ET

What is the current swine flu situation in New York State?

New York City health officials report that more than 100 students at the private St. Francis Preparatory School in Queens have come down with mild flu-like symptoms. CDC officials have confirmed that 28 of these students have swine flu and it is the same strain of the virus as the one in Mexico. New York City health officials have also identified 17 more probable cases within the St. Francis school cluster, and confirmatory testing is being conducted at the CDC. The school is cancelling classes on Monday and Tuesday in response to the outbreak. The NYCDOHMH has issued recommendations for New York City residents on their web site, at: http://www.nyc.gov/html/doh/html/pr2009/pr015-09.shtml

What is New York State doing to identify additional swine flu cases in New York?

The New York State Department of Health conducts flu surveillance throughout the year. To ensure rapid detection if any swine flu cases occur here, the New York State Department of Health is testing selected laboratory samples from people who are suspected of having swine flu.

Should I keep my child home from school as a precaution?

No. Parents do not need to keep otherwise healthy children home from school unless directed to do so by local school and health officials.

Children who are ill should not attend school. In this case, monitor your child for influenza-like symptoms, including fever, body aches, runny nose, sore throat, nausea, vomiting or diarrhea, and keep your child home if they are sick. You may want to contact their health care provider, particularly if symptoms are severe. Be sure to tell your doctor if you have recently traveled, especially to those areas where swine flu has already been found, including San Diego County and Imperial County, California; San Antonio, Texas; Dickinson County, Kansas; Lorain County, Ohio; and New York City. Your health care provider will determine whether influenza testing or treatment is needed.

How are people getting sick from swine flu?

CDC has determined that this swine flu virus is spreading from person to person. Spread from person to person is thought to occur in the same way as seasonal flu, mainly through coughing or sneezing of infected people. However, at this time, it not known how easily the swine flu virus spreads between people.

What are the signs and symptoms of swine flu in people?

The symptoms of swine flu in people are similar to the symptoms of regular human flu and include fever, cough, sore throat, body aches, headache, chills and fatigue. Some people have reported diarrhea and vomiting associated with swine flu. Like seasonal flu, swine flu can vary in severity from mild to severe, and may cause a worsening of underlying chronic medical conditions. The severity of illness from the current swine flu strain is not yet clear. The few cases found in the United States so far have been mild.

Can swine flu be treated?

Yes. This swine flu virus is susceptible to certain antiviral drugs used to treat flu infections (oseltamivir, or Tamiflu, and zanamivir, or Relenza). For treatment, antiviral drugs work best if started soon after getting sick (within 2 days of symptoms). If you become ill and are diagnosed with influenza, your doctor can determine if you should take antiviral drugs.

Should I ask my doctor for a prescription anti-flu drug?

No. Antiviral drugs are usually used to treat people who are at risk for developing life-threatening complications from the flu. There is no reason to routinely ask for one of these drugs to keep at home, or to take them just as a precaution. Over-use could result in limited supplies for those who need it most. In addition, over-use of antiviral drugs has been known to lead to flu viruses becoming resistant to the drugs. All drugs, including antivirals, can cause side effects and should only be used when necessary under the direction of a health care provider.

How long can an infected person spread swine flu to others?

People with swine flu infection should be considered potentially contagious as long as they are symptomatic or possibly for up to 7 days following illness onset. Children, especially younger children, might potentially be contagious for longer periods.

Is there a vaccine against swine flu?

There is currently no human vaccine against swine flu. It is not known whether the current human flu vaccine provides partial protection against swine flu. CDC has already begun development of a vaccine for swine flu, but this will not be available for months.

Can I get tested for swine flu?

The New York State Department of Health has provided guidance to health care providers and hospitals throughout the state regarding who should be tested for swine flu and what specimens to collect. If you are severely ill or worried about your symptoms, contact your health care provider who will determine whether testing is necessary.

What can I do to protect myself from getting sick?

There are everyday actions that can help prevent the spread of germs that cause respiratory illnesses like influenza. Take these everyday steps to protect your health:

- Cover your nose and mouth with a tissue when you cough or sneeze. Throw the tissue in the trash after you use it.
- Wash your hands often with soap and water, especially after you cough or sneeze. Alcohol-based hand cleaners are also effective.
- Try to avoid close contact with sick people.
- Avoid touching your eyes, nose or mouth. Germs spread this way.
- If you get sick with influenza, CDC recommends that you stay home from work or school and limit contact with others to keep from infecting them.

What should I do if I get sick?

If you become ill with influenza-like symptoms, including fever, body aches, runny nose, sore throat, nausea, vomiting or diarrhea, you may want to contact your health care provider particularly if you are worried about your symptoms. Be sure to tell your doctor if you have recently travelled, especially to those areas where swine flu has already been found, including San Diego County and Imperial County, California; San Antonio, Texas; Dickinson County, Kansas; Lorain County, Ohio; and New York City. Your health care provider will determine whether influenza testing or treatment is needed.

If you are sick, you should stay home and avoid contact with other people as much as possible to keep from spreading your illness to others.

Should I avoid travel to other countries or areas of the United States where swine flu has been identified?

CDC maintains a Travelers' Health web site at:
http://wwwn.cdc.gov/travel/contentSwineFluUS.aspx

You should check this site for any restrictions. This site also provides recommendations to help you reduce your risk of infection.

Can I get swine flu from eating or preparing pork?

No. Swine influenza viruses are not spread by food. You cannot get swine influenza from eating pork or pork products. Eating properly handled and cooked pork products is safe.

Additional information can be found at the following web sites:

General influenza information:
http://www.nyhealth.gov/diseases/communicable/influenza/

CDC Information about swine flu http://www.cdc.gov/swineflu/general_info.htm

Questions or comments: influenza@health.state.ny.us
Revised: April 2009

Source: New York State Department of Health, Albany, NY. Accessed at www.health.state.ny.us/diseases/communicable/influenza/seasonal/swine_flu/swine_flu_questions_and_answers.htm.

April 16, 2008

Dear Surgeons and Staff:

The Practice Council of TRH Surgicenter @ Spring Ridge has been studying the effects of surgical smoke on staff and patients, and as a result is making a commitment to promote the consistent use of smoke evacuation products in our operating rooms.

Multiple studies have shown that surgical smoke, including both laser and electrocautery plumes, contain a number of harmful chemicals, bacteria, and intact viral DNA. Chemicals include acetaldehyde, acrolein, acetonitrile, benzene, formaldehyde, styrene, toluene, and xylene. Documented risks include acute and chronic inflammatory respiratory changes (e.g., emphysema, asthma, chronic bronchitis), liver and/or kidney damage, anemia, carcinoma, cardiovascular dysfunction, colic, dermatitis, eye irritation, headache, hepatitis, HIV, hypoxia, lacrimation, leukemia, lightheadedness, nasopharyngeal lesions, nausea and vomiting, sneezing, throat irritation, and weakness.

Furthermore, due to the small particle size found in the plume, generally 0.1 micrometers to 5.0 micrometers, the entire surgical team, as well as the patient, is at risk. Particles that are 5.0 micrometers or larger are deposited on the walls of the nose, pharynx, trachea, and bronchus. Particles less than 2.0 micrometers are deposited in the bronchioles and alveoli, or the gas exchange region of the lungs. Research has shown that "without smoke removal, particle concentration can increase from a baseline of about 60,000 particles per cubic foot, to about 1 million particles per cubic foot within five minutes after the electrosurgery unit [ESU] is activated." Concentrations were elevated throughout the OR and remained high throughout the use of the ESU. It took 20 minutes for the room ventilation to return the particle level to baseline.

Patients are further at risk from smoke plume in the abdomen during laparascopic procedures. Absorption of smoke through the peritoneal membrane can result in dyshemoglobinemias, which in turn can result in falsely elevated pulse oximeter readings. Plume may also be responsible for port-site metastases in patients. Therefore, plume away filters should be added to exhaust ports on trocars.

Based on the recommendations of NIOSH, AORN, ECRI and OSHA, our policy will be to recommend use of 0.1 micron inline smoke evacuation filters on our wall suction, which pulls approximately 5 cubic feet per meter (CFM) for minor lesions, podiatry cases, and any case that produces minimal plume. For those open cases in which the cautery is used for dissection and greater hemostasis, and that create more plume, (e.g. breast biopsies, hernias, paniculectomies, large lipomas, etc.) we are recommending use of the smoke evacuator which will pull 30 to 50 CFM. Tubing must be kept within 2 inches of the cautery tip to be effective. At any time, if any member of the surgical team expresses concern over plume and requests the smoke evacuator be used, their wishes should be honored without fear of reprisal.

Additional information will be available to anyone requesting it. We hope you will work with us to improve the safety in our operating rooms

Cynthia M. Iannelli, RNIV, BSN, CNOR
Chair of TRH Surgicenter @ Spring Ridge Practice Council

Source: The Reading Hospital (TRH) Surgicenter @ Spring Ridge, Wyomissing, PA.

Proposed Surgical Smoke Evacuation Policy

Department: Perioperative Services

Policy: It is the policy of TRH Surgicenter @ Spring Ridge that smoke plume generated during surgical procedures will be captured and disposed of via smoke evacuators or in-line filters.

Definitions: None

Procedure/guideline:

1. During surgical procedures that generate a minimal amount of smoke, a 0.1 micron in-line filter will be used with suction tubing that is no longer than 12 feet in length with a suction tip, kept within 2 inches of the smoke source.
   1.1. In-line filters can be used for multiple cases. They should be changed weekly, or whenever discoloration is noted, whichever comes first.
   1.2. Examples of procedures that require an in-line filter: minor lesions, hand cases, podiatry cases, tonsillectomies, vocal cord polyps, temporal artery biopsies, rotator cuff repairs, etc.
2. During surgical procedures that generate larger amounts of smoke, a smoke evacuation system with an evacuation hose and pencil adapter, if applicable, will be used.
   2.1. Pre-filters on the smoke evacuator should be changed when discoloration is noted.
   2.2. Examples of procedures that require the smoke evacuator include: paniculectomies, breast biopsies, open hernias, laminectomies, large lipomas, pilonidal cysts, etc.
3. During laparoscopies where plume is created in the abdomen, plume away filters should be attached to the evacuation port on the trocar to minimize patient exposure to plume.
4. At any time, if any member of the surgical team expresses concern over plume, and requests the smoke evacuator be used, their wishes should be honored without fear of reprisal.

References: Association of periOperative Registered Nurses, National Institute for Occupational Safety and Health, Occupational Safety and Health Administration, and ECRI.

Source: Source: The Reading Hospital (TRH) Surgicenter @ Spring Ridge, Wyomissing, PA.