

Patient Safety in the OR

This online course in Web page format, free to AORN members and available to nonmembers for a small fee, provides information to practitioners about medical errors and adverse events in perioperative settings

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Purpose/Goal:

To provide information to perioperative nurses about medical errors and adverse events in perioperative settings.

Objectives:

1. Discuss the frequency and types of medical errors.
2. Explain what constitutes a medical error.
3. Describe how system flaws can contribute to medical errors.
4. Identify risks for medical errors.
5. Discuss how errors can be prevented.

(1) Introduction

It is a given that clinicians who work with surgical patients have the best of intentions, and they strive to ensure patient safety and provide quality care. What is unclear, however, is the nature and extent of adverse events and errors related to surgery. Perhaps even less is known about creating a culture of safety in surgical settings and how to substantially minimize the frequency of adverse events and negative outcomes.

In 1999, the Institute of Medicine released its report, "To Err is Human: Building a Safer Health System."¹ This shocking report estimates that 44,000 to 98,000 deaths occur annually as a result of medical errors, including medication errors, surgical mistakes, and surgical complications. It is estimated that the total national cost for medical errors is between \$8.5 and \$17 billion annually. This report shocked the health care industry and consumers alike and has led to a number of regulatory, government, employer, and provider efforts to monitor and ensure safety in the health care environment.

The progress since the 1999 IOM report has been slow, however; the report significantly shifted attention to a focus on changing system processes, stimulating cross-disciplinary participation in patient safety outcomes, and motivating health care organizations to adopt new safety practices. Future efforts need to be centralized at a national level to make substantial, lasting change.²

(2) What Is Happening in the OR?

For perioperative nurses, the question remains: What types of errors and adverse events occur in the OR and other surgical settings? In reviewing the pertinent literature, it is clear there are incomplete data, knowledge, and understanding about surgical adverse events. There is, however, evidence that supports the premise that adverse events are occurring and that many errors could be eliminated or reduced significantly.

In one of the first studies reporting preventable errors, researchers examined 30,000 hospitalizations in New York in 1984.³ They reported that 3.7% of patients experienced serious adverse events related to medical management. The top three causes were related to medications (19%), wound infections (14%), and technical complications (13%). All of these events led to disability or prolonged stay, and 13.6% eventually led to death. Perhaps the most startling information from this report is that 58% of these events were classified as preventable mistakes.

A subsequent research effort examined the incidence and nature of adverse events in Colorado and Utah in 1992.⁴ In this study, 66% of all adverse events were surgical in nature. Adverse events included technique-related complications, postoperative bleeding, infections of all types, medication-related injury, and deep venous thrombosis. Approximately 12% of all hospital deaths were associated with a surgical adverse event. Considering all adverse events, 54% were deemed preventable.

Canadian researchers report somewhat similar findings regarding surgical adverse events. After examining 192 general surgery patients for 1,277 days, they reported that 39% suffered a total of 144 complications. Two of these complications were fatal, and 10 were life-threatening. Of the 144 complications, 26 (18%) were considered preventable. Seventy-eight percent of the adverse events occurred during or after surgery. Of particular interest is that 80% of these adverse events were never reviewed during morbidity and mortality rounds, and 95% were not recorded on the discharge summary.⁵

Knowledge regarding errors in the outpatient surgical setting is limited. One report provides insight into some of the problems associated with liposuction. In a census survey, the mortality rate for liposuction was reported as 19.1 per 100,000. Thromboembolism was cited as the number one cause of death. Most of these deaths (77.7%) occurred in an outpatient setting, but it is not clear how they related to medical errors. Researchers speculate that procedural risk factors and lack of medical supervision during the postoperative period were major factors contributing to negative outcomes.⁶ It is possible that latent errors, such as discharging patients home rather than admitting them for observation, contributed to some of these deaths.

An analysis of data from the National Patient Safety Benchmarking Center, Safety-Centered Solutions, Inc., shows that the five most financially costly adverse events are surgery, nonsurgical treatment, nosocomial infections, medication errors, and pressure ulcers. These adverse events account for 81.5% of the total costs in the center's database. The most common adverse events listed in the database are related to surgery (20%), medication errors (16%), nonsurgical treatment (14.8%), patient falls (8.8%), and nosocomial infections (7.5%).⁷

(3) Medical Errors and You

What do the reports about medical errors mean to perioperative nurses? First and foremost, medical errors do not occur as the result of "bad people." They are more likely the result of systems that are flawed, contributing to clinicians making mistakes.

Two terms are used to describe the types of errors that occur due to system flaws: sharp end and blunt end. Sharp end or active errors are errors that result from the system flaws. This could include surgery being performed on the wrong site or administration of the wrong medication. Blunt end or latent errors are errors that contribute to a sharp end error. This could be an ineffective policy for identifying the correct site for surgery or for checking medication types and dosages.

Traditions in health care have resulted in placing blame for errors on the clinician at the sharp end who caused the active error without considering flawed systems that may have contributed significantly to the latent error. According to one physician, "Medical harm, by and large, is not the result of ignorance, malice, laziness, or greed on the part of the people or organizations involved... Systems can be created that will reduce the probability that these mistakes will occur..."⁸ In describing the "central law of improvement," one health care improvement expert tells health care clinicians that "every system is perfectly designed to achieve the results it achieves."⁹ It is important, therefore, that systems are addressed as part of any efforts to improve patient safety.

(4) Designing a Safer System

Leading patient safety experts propose that clinicians apply cognitive psychology and human factors principles to reduce errors and prevent accidents.¹⁰ By understanding how cognition and error mechanisms apply to health care systems and processes, clinicians can "examine their care delivery systems in terms of the systems' ability to discover, prevent, and absorb errors and for the presence of psychological precursors."¹¹ Aviation and other industries have created a culture of safety and decreased the likelihood of errors and their potential effects by applying these same approaches.

Complex systems such as health care appear to be more prone to errors than other systems. Perioperative environments are reported as having a higher number of safety systems, but development and implementation of these systems continues to need refining.¹² In aviation, a primary focus on safety has led to systems that are designed to minimize the risk of errors and accidents and limit damage if errors occur. In health care, safety frequently has been espoused but has not been the central focus when new processes are designed or implemented.

Experts recognize that health care is an extremely complex system comprising numerous equally intricate components that are likely to interact with multiple other parts of the system in unexpected ways. Complex systems reflect high levels of specialization and interdependency among their various components. They are at high risk for accidents and must be made more reliable.¹³ Most experts agree that errors occur as the result of multiple small factors, and it is only when these factors combine that an adverse event occurs. Simplifying and standardizing processes, backup systems, organizational design, and team performance can contribute to system reliability and, thus, fewer errors and adverse events.

Psychological precursors or preconditions (ie, factors that intervene between a system's design and the production process) can create conditions that contribute to errors.¹⁴ Safe and efficient practice requires, at a minimum, a skilled and knowledgeable workforce; the right equipment that is well-maintained and operates reliably; efficient job design; reasonable work schedules, stress levels, and environments; and clear performance guidelines. Technology, hardware, software, equipment, medications, and procedures should be considered integral components of the health care environment. Technology may automate processes and minimize risks, but it also may increase system complexity and the risk of error.

For technology to be used safely, it should be designed according to human factors principles. "Human factors" is defined as the study of the interrelationships between humans, the tools they use, and the environment in which they live and work."¹⁵ Human factors analysis is the study of human performance and the process of error, its causes, circumstances, conditions, and other associated factors. The primary focus when implementing human factors principles is improving human-system interfaces by designing better systems and processes.

In health care, a better understanding of the factors and circumstances that lead to errors and adverse events must be gained. Clinicians should question things such as the reasons wrong site surgery occurs and how human factors research can lead to improvements that minimize inherent risks in existing systems.

(5) Wrong Site Surgery

One surgical adverse event that is considered relatively rare but catastrophic is wrong site surgery. This adverse event catches everyone's attention, whether in newsprint or on television. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) reports that as of December 2005, 455 adverse events (ie, 12.8% of all adverse events reported to the organization) involved wrong site surgery.¹⁶ The most disturbing fact is that this adverse event continues to occur despite an increasing focus on this problem and possible solutions.

Recently, JCAHO published a sentinel event alert regarding significant concerns related to wrong site surgery.¹⁷ This report is a follow-up to an August 1998 alert regarding the same problem. The recent report addresses concerns that, despite national attention and efforts by professional associations and regulatory groups, the incidence of wrong site surgery remains extremely high.

The JCAHO reported that 58% (n = 87) of these wrong site, wrong person, or wrong procedure cases occurred in ambulatory settings. When one considers how systems have been designed in ambulatory settings, the primary focus often has been on efficiency rather than safety. That is not to say that safety has not been a consideration, but efficiency has been the prevailing priority. Although ambulatory settings often lack the complexity of a hospital surgical department, they have their own multifaceted systems that are fraught with error potential.

Psychological precursors and preconditions certainly contribute to the problem of wrong site surgery. The Joint Commission identifies the following factors or situations as contributing to wrong site, wrong person, or wrong procedure surgery:

- emergency surgery,
- morbid obesity,
- physical deformity,
- unusual equipment or setup in the OR,
- multiple surgeons,
- multiple procedures,
- not requiring that the site be marked,
- not requiring verification in the OR,
- not requiring a verification checklist,
- not requiring a patient assessment,
- staffing problems,
- distractions,
- lack of access to pertinent information, and
- organizational culture.

Human factors certainly come into play as well. The Joint Commission reports that in the majority of cases, communication breaks down between surgical team members and the patient and his or her family members.

Patient safety experts' recommendations related to reducing reliance on memory make it clear that it is unsafe to allow health care providers to rely on memory to determine the correct surgical site.¹⁸ Systems must be designed that safeguard against memory lapses. Improved access to information about the correct site would minimize the risk of error. Involving the patient and his or her family members should facilitate the exchange of accurate information about the surgical site and procedure among health care providers. Error proofing and standardization could be achieved by following

verification checklists and standard policies and procedures to ensure correct site identification. For any type of surgery being performed on one side of the body versus the other (eg, right arm versus left arm), a standard practice should exist regardless of the clinical setting or type of surgery.

One facility has eliminated wrong site surgery by consistently having the surgeon, anesthesia care provider, and nurse verbally confirm the patient's identity and surgical site. Training and education remain a huge challenge, but clinicians must understand the importance of and the procedures for site verification. Communication and teamwork are essential to the successful implementation of such a verification procedure. Communication is not a given, nor is teamwork, and appropriate educational resources and support must be provided to health care clinicians. Everyone in the OR must work to improve existing clinical processes and minimize the risk of this and other adverse events.

The Joint Commission's recommendations to reduce risks related to wrong site, wrong patient, and wrong procedure surgery include

- marking the site and involving the patient in the process;
- developing verification checklists that include related medical records or diagnostic studies;
- obtaining verbal verification of the patient, site, and procedure in the OR by each member of the surgical team; and
- taking a "time out" and actively communicating in the OR before beginning surgery.

(6) What Constitutes an Error?

Wrong site surgery is an egregious error. Other errors may be less obvious and often go unreported. In most health care facilities, health care providers lack a common vocabulary and approach to understanding and describing errors, near misses, and adverse events. Multiple inconsistencies exist in the way errors are interpreted and how data about them are collected, recorded, and analyzed.

In the case of medication errors, consider late medications. Is administering medications late considered an error? Many health care facilities have policies that allow medications to be administered 30 minutes before or after the scheduled dose; however, few error reports are submitted when medications are administered 40 or 50 minutes late. Perhaps on some clinical units there are a few diligent nurses who complete a report each time a medication is administered later than policy stipulates. Other clinicians question whether a daily medication scheduled at 9 AM is ever late as long as it is administered during the day shift. In fact, many times medications are administered later than ordered due to the timing of food trays or diagnostic and laboratory tests; however, the clinician administering the medication late may not consider this an error.

Reliable and valid data related to the time medications are administered and consistent reporting of late medications would provide information that could lead to clinical improvements. Perhaps medications are administered late because the pharmacy fails to deliver medications in a prompt manner or staffing is inadequate to administer medications in a timely fashion. These flawed systems result in latent errors at the blunt end, which, in turn, lead to individual clinicians making active errors at the sharp end. If the flaw is identified, subsequent errors can be prevented by making appropriate changes in the system.

Error reports can be inconsistent when clinicians interpret the meaning of the term "late" in different ways. Furthermore, late administration of daily medications may have different implications for time-sensitive medications. For example, the timing of administering antibiotics to preoperative patients is critical to minimize the risk of postoperative infection. So, should a preoperative antibiotic that is administered late be considered an error when other similar errors are dismissed as usual and customary practice? Obviously, adverse events such as an infection can be costly to both the patient and health care system; therefore, it is important to document and analyze these data in a consistent manner.

(7) Monitoring Errors

Monitoring and measuring errors in health care presents many challenges. Traditionally, many clinicians have hesitated to report errors for fear of punishment or sanction. Some health care workers may avoid reporting errors made by other clinicians out of concern that filing a report would get someone in "trouble." Although clinicians always have been concerned about safety, it has not been clear how reporting errors could lead to clinical improvements or error reduction.

Many health care facilities have implemented some type of variance or incident report system in an effort to track adverse events or unusual occurrences. Rarely do systems such as these track "near misses" or minor errors that do not result in patient injury. Regardless of the type of monitoring system, the value of consistently reporting and recording all types of errors or near misses has not been made clear to clinicians or administrators. Even when data are collected, they are not used consistently or systematically to examine factors that contribute to errors.

In many hospitals, for example, incident reports related to medication errors are placed in a clinician's personnel file to track his or her personal error rate. No one systematically examines and analyzes these reports to identify trends. To understand errors of any type, trends and factors that contribute to errors must be identified. In the case of medication errors, it would be helpful to know whether they occur on a specific clinical unit or shift or at a specific service or time of day. Also, it would be helpful to know whether similarities exist among errors related to the providers who wrote medication orders, the pharmacists who dispensed medications, the patients' acuity, or the types of medications. Monitoring and recording this type of data would provide helpful information that could be used to minimize subsequent errors. Currently, this information is not readily available, and, if it has been collected, the data may not be reliable, valid, or amenable to interpretation.

(8) Why Measure?

In most clinical environments, reliable and valid data about errors, near misses, and adverse events simply do not exist. When data do exist, they may not be comparable across settings and may be erroneous. In the current health care system, there have been no requirements for reporting or recording information about near misses or adverse events. Many perioperative nurses, however, can recall an incident of wrong site surgery, retained instruments, unintentional ligation of the ureter, unintentional nicking of an artery or organ, or some other misadventure during surgery.

If nurses had to record certain types of information each time a near miss or an actual incidence of a retained instrument or sponge occurred, processes could be improved to reduce risks. Perhaps they would discover that extremely obese patients or those undergoing abdominal surgery are at the greatest risk for retaining an instrument or a sponge. Reliable and valid data might direct clinicians to be more attentive to counts during certain types of surgical procedures. Furthermore, specific clinicians or clinical services might be at greater risk for being involved in procedures in which instruments or sponges are retained. This type of information could assist clinicians in developing practices and procedures to ensure patient safety related to counts.

When seemingly minor errors and near misses occur and clinicians simply sigh and are thankful nothing bad happened, they really should question what can be learned. Perhaps you have worked in an OR where a patient ended up in the wrong OR suite. No doubt the diligent circulating nurse checked the patient's identification band and caught the mistake before the surgery began; however, a thoughtful analysis of the events that led to the patient being placed in the wrong suite should have occurred. If data such as this are never recorded and analyzed, trends cannot be identified and systems cannot be improved.

In this situation, it would be informative to know whether this potential adverse event was the direct result of calling for surgical patients by room number rather than name or whether staffing was inadequate for the number and type of procedures. Perhaps there were two patients with the same name and there was no policy or procedure to ensure that clinical staff members were alerted; however, without accurate reporting systems that are used consistently, efforts to improve safety outcomes remain limited.

(9) Error-reducing Approaches

One patient safety expert suggests some approaches that can be used to redesign health care delivery systems to reduce error risks.¹⁹ These approaches include

- reducing reliance on memory,
- improving information access,
- incorporating error proofing,
- standardizing processes, and
- training employees.

To reduce reliance on memory, this safety expert suggests using checklists, protocols, and computerized decision aids. Improving access to information could be achieved by computerizing patient records. Error proofing could be incorporated by using computerized tools that prevent a physician from ordering a medication if the patient is allergic to it or if the dose is inappropriate or lethal. An example of standardization, which increases efficiency and reduces error potential, is standardizing medication doses and administration times. The incidence of adverse events can be reduced further by training clinicians about the potential for errors and how to prevent them.

(10) Resources

There is a great deal of information available online regarding patient safety issues. Nurses should learn as much as they can about these issues because it can make them better prepared to address the issues in their facilities and to make changes to ensure positive patient outcomes.

One agency at the forefront of gathering and providing information on patient safety is the Leapfrog Group for Patient Safety (<http://www.leapfroggroup.org/>). It is a coalition of more than 90 public and private organizations that provide health care benefits that was formed to address patient safety and quality issues in the US health care system. The group, founded by The Business Roundtable, focuses on basic patient safety and encourages employers to follow purchasing principles designed to improve patient safety and quality.

The JCAHO web site (www.jointcommission.org/) focuses on standards that help organizations develop a process to identify, report, analyze, and prevent sentinel events. The Institute for Safe Medication Practices (<http://www.ismp.org/>) provides an independent review of medication errors submitted to the Medical Errors Reporting Program developed by the United States Pharmacopeia. It focuses on improving medication distribution, naming, packaging, labeling, and delivery system design.

The Institute of Medicine (<http://www.iom.edu/>) provides objective information and advice about health to government, business, and the public. The Institute of Medicine's Special Initiative on Health Care Quality aims to improve the quality of health care in the United States. The goals of the Initiative are to evaluate quality assessment and improvement tools and their use and to inform consumers, policy makers, providers, and others of key opportunities and obstacles to achieving better health outcomes for individuals and populations. The goal of the National Patient Safety Foundation (<http://www.npsf.org/>) is to measurably improve patient safety in the delivery of health care. It is sponsored by the American Medical Association, and it offers literature, programs, and other resources regarding patient safety. The Foundation hopes to move from a "culture of blame to a culture of safety."

The National Quality Forum (<http://www.qualityforum.org/>) is a not-for-profit membership organization created to develop and implement a national strategy for health care quality measurement and reporting. ECRI (<http://www.ecri.org/>) is an independent nonprofit health services research agency whose mission is to improve the safety, quality, and cost-effectiveness of health care. Its focus is on health care technology, health care risk and quality management, and health care environmental management.

(11) Conclusion

It is clear that patients are at certain risk for unnecessary complications, adverse events, and even death as the result of surgery. All health care clinicians need to be aware of inherent risks and potential negative outcomes. A better understanding is needed of adverse events that can occur in surgical settings and how they can be prevented. Never before has it been more important to understand how flawed systems contribute to adverse events and how to prevent errors from occurring in the first place. Most importantly, clinicians must understand that their actions or mistakes may result from factors that produce errors or unsafe conditions.

Understanding complex systems and why errors occur can help nurses prevent errors. Identifying precursors and preconditions provides critical information for promoting safety and reducing errors. It is apparent from our current understanding of medical errors that incorporating standardization and error-proofing processes, reducing reliance on memory, improving information access, and providing education are critical to improving patient safety.

Talk to your colleagues at work and review policy and procedure manuals to determine how errors, near misses, and adverse events are recorded and analyzed. Think about how reliable and valid data about errors and near misses might improve your nursing practice. Begin monitoring and measuring errors and near misses related to at least one nursing intervention. For example, monitor the timing of preoperative antibiotics. Are they given on time and within the recommended guidelines from the Centers for Disease Control and Prevention? If not, begin to systematically collect reliable, valid data to help you understand what systems affect nurses' ability to administer antibiotics on time. Understanding errors helps clinicians improve patient safety. Nurses play a critical role in making and keeping surgery safe. Let us learn from our mistakes.

Suzanne C. Beyea, RN, PhD

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(12) Notes

1. Institute of Medicine, *To Err is Human: Building a Safer Health System* (Washington, DC: National Academy Press, 2000).
2. L L Leape, D M Berwick, "Five years after to err is human, what have we learned?" *JAMA* 293 (19) (May 18, 2005) 2384-2390.
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16. ""Sentinel Event Statistics: As of December 31, 2005", <http://www.jointcommission.org/SentinelEvents/Statistics/> (accessed 25 May 2006).
17. Joint Commission on Accreditation of Healthcare Organizations, "A follow-up review of wrong site surgery," Sentinel Event Alert 24 (Dec 5, 2001).
18. Leape, "Error in medicine," 1851-1857.
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AORN POSTTEST
Patient Safety in the OR
An AORN Independent Study Activity

1. Errors in surgical care
 - a. are unavoidable.
 - b. are preventable.
 - c. are not costly.
 - d. usually involve anesthesia care providers.
2. Which of the following adverse events is less costly?
 - a. nosocomial infections
 - b. pressure ulcers
 - c. surgery
 - d. falls
3. Error at the blunt end occurs as the result of
 - i. organizational factors.
 - ii. system errors.
 - iii. poorly written policies/procedures.
 - iv. inadequate training and education.
 - a. i, ii, iii
 - b. ii, iii, iv
 - c. ii, iv
 - d. all of the above
4. One factor that does not contribute to reduction of system-related errors is
 - a. organizational design.
 - b. standardizing processes.
 - c. improving individual performance.
 - d. backup systems.
5. Identify the patient at greatest risk for wrong site surgery.
 - a. a 275-lb bilateral amputee undergoing an emergency appendectomy
 - b. a 125-lb female undergoing an abdominal aortic aneurysm
 - c. a 375-lb female undergoing an anterior lumbar fusion with insertion of bone graft
 - d. a 175-lb male undergoing a bowel resection with a temporary colostomy
6. One strategy that is not helpful in ensuring correct site surgery is
 - a. getting in a “huddle” before starting surgery.
 - b. depending on memory.
 - c. using verification checklists.
 - d. standard policies.
7. Which of the following is not a Joint Commission on Accreditation of Healthcare Organizations recommendation to reduce risks related to wrong site surgery?
 - a. marking the site
 - b. involving the patient
 - c. using verification checklists
 - d. using a specialty-specific process
8. Which of the following is not a purpose for monitoring and measuring errors?
 - a. improve practice
 - b. identify “bad” clinicians
 - c. reduce adverse events
 - d. understand why errors occur
9. One strategy for reducing error risks is
 - a. increasing reliance and memory.
 - b. discouraging information access.
 - c. standardizing processes.
 - d. avoiding computerized decision aids.
10. The primary focus of patient care in the surgical department should be
 - a. infection control.
 - b. safety.
 - c. pain management.
 - d. patient and family involvement.

DIRECTIONS

Patient Safety in the OR **An AORN Independent Study Activity** **For Nonmembers**

Event #05090/Session #9533

Contact Hours: 1.5

To complete this activity:

1. Print out the Directions, Answer Sheet scan form, and Learner Evaluation scan form which are on AORN's web site in pdf format.
2. Read the Directions.
3. Read/review the goal/purpose, objectives, and content for this activity.
4. Leave the six AORN ID number squares and circles blank on the Answer Sheet scan form.
*[If you are not an AORN member, you may join AORN by calling (800) 755-2676, ext. 1, or go to www.aorn.org and click on Join/Renew. Approximately 48 hours after you have completed the membership application and paid your fee, you may take this independent study activity for **free**.]*
5. Record the four-digit session number, 9533, on the Answer Sheet, and completely darken the corresponding spaces.
6. Enter your name, address, city/state/zip, phone, and preferred e-mail address on the Answer Sheet.
7. Completely darken the space that indicates your response to each of the 10 Posttest questions on the Answer Sheet.
8. Completely darken the space that indicates your response to the evaluation questions on the Learner Evaluation scan form. Please feel free to write comments on your evaluation sheet.
9. *Record the time it took you to complete this activity on the Learner Evaluation form.*
10. The Answer Sheet and Learner Evaluation form plus your \$7.50 nonmember payment serve as your application for contact hours.
11. Please note that the completed Learner Evaluation form must accompany the Answer Sheet in order for you to receive contact hours.
12. Mail both the completed Answer Sheet and Learner Evaluation form with your \$7.50 payment to:

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13. Each applicant who successfully completes the Answer Sheet and Learner Evaluation, and submits the two forms with the \$7.50 payment will receive a certificate of completion for 1.5 nursing contact hours (*50 minutes of learning = 1 contact hour*).

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ANSWER SHEET

#05090/#9533

Patient Safety in the OR An AORN Independent Study Activity For Nonmembers

Please note: The completed Learner Evaluation form for this activity *and payment* must accompany this completed Answer Sheet in order for you to receive your 1.5 contact hours.

Your e-mail address: _____
(for any needed correspondence about the test)

To complete this Answer Sheet, you must fill in the bubbles corresponding to the four-digit session number.

You may either read the 10 Posttest questions online or print them from the pdf document. Be sure to completely darken the bubble on the Answer Sheet that indicates your response to each of the posttest questions.

Answer Sheet

Independent Study Activity

Session Number

	1	2	3	4	5	6	7	8	9	0
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	1	2	3	4	5	6	7	8	9	0
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3	(A)	(B)	(C)	(D)	(E)	13	(A)	(B)	(C)	(D)	(E)
4	(A)	(B)	(C)	(D)	(E)	14	(A)	(B)	(C)	(D)	(E)
5	(A)	(B)	(C)	(D)	(E)	15	(A)	(B)	(C)	(D)	(E)
6	(A)	(B)	(C)	(D)	(E)	16	(A)	(B)	(C)	(D)	(E)
7	(A)	(B)	(C)	(D)	(E)	17	(A)	(B)	(C)	(D)	(E)
8	(A)	(B)	(C)	(D)	(E)	18	(A)	(B)	(C)	(D)	(E)
9	(A)	(B)	(C)	(D)	(E)	19	(A)	(B)	(C)	(D)	(E)
10	(A)	(B)	(C)	(D)	(E)	20	(A)	(B)	(C)	(D)	(E)

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Name _____
Address _____
City _____ State _____ Zip _____
Phone # _____

LEARNER EVALUATION

The following evaluation is used to determine the extent to which this independent study activity met your learning needs. Rate the following items on a scale of 1 - 5.

Session Number

<input type="checkbox"/>	1	2	3	4	5	6	7	8	9	0
<input type="checkbox"/>	1	2	3	4	5	6	7	8	9	0
<input type="checkbox"/>	1	2	3	4	5	6	7	8	9	0
<input type="checkbox"/>	1	2	3	4	5	6	7	8	9	0

#05090/#9533
Patient Safety in the OR
An AORN Independent Study Activity
For Nonmembers

LOW HIGH

Overview

To what extent...

1. Were the activity objectives met?
2. Was the content useful?
3. Was this learning method effective for you?
4. Will this information be useful in your practice setting?

1 1 2 3 4 5

2 1 2 3 4 5

3 1 2 3 4 5

4 1 2 3 4 5

5 1 2 3 4 5

6 1 2 3 4 5

7 1 2 3 4 5

8 1 2 3 4 5

9 1 2 3 4 5

Purpose/Goal

To provide information to perioperative nurses about medical errors and adverse events in perioperative settings.

5. Please rate the relevance of this independent learning activity to its intended purpose.

10 1 2 3 4 5

Objectives

To what extent were the following objectives of this education activity achieved?

6. Discuss the frequency and types of medical errors.
7. Explain what constitutes a medical error.
8. Describe how system flaws can contribute to medical errors.
9. Identify risks for medical errors.
10. Discuss how errors can be prevented.
11. Was this session free of commercial bias?
(Note: 5 = Yes; 4 = No)
12. Were you informed of commercial support of the program through the learning package?
(Note: 5 = Not Applicable; 4 = Yes; 3 = No)

11 1 2 3 4 5

12 1 2 3 4 5

13 1 2 3 4 5

14 1 2 3 4 5

15 1 2 3 4 5

16 1 2 3 4 5

17 1 2 3 4 5

18 1 2 3 4 5

19 1 2 3 4 5

20 1 2 3 4 5

21 1 2 3 4 5

22 1 2 3 4 5

23 1 2 3 4 5

24 1 2 3 4 5

25 1 2 3 4 5

Time Required to complete _____

What other topics would you like to see addressed in a future independent study activity? Would you be interested or do you know someone who would be interested in authoring a home study on the suggested topics?

Topic(s) _____

Author(s) name and address _____

26 1 2 3 4 5

27 1 2 3 4 5

28 1 2 3 4 5

29 1 2 3 4 5

30 1 2 3 4 5

