



SAME-DAY SURGERY

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RELIAS MEDIA

Sleep Apnea Surgery Patients at Risk of Cardiac Events, Including Death

More than 38,000 people die each year because of cardiovascular complications related to obstructive sleep apnea (OSA). This includes surgical patients who were not diagnosed with OSA prior to surgery. Thousands more die from car accidents and additional health-related problems associated with OSA. (*Learn more at: <http://bit.ly/2K57sZj>.)*

An estimated 27% of women and 43% of men 50 to 70 years of age have OSA. Nine in 10 of those with OSA are undiagnosed, research suggests.¹ OSA is a sleep disorder that has cyclical alterations between pharyngeal collapse and arousals during sleep, causing episodes of hypoxemia and other problems.²

The condition is associated with hypertension, heart failure, arrhythmias, stroke, myocardial ischemia, and sudden cardiac death. When OSA patients undergo surgery, some sedatives, anesthesia, and postoperative analgesics can relax upper airway dilator muscles,

potentially exacerbating OSA and leading to cardiovascular complications.²

Obesity and aging are factors often associated with obstructive sleep apnea, and these also are common demographics among ambulatory surgery center (ASC) patients.

“There is more awareness of OSA, and multiple studies have shown there is increasing obesity and an increased awareness of diseases associated with obesity, of which sleep apnea is one of them,” says **Gaganpreet Grewal, MD**, professor of anesthesiology at the University of Texas Southwestern Medical Center in Dallas.

Undiagnosed sleep apnea is common among surgery patients, says **Dennis Auckley, MD**, professor of medicine at Case Western Reserve University in Cleveland. One study of unrecognized OSA and postoperative cardiovascular complications revealed that 67% of surgery patients had mild, moderate, or severe sleep apnea.³ “Here, we do preoperative screening for all elective

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procedures,” Auckley says. “Ideally, this should happen long before they get to the operating room. [OSA] should be picked up by primary care doctors or surgeons in advance of surgery, but that often does not happen.”

Surgery centers can screen patients using the Sleep Apnea Screening Questionnaire, or STOP-BANG. (See box on next page and read more at: <http://bit.ly/2Wq8Koo>.)

Unless surgeons and surgery centers have created a structured preoperative screening policy, surgery patients with undiagnosed OSA could receive anesthesia and opioids without doctors knowing of the risk. OSA is common enough during any surgery, including procedures in an ambulatory setting, that surgery center physicians and staff should have a high level of suspicion when treating any patient without a sleep apnea diagnosis, Grewal suggests.

“It’s not just one specialty’s responsibility,” Grewal says. “Everyone in the whole line of care needs to know, including the anesthesiologist, the surgeon, the post-op nurse, the discharge nurse who gives instructions, and the adults who will be watching patients for the next day or two after they go home.”

The danger of surgery center staff being unaware of OSA risks and failing to screen patients is that

surgery carries grave risks for sleep apnea patients. The risk of surgery for patients with OSA is illustrated by the case of John LaChance, who died in 2007 following shoulder surgery. He was monitored overnight while receiving morphine for pain. The surgery center knew of his sleep apnea, but did not provide a continuous positive airway pressure (CPAP) machine. LaChance continued on pain medication even after he began vomiting. LaChance’s condition grew worse, and he suffered a brain hemorrhage due to anoxia, according to LaChance’s wife, Pat, who has become a blogger and spokeswoman for patient safety, including serving as a member of the Physician-Patient Alliance for Health & Safety. (Learn more about this story at: <http://bit.ly/2Qs67wP>.)

When patients receive an OSA diagnosis, some surgery centers will provide a CPAP machine during their post-op care. But if a patient screens as at risk and has not received a formal diagnosis made through the gold standard of a sleep study, it is trickier. “It’s controversial,” Grewal says. “CPAP machines are expensive, and insurance companies won’t cover them until there’s a sleep study. It could delay surgical care for the patient.”

For this reason, many surgery centers do not keep a CPAP on

EXECUTIVE SUMMARY

Tens of thousands of people die each year from obstructive sleep apnea (OSA), including surgery patients who were not diagnosed with the condition or who have not managed the condition.

- OSA can lead to hypertension, heart failure, arrhythmias, stroke, and sudden cardiac death.
- Patients who are obese and older are at a greater risk for OSA.
- The STOP-BANG screening tool can help identify those at risk for OSA.

hand nor do staff recommend using a CPAP for patients who are at risk of OSA, but are not diagnosed. “The surgery centers still take the precautions of minimizing narcotics and utilizing other methods of pain control before giving sedating medication,” Grewal says. OSA patients’ biggest risk period is immediately after surgery. Interventions for at-risk patients are needed at that time, she adds.

“Obstructive sleep apnea is a significant public health concern because it can affect cardiovascular respiratory conditions, and the prevalence might be higher in surgical populations,” says **Rebecca S. Twersky**, MD, MPH, chief of anesthesia at the Josie Robertson Surgery Center at Memorial Sloan Kettering Cancer Center in New York City.

OSA is a condition that can be exacerbated on general anesthesia and opioids, placing patients at risk after surgery, Twersky explains. This is of concern to anesthesiologists, who worry patients will stop breathing in the recovery room or when they return home, she says.

Twersky and colleagues recently studied outcomes and safety among OSA patients undergoing cancer surgery procedures in an ASC. They found that patients at high risk for OSA or who had been diagnosed with OSA experienced more postoperative respiratory events than patients with moderate risk.⁴

Additional research shows that surgeons, anesthesiologists, and surgery centers can reduce the risk of OSA-related deaths by screening patients for OSA and taking precautions. For instance, one paper showed that identifying high-risk ambulatory patients can help centers develop a way to triage patients and better manage their

STOP-BANG QUESTIONNAIRE

The Sleep Apnea Screening Questionnaire, or STOP-BANG, scores one point for each “yes” answer to these questions. Any scores of 3 or higher suggest obstructive sleep apnea risk:

- **S** = Do you snore loudly?
- **T** = Do you often feel tired, fatigued, or sleepy during the day?
- **O** = Do you have observed apnea?
- **P** = Do you have or are you receiving treatment for high blood pressure?
- **B** = Are you obese/very overweight (BMI more than 35 kg/m²)?
- **A** = Are you 50 years of age or older?
- **N** = Is your neck circumference greater than 16 inches?
- **G** = Is your gender male?^{2,4}

care postoperatively.⁵ “Preoperative optimization of OSA patients centers around identification and managing comorbidities,” says **Michael Walsh**, MD, anesthesiologist at the Mayo Clinic. “OSA is associated with hypertension, arrhythmia, ischemic heart disease, pulmonary hypertension, and congestive heart failure. Preoperative identification of OSA patients can also tailor the anesthetic approach and postoperative care.”

Professional guidelines and current literature do not support postponing surgery to initiate CPAP treatment of apnea patients. But they do stress the importance of using CPAP for patients who are using the treatment already, Walsh notes.

“The main goal is to minimize opioid use and control pain with alternative methods, including nonsteroidal, acetaminophen, local, or regional anesthesia/analgesia,” he says.

By the time surgery patients head home, anesthesia should have worn off. But if doctors prescribe opioids for pain, this could be a problem for some OSA patients, Grewal says. “Currently, there’s just a background encouragement of avoiding opioids across the board, and that policy just happens to be useful for sleep

apnea patients,” she says. Opioids are the main medication concern for OSA patients, but not the only one. Patients might be on anti-anxiety drugs, like Xanax, which also could increase risk from sleep apnea, Grewal adds.

“Also, there have been some studies saying that sleep architecture changes after having anesthesia could place patients at higher risk,” she says. “Sleep architecture is the pattern of different stages of sleep, like REM sleep.”

Grewal’s research suggests that obese patients should be screened before surgery for OSA, cardiovascular disease, respiratory disease, and endocrine disorders. As many as seven out of 10 severely obese patients have OSA.⁶ The functional capacity of severely obese patients might be difficult to assess, so they might need an ECG if they also have a history of heart disease, congestive heart failure, cerebrovascular disease, and other risk factors.⁶

It is difficult for researchers to measure apnea events after patients return home, but research shows that OSA patients can undergo a variety of ambulatory procedures and head home without any higher complication rates vs. those OSA patients

who are admitted to the hospital as a precaution.⁶ The key is that surgery centers and physicians take precautions immediately after the surgery to ensure patients at risk of OSA complications are handled safely, Grewal adds.

“I use non-opioid pain control methods and careful monitoring before discharge,” Grewal says. “We also provide thorough education to patients and patients’ caregivers.”

ASCs might keep in mind that issues related to OSA will increase as they take on more complex cases. If centers do not already follow evidence-based guidelines, now might be the time to start.

“There is a safety concern as outpatient surgeries become more complex and patient comorbidities increase,” Walsh says. “Ambulatory anesthesia safety focuses on getting the correct patient into the right

location for the appropriate surgery. These decisions need to be data-driven.”

The Society for Ambulatory Anesthesia and the American Society of Anesthesiologists have made collecting ambulatory outcome data a priority, Walsh says. “With better data, we may be able to identify the highest-risk OSA patients and highest-risk surgeries, and make data-driven triaging decisions.” ■

REFERENCES

1. Chung F, et al. Society of Anesthesia and Sleep Medicine guidelines on preoperative screening and assessment of adult patients with obstructive sleep apnea. *Anesth Analg* 2016;123:452-473.
2. Chan MTV, et al. Association of unrecognized obstructive sleep apnea with postoperative cardiovascular events in patients

undergoing major noncardiac surgery. *JAMA* 2019;321:1786-1798.

3. Auckley D, Memtsoudis S. Unrecognized obstructive sleep apnea and postoperative cardiovascular complications: A wake-up call. *JAMA* 2019;321:1774-1776.
4. Szeto B, et al. Outcomes and safety among patients with obstructive sleep apnea undergoing cancer surgery procedures in a freestanding ambulatory surgical facility. *Anesth Analg* 2019; Apr 8. doi: 10.1213/ANE.0000000000004111. [Epub ahead of print].
5. Walsh MT. Improving outcomes in ambulatory anesthesia by identifying high risk patients. *Curr Opin Anaesthesiol* 2018;31:659-666.
6. Grewal G, Joshi GP. Obesity and obstructive sleep apnea in the ambulatory patient. *Anesthesiol Clin* 2019;37:215-224.

Study Highlights OSA Risk Factors for Postoperative Events

Unrecognized severe OSA is a major risk factor for postoperative cardiovascular events, according to the authors of new research.^{1,2}

“We found that patients with severe apnea, within the first week and first 30 days after surgery, had much higher rates of cardiovascular outcomes,” says **Dennis Auckley**, MD, professor of medicine at Case Western Reserve University in Cleveland.

Researchers found that patients with severe OSA had double the risk of an adverse cardiac event, such as heart failure, stroke, myocardial injury, and cardiac death, occurring within 30 days after surgery. Within

30 days of surgery, 235 patients experienced cardiac problems. Of those 235 patients, 17 died from a cardiac cause, and 205 sustained a myocardial injury. Congestive heart failure affected 1.7% of patients. Less commonly, some patients experienced thromboembolism and stroke.¹

Auckley notes these findings show why it is important for surgery center staff to note OSA risk and develop policies and procedures to prevent cardiovascular problems among patients at risk for the condition. For instance, Auckley suggests performing shorter surgeries with less anesthesia and fewer opioids. Patients at risk of severe OSA should be observed, especially if there are underlying

comorbidities and opioids are used to manage pain after surgery.

“The other thing surgery centers can do is monitor patients closely in the PACU,” Auckley explains. “If they have ongoing saturation events or are slow in their respiratory rate, then they might be at risk of problems post-surgery.” Most patients in the study received nocturnal oximetry monitoring immediately after surgery.¹

Another strategy is to perform the high-risk OSA patient’s surgery earlier in the day so he or she can be watched longer in the PACU or to keep the patient in observation overnight, Auckley adds. About 68% of patients had unrecognized OSA,

and 11.2% of patients had severe OSA. Also, three in five patients had two risk factors for cardiac disease. When these patients underwent intraperitoneal and major orthopedic surgical procedures, about 42% of the procedures were for cancer.¹

Patients were screened with the STOP-BANG risk score questionnaire. (*See cover story for more information about the tool.*) About 26% of patients were rated as high risk, and 53% were rated as intermediate risk, with close to 21% rated as low risk.² Both high-risk and intermediate-risk patients were significantly associated with readmission to an ICU.¹

“These are patients undergoing a variety of noncardiac surgeries, the majority of which were a mix of orthopedic, intraperitoneal, and vascular surgeries,” Auckley adds.

The patients had comorbidities, were 45 years of age and older (with 42.1% in the 65 to 74 years of age range), and about 60% of the patients were men.² OSA patients also were more likely to undergo unplanned tracheal intubation or postoperative lung ventilation. Patients with myocardial injury had ischemic symptoms, changes in ECG

or cardiac imaging, and fulfilled the diagnosis of myocardial infarction.² The study, which included 1,218 adult patients from five countries observed between January 2012 and July 2017, revealed that a cohort without OSA demonstrated a 0.3% death rate. Conversely, the group with OSA demonstrated a 4.4% death rate.² The percentage of patients who sustained cardiac injury or died increased with the severity of OSA.

For instance, about 14% of those without OSA experienced a cardiac event. This rate increased to 19% for those with mild OSA, 22% for patients with moderate OSA, and 30% for patients with severe OSA.² These findings should be a wake-up call about the importance of surgery centers and physicians screening patients for potential OSA.

“This should raise awareness that this is a major issue,” Auckley says. “Patients with severe obstructive sleep apnea are at risk of cardiac issues.”

Surgery centers need to screen for OSA, as most of these conditions are undiagnosed, and they should be well educated on optimal interventions. “There are common sense interventions, including closely monitoring these patients,” Auckley

adds. Limited opioid use, elevating patients after surgery, and even referring some severely at-risk patients to an inpatient surgical setting also are tactics to employ. Physicians and surgery centers sometimes become aware of the dangers OSA poses after a patient has died or become injured because of the problem, but that is too late.

“Most centers get interested when they have a bad outcome and the lawyers come,” Auckley says. “Almost 20 years ago, soon after I started practicing, we had a bad outcome, and formed a committee to look into this issue, which is why we have had an algorithm for managing these patients for quite a while.” ■

REFERENCES

1. Chan MTV, et al. Association of unrecognized obstructive sleep apnea with postoperative cardiovascular events in patients undergoing major noncardiac surgery. *JAMA* 2019;321:1788-1798.
2. Auckley D, Memtsoudis S. Unrecognized obstructive sleep apnea and postoperative cardiovascular complications: A wake-up call. *JAMA* 2019;321:1774-1776.

Are Ambulatory Settings Suitable for All OSA Patient Surgeries?

Debates over which procedures and apnea patients are suitable for care in ASCs likely will continue. But recent research suggests that when patients are screened for OSA and evidence-based guidelines are followed, they can be managed safely in an ambulatory setting.¹

“Most people with obstructive sleep apnea are undiagnosed. When dealing with a condition that will get

exacerbated on general anesthesia and opioids, there are publications that talk about how these people might be at risk after surgery,” says **Rebecca S. Twersky**, MD, MPH, chief of anesthesia at Josie Robertson Surgery Center at the Memorial Sloan Kettering Cancer Center in New York City.

Surgery center leaders might worry about malpractice lawsuits if something goes wrong, she adds. “They’re

concerned about this condition, and then it’s compounded with the short stay, so they’re doubly concerned about whether an OSA patient will stop breathing when he gets home or is in the recovery room,” Twersky explains.

From an anesthesiologist’s perspective, the patient might be sensitive to the effects of opioids and demonstrate obstructive breathing during surgery,

or their oxygen saturation could drop in post-op. “There were examples of patients behind the drapes in recovery rooms. Everything was fine, and then someone pulls open the drapes, and the patient is dead because of the added effect of opioids in the post-op period,” Twersky says. “If you give someone a sedative, and they stop breathing [on your watch], it’s a problem.”

While opioids contribute to obstructive breathing, they are not the sole reason OSA patients are at risk. Sleep apnea patients also could be harmed by exposure to general anesthesia gases or another sedative, Twersky offers.

“In our study, we actually did look to see if there was any difference in the amount of opioids used in high-risk patients vs. low-risk patients,” she says. “We didn’t see any difference in the amount of opioids they were exposed to.” Doctors need to be mindful of patients’ underlying diagnosis and then titrate the amount of opioids accordingly, Twersky adds.

Each patient in the study was screened for OSA risk, using the STOP-BANG tool. (*See cover story for more about the tool.*) Then, researchers divided the patients into categories of low and moderate risk vs. high risk and patients diagnosed with the condition.¹ “After identifying patients using the scoring tool, we’d know that if they were low risk, they’d probably be fine,” Twersky says. “But if they’re moderate or high risk, can we give them general anesthesia, and what do we do with a patient who looks like high risk?”

One step is to tell clinicians before surgery about any patients diagnosed with OSA or who are at high risk of having the condition.¹ Research suggests that identifying potential OSA patients is crucial to positive outcomes.

“Our study addresses that in a big way,” Twersky says. “We concluded that patients who are properly screened and identified as high risk of OSA or were diagnosed with OSA were not at a greater risk for complications and did not have a greater rate of being transferred to an inpatient facility.”

The key is to provide pathways of management for OSA patients. Protocols could look like this:

- Screen all patients for OSA;
- Identify patients at high risk for OSA, cardiac disease, and other conditions;
- Make positive airway pressure devices available;
- Put trained nursing staff or a respiratory therapist in place;
- If worried, transfer the patient to an inpatient setting.

Following the above protocol works and can reduce transfer rates. “The transfer rate wasn’t any greater for this index population when compared with non-OSA patients, and there was no greater readmission rate,” Twersky reports.

When patients are identified as at risk, their surgery care management can adjust to prevent adverse events, and clinicians can make changes in patient instructions and medication. For instance, a surgery center might want to direct patients who are diagnosed with OSA to use a CPAP machine. For some surgery centers, it makes sense to purchase these devices to use with high-risk OSA patients, Twersky notes.

“If someone has known sleep apnea, they are often given a CPAP device or breathing device to help them improve the respiratory and cardiovascular complications,” she says. “The devices make it easier for the patient to breathe and not have a drop in oxygen saturation.” Those are the easier patients to manage,

Twersky says. For example, a surgery center can ask these patients to bring their CPAP device on the day of surgery. Once the device is examined for electrical integrity, and if it is approved, the patient could use his or her own machine in the postoperative period.¹

“Patients who come in with a diagnosis are the minority,” Twersky notes. “Most patients either admit to the pre-op nurse that they do snore, and most come in without a diagnosis.”

It is not possible to cancel all patients with sleep apnea, so surgery centers need to follow best practices in identifying and managing these patients. In the study by Twersky and colleagues, all patients with moderate or high risk of OSA were assessed by a respiratory therapist postoperatively. This therapist made note of any problems, such as repeated desaturations of less than 90% oxygen saturation or obstruction (apnea or snoring) lasting 20 seconds. If the therapist believed there was a need for a CPAP machine, bi-level positive airway pressure, or continued mechanical ventilation, this was recorded.¹

Finally, it is important to be mindful of drugs given to OSA patients. Twersky recommends watching these patients postoperatively and to see if there’s any obstructive breathing that might be associated with medications they are taking. ■

REFERENCE

1. Szeto B, et al. Outcomes and safety among patients with obstructive sleep apnea undergoing cancer surgery procedures in a freestanding ambulatory surgical facility. *Anesth Analg* 2019; Apr 8. doi: 10.1213/ANE.0000000000004111. [Epub ahead of print].

Too Small to Be Attacked by Cybercriminals? Not So Fast

Cybercriminals go after small businesses, especially those in the healthcare industry, because they are easy targets. One breach can be very time-consuming and costly.

The U.S. Department of Health and Human Services lists more than 470 cyberattacks executed on healthcare organizations over the past two years. Many of these are smaller healthcare businesses, including surgery centers. (Read more about these episodes at: <http://bit.ly/2JBkZj>.)

“They’re more susceptible because they do not have a lot of the tools and security measures necessary to protect themselves,” says **Nelson Gomes**, CEO of PriorityOne Group in Rutherford, NJ, of small healthcare businesses. Gomes speaks at national surgery center conferences about cybersecurity, and PriorityOne is a provider of integrated managed information technology services for healthcare organizations.

A surgery center is only as secure as its weakest link — employees who are uneducated about phishing scams. These days, phishing scams are more complex than ever. Scammers engage in social engineering. For instance, a phisher might research an employee’s specific interests and education online, perusing the person’s social media accounts.

One scenario could play out this way: A surgery center’s chief financial officer or business director lets people know through social media that he or she is leaving town for vacation next week. The cybercriminal learns of this and finds out who is filling in on that job. Then, the phisher breaks into the director’s email and sends the fill-in person an email that appears to be from the director. The email reads something like, “Please pay Jeff for this

invoice when it comes in this week.” A day later, the invoice arrives, and the director’s email says, “Hi, it’s me. Jeff and I are colleagues, and you need to send a payment for \$5,000.”

The common-sense thing to do is call the director to verify, but employees rarely do this. “There should be an incident response plan or cybersecurity plan in place to say that if I’m out of the office, there needs to be two signatures before someone pays a bill,” Gomes offers.

Likewise, staff should be educated about what to do when they receive an email that seeks username and password information. “All they need is the person’s credentials,” Gomes says. “I could phish you, send you an email, and get information about what you are doing and who you are.”

Once the phisher convinces a person that the email is legitimate, and the employee inputs the password and username, the phisher has what is necessary to hack into the business’ computers. For example, a cybercriminal might send an email that looks as though it is from Office 365. The message asks the target to re-enter the password and username. Once the person enters this information, the hacker uses the same information to obtain access to

the business account. Many people use different passwords and emails, but there always are some who will use the same information for different accounts, Gomes explains.

“All they need is for one person out of an organization to do that,” he says. “The opportunity is there.” Surgery centers can prevent and prepare for a cyberattack by following these steps:

- **Strengthen cybersecurity.** A surgery center’s IT department or contractor should require all staff to reset their passwords every six months. New passwords should be strong and not used in any other application. Plus, there should be multifactorial authentication. This typically means there will be a text message sent to the user to verify his or her identity. Still, phones are vulnerable to cloning, so other authentication methods could be devised, Gomes says.

“The way hackers work is if they have to spend too much time breaking into your system, they’ll skip it and move on to the next one,” he adds.

- **Conduct annual vulnerability assessments.** Gomes suggests hiring a third party to perform a security assessment. For instance,

EXECUTIVE SUMMARY

Cybercriminals have attacked hundreds of healthcare organizations in recent years, including surgery centers.

- Phishing scams, in which an employee is targeted with a spurious phone call or email, remain common.
- Cybersecurity plans are needed to educate staff on how to prevent attacks and what to do when one occurs.
- Surgery centers should conduct an annual vulnerability assessment to learn about weaknesses in the business that need correcting.

a cybersecurity expert could test staff's ability to withstand a phishing campaign by conducting a test attack. This way, the IT expert can see what percentage of staff were fooled into opening their emails and computers to potential hackers.

"When we do an assessment, we go over it with organizations to say, *'Here's what we found. Here are the gaps, and here's what you need to do,'*" Gomes says.

Then, the organization can target the staff who were scammed and provide them with additional training and information about cybersecurity. Annual vulnerability assessments should be part of an ASC's disaster recovery continuity plan, which is necessary to ensure a surgery center can recover its information and return to normal business as quickly as possible.

- **Train staff.** Teach employees how to be wary of emails and pop-ups, even if they seem to know what the employee likes or does. Before clicking, check with the IT department. Surgery centers also can provide video training about smart security measures.

- **Create incident response plan.** Most surgery centers lack an incident response plan (IRP). "If you don't have that in place, how do you know what to do if you're hacked?" Gomes asks.

Surgery centers need to put certain procedures in place in the event of a cyberattack. Creating an IRP will make it easier to respond, and it will ensure the surgery center returns to business as usual faster. The plan should include actions the center

will take in the event of a breach. What will leadership do? What will the business office do? How will affected people, including patients, be notified?

"You need to keep revisiting the plan and decide what to do in the case an incident happens," Gomes adds.

- **Buy cybersecurity insurance — with caution.** Healthcare organizations often lack the right cybersecurity insurance, Gomes says. "It might cost a couple thousand more per year, but the right insurance is worth it."

The right kind of cybersecurity insurance will help cover the costs of a breach, including a forensics team investigation and mitigating damage to the surgery center's reputation. The insurance company can send notifications to patients whose data were affected during the breach, letting them know of the breach and how it is being handled.

"If you have 500,000 patients in the database, you have to send out 500,000 letters, and that can be a nightmare logistically for you to do," Gomes notes.

- **Protect against ransomware attacks.** Several years ago, there were multiple reports of healthcare organizations paying tens of thousands of dollars to retrieve their data after ransomware attacks. Today, organizations are protecting themselves from these attacks better, but they still will be vulnerable as long as there is money to be made, Gomes notes.

"If your system is compromised or encrypted through a ransomware

attack, you need to have the right system to bring everything back," he explains. "When you bring everything back, you're back in business, but how many days of business did you lose?"

A surgery center might create a data recovery backup plan, but how often is the plan tested? Also: If a surgery center's database is held hostage by a ransomware attack, it could be tempting to pay the attackers to regain access to the data. But if the surgery center pays the ransom, the center has set up itself to be attacked again, Gomes warns.

"You pay it once, you'll pay it again," he says. "Do what you can to not be susceptible anymore and to make sure it doesn't happen again."

- **Check with business associates about their cybersecurity.** Some cyberattacks in recent years have involved healthcare business associates. For instance, in July 2015, there was a breach at a medical software company, compromising nearly 4 million users' Social Security numbers and health records. There is little surgery centers can do to prevent these third-party breaches. But they can ask their vendors for information about cybersecurity plans and practices.

"A prime example is a billing company that is a business associate and can connect to the surgery center's system," Gomes says. "Ask them what kind of insurance they have in place to protect their clients." Billing systems are targeted because they contain data from hundreds of healthcare organizations; their own cybersecurity should be robust. "Managed service providers [MSPs]

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are another huge target,” Gomes says. “We support 70-something companies, and 90% are healthcare clients.” Gomes knows of several MSPs that were breached, causing

all their clients to be attacked with ransomware.

“They had back-ups, but they had to spend months or weeks to get their servers up and running.”

These risks are why it is crucial to select business associates carefully, checking out their cybersecurity processes before going into business with them. ■

When Preventing a Cyberattack Fails, ASCs Need Recovery Plan

An important component of any cybersecurity plan is knowing what to do when cyberdisaster strikes. For ASCs, this means creating a disaster recovery continuity plan, which should be fluid and can be adjusted as needed.

The first step is to look at the kind of backups available to the organization, according to **Nelson Gomes**, CEO of PriorityOne Group. Different cyberattacks require varied recovery plans. For example, if the ASC’s server sustains a ransomware attack, then data that were backed up at a secure and separate location could help restore the server and, possibly, minimize the amount of time it is unavailable. But ASC leaders need to know exactly how this recovery will work and how much time it will take.

“It’s imperative that you test it and understand what the recovery time is for one system or for all your systems,” Gomes stresses. “Your organization needs to know what happens when the system goes down and what amount of time it will take before it

comes back.” A lot is riding on this information, such as whether the surgery center has to postpone and reschedule patients. “If the system is down for four hours, then you’ll need to notate everything via paper, and there should be a plan around that,” Gomes says.

The last thing ASC leaders want when a cyberdisaster strikes is to wing it and figure out the logistics in the midst of the crisis. Install a disaster recovery continuity plan that details how the center will capture information during a cyberdisaster and what each staff member will be responsible for.

“Prepare for certain things as best you can, including how the cyberattack will affect your organization’s reputation,” Gomes says.

Transparency with patients is vital, but they need to be notified with useful information. Suppose a patient’s procedure is scheduled for 8 a.m. the morning after an attack shut down all electronic data, and no one anticipates servers coming back online until

that afternoon. In this situation, ASC staff can tell the patient that there was a computer breach, that the center is handling everything on paper, and that they will need more time to prepare for the surgery, Gomes explains.

Also, an organization’s IT staff or contractors should be skilled and capable of fixing cybersecurity vulnerabilities. They should be able to assess a surgery center’s weak points and offer concrete guidance in fixing these. Ignoring potential cybersecurity weaknesses is risky.

“Sometimes, sticking your head in the sand is not a good thing, so educate yourself and be aware of what you need to do,” Gomes says.

Another continuity plan should involve the potential attack of monitoring devices. Hackers have targeted these devices to manipulate them in ransomware schemes. If a surgery center’s monitors are shut down in a cyberattack, the risk to patients is high. Crafting contingencies for this breach is important, too, Gomes notes. ■

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Understanding the Medical Executive Committee

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Every surgery center and hospital surgical department has committees. As laborious as dealing with these committees can be, perhaps none is more important or overlooked as the Medical Executive Committee (MEC).

Rarely do individual hospital and surgery center personnel fully understand the role of this committee and the tremendous contribution it plays in safety and successful management of a quality facility. The MEC includes elected or “volunteered” surgeons from each specialty the facility performs, including anesthesia, the medical director of the facility, the administrator, and nurse manager of the hospital department or ASC.

The committee makes recommendations on matters that affect quality of care, including staffing, equipment, space planning, credentialing, medical staff appointment and reappointment, and clinical privileges. Further, the MEC helps ensure the ethical conduct and competent performance on the part of all members of the medical staff.

Few understand this powerful committee; if they did, more surgeons would want to be included. Although this is not a complete list, it does help explain the role of the MEC and

might help everyone understand it better:

- To represent and act on behalf of the medical staff subject to such limitations as may be imposed by the medical director;
- To report to management peer group recommendations, proceeding from the MEC to the board of managers;
- To receive and act on committee/administrative reports;
- To implement and enforce policies/procedures of the medical staff;
- To recommend actions to the medical director;
- To make recommendations on the management of the facility and for membership on medical staff subcommittees;
- To study peer review activities, including but not limited to clinical competence, adherence to policies and procedures, quality assurance, utilization management and risk management, and corrective action recommendations;
- To take all reasonable steps to ensure professionally ethical conduct and competent clinical performance on the part of members of the medical staff;
- To provide input into and approve as necessary patient care policies, procedures, and standards;

- To review medical staff applications and supporting documentation on appointment and reappointment, including delineation of privileges and make recommendations to the governing board;
- To perform medical staff functions relating to medical records, infection control, tissue, and tissue review;
- To participate on ad hoc committees to carry out the work of the MEC, such as peer review, continuous quality improvement, risk management, and others (as may be indicated).

While not required, I often invite employees to sit in as a guest on some MEC meetings so they may witness how the committee functions. Most facilities will allow this but ask the guest to leave when the MEC goes into what they call “executive session.” This is where the board can deal with legal, personnel, contractual, and similar facility issues that board members are legally permitted to discuss in a private session.

The more you know about how your facility functions, the better you will understand what happens in the background and how it can affect you and your position. ■

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Researchers: ASCs Should Avoid Post-Op Prophylactic Antibiotics

Each additional day of prophylactic antibiotic exposure after surgery can increase risk of adverse events, and it does not benefit infection prevention efforts, according to new research.^{1,2}

“There’s benefit if you give antibiotics before surgery, but there’s no benefit if you give it after the surgery,” says **Westyn Branch-Elliman**, MD, MMSc, assistant professor of medicine at the VA Boston Healthcare System. Antimicrobials given in the absence of infection are risky after surgery. A study of 153,097 outpatient surgeries revealed that 7,712 received antimicrobial prophylaxis for more than 24 hours after surgery. Genitourinary surgeries, eye procedures, cystoscopies, and cystourethroscopies showed high rates of postsurgery antibiotic prophylaxis use.¹

“There is no benefit for this practice in reducing surgery site infections, but there is a risk of harm every day,” Branch-Elliman says. “We’ve known for a long time that preoperative antibiotic prophylaxis is quite effective. “Pre-incision antibiotics prophylaxis clearly reduces rates of postoperative infections and improves care.”

The main benefit of presurgery antibiotics is that the drug can minimize contamination of the field, preventing bacteria from taking hold after the incision. But the benefits of antibiotic prophylaxis end when the surgery is over. “There’s been a lot of data [about] antibiotics after incision, and there’s no evidence it improves outcomes,” Branch-Elliman adds. “Some of the newer studies suggest that giving antibiotics for even a day or two after surgery increases risk of harm of other types of events, like acute kidney injuries.” Other antibiotic problems include rash and the promotion of antibiotic resistance.

For instance, another study revealed that when patients received a longer duration of antimicrobial prophylaxis, there were higher odds of *Clostridioides difficile* infection.² “There could be bacteria living in the gut and waiting for an opening. When we give antibiotics and suppress healthy bacteria, it gives antimicrobial-resistant bacteria a chance to take over and cause infection,” Branch-Elliman explains.

Healthcare sites that follow guidelines from the Surgical Care Improvement Project (SCIP) discontinue prophylactic antibiotics after surgery. One SCIP measure, ABX 3, is to discontinue all antibiotics within 24 hours of surgery end time, unless there is provider documentation of infection or suspected infection.

“The VA was a good place to do this research because it has different recommendations,” Branch-Elliman says. “There are very clear guidelines and rankings for surgical centers, which allows us to gather some information about what ancillary services are available in those surgical centers.”

For example, more complex surgical patients were receiving evidence-driven care. This also should be the case with less complex cases, she adds. Investigators found that surgical subspecialties that had been influenced by SCIP’s guidelines were less likely to continue antibiotic prophylaxis after surgery. Their best practices were ingrained and integrated into clinical care.¹

“Surgical specialties not covered by SCIP measures were more likely to prolong prophylaxis than those covered under SCIP,” Branch-Elliman says. The problem was that SCIP’s reach was limited and did not include all specialties when it was first developed by CMS and the CDC. “They

discontinued the [ABX 3] measure, and it is no longer monitored by CMS,” Branch-Elliman says. “Our data were [collected] after the sunset date, and it demonstrated a change of practice among specialties that had been covered by the measure.”

The good news is that the recommended practice works, and surgical centers sustained the changes. “The bad news was it wasn’t used by all practice sites,” Branch-Elliman says.

Considering the strength of evidence showing that postsurgery antibiotic prophylaxis should be stopped, should someone promote this evidence-based practice among surgery centers that are not already following the SCIP guidelines?

“One way the VA has demonstrated an expansion of infection control is through a telemedicine program,” Branch-Elliman notes. The telemedicine program can be used for outreach to lower complexity facilities and to provide them with expert content in specific areas like how to prevent surgical site infections. “This is one way we can disseminate some of these findings to facilities that don’t have this infrastructure,” she says. ■

REFERENCES

1. Branch-Elliman W, et al. Facility type and surgical specialty are associated with suboptimal surgical antimicrobial, prophylaxis practice patterns: A multi-center, retrospective cohort study. *Antimicrob Resist Infect Control* 2019;8:49.
2. Branch-Elliman W, et al. Association of duration and type of surgical prophylaxis with antimicrobial-associated adverse events. *JAMA Surg* 2019; Apr 24. doi: 10.1001/jamasurg.2019.0569. [Epub ahead of print].



SAME-DAY SURGERY

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CME/CE QUESTIONS

1. **Which condition is associated with obstructive sleep apnea (OSA)?**
 - a. Diabetes
 - b. COPD
 - c. Sudden cardiac death
 - d. Pneumonia
2. **The first step in providing pathways of management for OSA patients is to:**
 - a. screen all patients for OSA.
 - b. send patient to a hospital.
 - c. give patient additional opioids as needed for pain.
 - d. put all OSA patients on pain regimen of ibuprofen and steroids.
3. **To prevent a cyberattack, ASCs should:**
 - a. install cloning software on all electronic devices.
 - b. ask employees to leave all cellphones and electronic devices at a security checkpoint until they leave the building.
 - c. use one password that the IT department selects for all staff.
 - d. direct all staff to reset unique passwords every six months and install multifactorial authentication.
4. **For optimal safety of surgical patients, what is a best practice regarding postsurgery antibiotic prophylaxis?**
 - a. Provide patients with one day of postsurgery antibiotic prophylaxis.
 - b. Discontinue antibiotic prophylaxis as soon as surgery is complete.
 - c. Extend postsurgery antibiotic prophylaxis for five days.
 - d. Do not use any surgical antibiotic prophylaxis.

CME/CE OBJECTIVES

After reading *Same-Day Surgery*, the participant will be able to:

- identify clinical, managerial, regulatory, or social issues relating to ambulatory surgery care;
- identify how current issues in ambulatory surgery affect clinical and management practices;
- incorporate practical solutions to ambulatory surgery issues and concerns into daily practices.