Cell phones are everywhere, but do they belong in the OR?

Cell phones are everywhere including the OR. “Cell phones, especially smart phones, have become ubiquitous in our institution, including the OR,” says Robert Cline, MD, medical director of perioperative services at Munson Medical Center in Traverse City, Michigan. Nurses list texting as the number one use for their mobile phones according to a 2010 survey by Nicholson Kovac, Inc, a marketing communications company.

Few organizations have cell phone policies specific to the OR, judging from the information gathered informally by OR Manager. Those that do usually ban cell phone use in the OR, but these policies often aren’t strictly enforced and typically don’t apply to surgeons.

“We haven’t banned them; that is a battle that will not be won,” said a message posted by an OR administrator on the OR Business Management Listserv. “Physicians as well as our staff use hospital cells. It becomes a common sense issue and customer service concern.”

Is there a place for cell phones in the OR? The controversy centers around 3 issues: infection control, electromagnetic interference (EMI), and distraction.

Germ prone

“The research is demonstrating cell phones are particularly prone to being contaminated,” says Ramona Conner, MSN, RN, CNOR, manager of standards and recommended practices for AORN. “They are rarely if ever cleaned; from the very nature of being touched by hands throughout the day, they have the potential for carrying pathogens into the OR.”

A study published in the June 2010 *American Journal of Infection Control* backs up Conner, reporting that nearly half (43%) of 288 health care providers’ cell phones carried infective organisms. It’s just the latest in a series of similar findings. For example, a 2007 study in *Anaesthesia* reported that 38 of 40 anesthesia providers working in the OR had bacterial contamination on their hands after first disinfecting their hands, then using their cell phones.

The AORN Clinical Issues Column in the March 2008 *AORN Journal* states, “Cell phone usage should be restricted in the OR to prevent cross contamination between hands touched by bacterial-laden cell phones to patients and items in the perioperative environment.”

Although AORN has no current standard for cell phones, it released a new recommended practice standard for surgical attire in November 2010. “We don’t recommend bringing personal items such as backpacks, briefcases, or other personal items such as cell phones into the OR,” says Conner.

Static in the OR

Hospital policies typically prohibit using a cell phone within a certain num-
ber of feet within an operating medical device to avoid electromagnetic interference (EMI), which can affect any device with a microprocessor. Most devices used in an OR, including an anesthesia or cardiopulmonary bypass machine, have microprocessors. But how big a risk is EMI? “With changes in frequencies and the move from analog to digital, the true risk of interference has dramatically diminished,” says Dr Cline.

Art Augustine, BS, senior project engineer for ECRI Institute, an independent, nonprofit health services organization, admits the risk is low, but still advises caution. “The newer cell phone technology has decreased but not eliminated the risk of interference,” he says. Reports of malfunctioning mechanical ventilators, as noted in a 2006 ECRI Institute guidance article, attest to that.

ECRI Institute strongly recommends against cell phone use in areas such as ORs and ICUs. Augustine advises hospitals to ask, “Do you feel the clinical need outweighs the risk?” If so, the operator should keep more than 3 feet away from a medical device—beyond the distance where interference is most likely to occur.

Although some facilities run tests to check for EMI interference, Augustine says the results can provide a false sense of security. “Testing only gives you results for that moment in time. Just because you don’t see interference doesn’t mean it won’t happen.” ECRI Institute recommends testing only if EMI occurs, or if someone suspects a device as being more susceptible to interference.

One moment, please

Cells phones can be distracting in the OR. “Texting and being connected is a problem if they interfere with the job,” says Dr Cline.

To avoid distraction—and noise—AORN recommends asking personnel to leave cell phones outside the procedure area whenever possible. Cell phones that make it into the OR should be set on low ring-tone volume, and staff should keep calls short.

In some hospitals, the circulating nurse has to respond to multiple cell phone calls and texts while trying to deliver care. “It distracts them from providing care to the surgical patient who is on the table at that minute,” says Conner.

Even the operating surgeon may be on the phone. A 2009 study in Technology and Health Care found that when surgeons used a wireless ear piece to answer cell phone calls from floor nurses during orthopaedic surgical procedures, communication response time, accuracy, and patient problem resolution improved compared to when the circulating nurse answered the phone and served as an intermediary. Intraoperative case interruptions were more frequent with indirect communication.

However, Conner cautions, “Just as we advise people not to use a cell phone and drive a car, texting and performing surgery is not a good idea.”

Creating a policy

Judith Townsley, MSN, RN, CPAN, vice president of perioperative services for Christiana Care Health System in Wilmington, Delaware, says a cell phone policy helped create consistency across the organization’s 52 ORs in 4 sites. Her system is one of the few to have a policy specific to the OR, and it was developed in response to concern about distractions from cell phone use. “It wasn’t the amount of calls, it was the texting in the rooms,” she says. “It was unprofessional.”
The policy prohibits employees from using personal cell phones while on duty. When managers oriented staff to the policy, Townsley says, “We got some push back because staff were worried about their children. They wanted to know when they came home.” The policy encourages staff to have routine messages left at the main desk. Managers have the discretion to allow a staff member to keep his or her cell phone in a pocket in the case of special circumstances, such as sick child, but actual use is restricted to nonwork time in nonpatient care areas. Preferably, messages are left at the main desk.

Townsley admits surgeons pose a greater challenge. Cell phone usage has been discussed in perioperative executive meetings from a noise reduction perspective, but no decision has been made about restricting use.

Conner advises organizations to “work to develop reasonable, thoughtful use of cell phones.” She suggests including surgeons, anesthesia providers, surgical assistants, nursing staff, administrative personnel, and infection prevention nurses.

The bottom line

Despite infection control concerns, cell phones aren’t staying out of the OR anytime soon. “I think it is hard to avoid bringing cell phones in the OR, but they should be avoided whenever they may distract you from the patient,” says Dr Cline.

—Cynthia Saver, MS, RN

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

References


Cell phones and EMI

The higher the output power of the cell phone or a similar wireless communication device, the greater the risk of electromagnetic interference (EMI). During normal conversation, a cell phone operates at 200 to 300 milliwatts. EMI is most likely with an incoming text or phone call, which can push cell phone power to 600 milliwatts. Use of multiple cell phones in the same area can increase the chance of EMI.
Texting takes just as much energy as making a phone call. The farther away from a cell phone tower, the higher the output power the cell phone generates to communicate with the tower.

“If the OR is in the basement, it may be more difficult for the cellular signal to travel between the cell phone and cell tower because of the multiple layers of building materials the signal must penetrate,” says Art Augustine, BS, of ECRI Institute.

**Minimizing risk**

A microcell system that uses a Distributed Antenna System (DAS) is one approach for minimizing or eliminating risks associated with cell phones, the institute notes. The DAS communicates with a base station that in turn communicates with the closest cell phone tower.

“The cell phone thinks it’s closer to the tower,” says Augustine. “With the DAS, the output power of the cell phone could be reduced to about 20 to 30 milliwatts.”

Cost of a microcell (DAS) system depends on the coverage area needed and the number of service providers, but can run from a few thousand dollars for one provider and limited coverage to millions of dollars for multiple providers and hospitalwide or multisite coverage, which may be cost prohibitive for many hospitals. In addition, someone could inadvertently use a cell phone with a provider not covered by the DAS.

Alternatives to a microcell system include an in-building short-range cordless phone system and voice over internet protocol (VoIP). These systems also operate at low output powers, reducing the likelihood of EMI. Any alternative in-building wireless communication system may be cost prohibitive if eliminating the risk of EMI is the only goal. But if one of these technologies is implemented for another purpose, for example, to improve communication, a side benefit is a reduction in or elimination of EMI.