PERIOPERATIVE NURSING

CHAPTER OBJECTIVES

After studying this chapter, the learner will be able to:

- Compare and contrast the art and science of surgery.
- Identify three characteristics of adult learners.
- Discuss how standardization influences patient care.
- Describe two professional sources of patient care standards.
- List three main aspects of accountability.
- Identify the components of the nursing process.

Common Indication for Surgical Procedure

Indication for Surgical Procedure	Example
Incision	Open tissue or structure by sharp dissection
Excision	Remove tissue or structure by sharp dissection
Diagnostics	Biopsy tissue sample
Repair	Closing of a hernia
Removal	Foreign body
Reconstruction	Creation of a new breast
Palliation	Relief of obstruction
Aesthetics	Facelift
Harvest	Autologous skin graft
Procurement	Donor organ
Transplant	Placement of a donor organ
Bypass/shunt	Vascular rerouting
Drainage/evacuation	Incision into abscess
Stabilization	Repair of a fracture
Parturition	Cesarean section
Termination	Abortion of a pregnancy
Staging	Checking of cancer progression
Extraction	Removal of a tooth
Exploration	Invasive examination
Diversion	Creation of a stoma for urine
Implantation	Inserting a subsurface device
Replantation	Reattaching a body part
Amputation	Removing a large structure
Stenting	Use an implant as a supporting device

Behavioral Objectives for Perioperative Team Members

- To identify the **role and responsibility of each team** member
- To **define current standard terminology** associated with perioperative patient care through use of the perioperative nursing data set (PNDS)
- To compare and contrast **knowledge of normal anatomy, physiology, and pathophysiology**

- To discuss the interrelationships among physiologic, ethnocultural, and psychosocial factors that affect a patient and family's adaptation to the perioperative experience
- To identify the **procedures necessary to prepare each patient as an individual** for the intended surgical procedure
- To demonstrate the ability to **select appropriate instrumentation, equipment, and supplies** according to the individualized plan of care
- To apply the principles of **sterilization, disinfection, and aseptic and sterile techniques** in the preparation and use of all materials in the perioperative environment to prevent transmission of biologic contamination
- To identify the **potential environmental hazards** to the patient and team
- To demonstrate knowledge of the **basic actions & uses of anesthetic agents**, **medications**, fluid therapies, and electrolytes
- To demonstrate **knowledge and skill during the surgical procedure** by anticipating the needs of the patient and the team
- To discuss the **principles of wound management**
- To **function as a team member** by showing consideration for and cooperation with other perioperative caregivers
- To **communicate effectively with personnel on other patient care divisions** within the facility
- To develop the **ability to perform safely and effectively during stressful situations**

Nightingale's Environmental Theory

Physical Environment	**Psychologic Environment**	**Social Environment**
Sanitation	Communication	Mortality data
Ventilation	Advice	Prevention of disease
Lighting	Variety	Education of caregiver
Noise	Scientific knowledge base	Nursing as distinct from medicine
Odors	Creativity	Accountability
Temperature	Spirituality	Responsibility

Standards of Perioperative Nursing

1. **Standards of Perioperative Nursing.** Originated as **ANA standards of OR practice** in 1975, were **approved by ANA and AORN** (Association of Peri Operative Registered Nurses) and **originally published in 1981**. Reviews and **revisions yearly** as needed. These five sets of standards for an optimal level of perioperative nursing practice are **published annually in AORN Standards and Recommended Practices.** The standards is primarily **tri-fold—Structure**, **Process**, and **Outcome**. These 3 components provide a means for the perioperative nurse to analyze and interpret care. **Reviews and revisions are done yearly as needed.**
   a. **Standards of Perioperative Administrative Nursing Practice** → structural standards that provide a framework for ***establishing administrative*** **&** ***organizational practices*** in a variety of settings.

b. **Standards of Perioperative Clinical Practice** → based on ***problem-solving techniques***. They describe how **nursing process is used** in the perioperative setting. The Perioperative Nursing Data Elements (PNDS) provide a ***means to measure and collect performance improvement data***.
c. **Standards of Perioperative Professional Practice**. These ***describe a competent level of behavior*** for professional role of perioperative nurse. The activities relate to ***quality practice evaluation***, ***continuing education***, ***collegial relations***, ***collaboration***, ***ethical conduct***, and ***use of resources***, ***evidence-based research***, and ***leadership***.
d. **Quality & Performance Improvement Standards** for Perioperative N. Process standards to ***assist in development of methods to measure***, ***assess***, & ***improve patient care***.
e. **Perioperative Patient Outcomes**: Standards of Perioperative Care. These are outcome standards that ***reflect desired observable patient outcomes during preoperative, intraoperative, and postoperative phases*** of patient care. They ***focus on patient & family responses to intervention*** during surgical, diagnostic, or therapeutic intervention. ***Each outcome has a unique identifier in the PNDS***.

2. **The Operating Room Nurses Association of Canada (ORNAC, www.ornac.ca)** has published Recommended Standards for Operating Room Nursing Practice & Quality Assurance Audit.
3. **Association of Surgical Technologists Standards of Practice (AST, www.ast.org).** These are process standards that provide guidelines for safe & effective patient care in appropriate preoperative, intraoperative, and postoperative practice settings. They include interpersonal skills, environmental safety, & application of principles of surgical technology.
4. **The Joint Commission (TJC) standards** (www.jointcommission.org). These standards, published in the Accreditation Manual for Hospitals are functional, performance-based standards that focus on actual clinical care provided directly to patients and on management of the health care organization providing services. They relate to efficiency, effectiveness, safety, and timeliness; appropriateness, continuity, and availability of care; and patient satisfaction. TJC evaluates compliance with these standards and reviews clinical outcomes of care provided as fundamental criteria for accreditation. Selective clinical indicators serve as outcome measurements for the processes of patient care.
   - TJC established National Patient Safety Goals (can be found in their entirety at www.jointcommission.org/patientsafety).
   - Improve ***accuracy of patient identification*** using ***at least 2 forms of patient identification***.
   - Improve the ***effectiveness between caregivers*** by using ***standardized patient "hand off"*** reporting, ***verbal reflection***, ***avoiding abbreviations & symbols***, & ***assuring timely communications***.
   - Improve ***safety of using medications*** by identifying potential or "look-alike" drugs in facility, ***labeling all drug containers*** & ***delivery devices*** on & off field, ***↓ risk of anticoagulation error***.
   - **Reduce the risk of health care–associated infections** by meticulous ***hand hygiene*** and by ***recording & reporting as a sentinel event*** any ***unanticipated death*** or ***loss of function*** associated with sepsis or health care–acquired infection.
   - ***Accurately & completely reconcile medications*** across continuum of care by ***comparing patient current medication*** regimen ***with medication orders*** during care in the facility.

Patient and subsequent caregivers in and out of the facility are provided a complete list of current medications on discharge.

- ***Reduce patient's risk for harm from falls*** by implementing a program of ***safe patient positioning and transport in the OR***. Fall prevention programs should have an evaluation process.
- ***Encourage patient's participation in safe delivery of care*** by defining and communicating the steps of care and encouraging the patient and family to ask questions and voice concerns for safe care.
- Identification of potential ***safety risks*** in the patient population relevant to patients with ***emotional or behavioral disorders*** by ***prevention of self-harm or suicide***.
- Improve ***recognition and response to changes in the patient's condition*** by ongoing assessment and immediate access to specially trained individuals when a patient's condition has changed.

5. **National Fire Protection Association (NFPA) standards** (http://safety.science.tamu.edu/nfpa.html). These standards ***apply to environmental safety*** to reduce, to the extent possible, hazards to patients and personnel.

6. **Association for the Advancement of Medical Instrumentation (AAMI) device standards** (www.aami.org). These standards provide industry with reference documents on accepted levels of device safety and performance and test methods to determine conformance. AAMI standards have also been established for sterilization, electrical safety, and patient monitoring for health care providers in relation to evaluation, maintenance, and use of medical devices and instrumentation.

7. Clinically based risk-control standards. These standards are written by medical specialty groups and professional liability underwriters. They establish appropriate benchmarks of acceptable practices and outcomes specifically for controlling liability losses. They may be incorporated into the health care facility's risk management program.

Standards from Regulatory Bodies

The standards set by these organizations are enforceable by law:

1. **Federal Medicare Act and all subsequent amendments to this Social Security Act** (http://www.cms.gov/).

a. ***Health Insurance Portability & Accountability Act*** (HIPAA, http://www.cms.gov/hipaageninfo/). The Department of Health and Human Services (HHS) set national standards for electronic health care transactions and national identifiers for providers, health plans, and employers. It also addresses the security and privacy of health data. Many facilities require the employees to sign a confidentiality agreement upon hire. Schools of nursing and surgical technology, clinical sites and patient care training sites require students to sign confidentiality agreements. Some schools prohibit tape recording in class because of patient and facility confidentiality issues.

b. **Medicare's "No Pay List":** Accuracy of documentation of conditions present on admission as differentiated from conditions acquired during hospitalization determines facility reimbursement for patient care. Claims for payment that have no documentation about conditions "present on admission" are immediately rejected without reimbursement. More information can be found at http://www.cms.gov/. As of October, 2008, CMS will not reimburse the facility for the following:

1) Pressure ulcers
2) Falls or trauma
3) Vascular catheter–associated infection
4) Retained foreign objects from surgery
5) Certain surgical site infections (mediastinitis after cardiac surgery, bariatric gastrointestinal procedure, & orthopedic procedures of spine, neck, shoulder, or elbow)
6) Air embolus
7) Blood incompatibility
8) Uncontrolled blood sugar
9) Deep vein thrombosis (DVT) and pulmonary embolus (PE) after knee or hip joint arthroplasty
10) Urinary catheter–associated infection
11) Wrong site surgery
12) Wrong patient surgery
13) Wrong surgery performed on a patient

c. National Quality Forum (NQF): Serious reportable events mirror the CMS "No Pay List" and the 45-page 2010 serious reportable events document can be viewed using Acrobat Reader at www.premierinc. com/safety/topics/guidelines/nqf.jsp

The NFQ document details include, but are not limited to, the following:

1) Surgical events such as wrong site or wrong patient surgery
2) Device or biologic material–associated deaths (equipment and medication contamination)
3) Patient protection event such as patient suicide
4) Care management event such as wrong drug or blood administration
5) Environmental event such as electrocution or falls
6) Criminal event such as assault or abduction

2. American National Standards Institute (ANSI) standards (www.ansi.org). These standards concern exposures to toxic materials and safe use of equipment such as lasers.

3. U.S. Food and Drug Administration (FDA) performance standards (www.fda.gov). Federal Medical Device Amendments regulate the manufacture, labeling, sale, and use of implantable medical devices and many products used in or on patients. The FDA also controls treatment protocols for use of drugs. The manufacturer's lot number and product description of implanted devices should be attached to or included in the patient's chart.

4. Agency for Health care Research and Quality (AHRQ) clinical practice guidelines (www.ahcpr.gov). These standards include indicators for performance measurement.

They are based on research and professional judgment regarding effectiveness and appropriateness of medical care, including safety, efficacy, and effectiveness of technology. This agency was created in provisions of the Consolidated Omnibus Budget Reconciliation Act of 1989.

AORN has included perioperative interpretations of the AHRQ guidelines in the AORN Standards and Recommended Practices publication.

5. Occupational Safety and Health Administration (OSHA) standards (www.osha.gov). These legally enforceable standards include permissible levels of toxic substances in the environment. Although explicitly developed to protect employees, patients receive secondary benefits from control of hazards in the environment.

Sources of Standardization Data within the Health Care Facility

1. **Facility-specific patient care standards.** The patient care services department establishes standards for appropriate patient care based on the standards developed by the American Nurses Association (ANA).
2. **Hospital policy and procedure manual.** This manual contains basic and general administrative and patient care policies that apply to all hospital personnel. A copy is retained on each patient care unit and in all departments of the hospital.
3. **Safety plan manual.** The potential hazards and identifiable situations that may cause injury to a caregiver or patient are described in the manual provided by the hospital safety committee. Plans for fire or disaster drills and evacuation routes are outlined.
4. **Material safety data sheets (MSDS).** These detailed sheets describe chemicals used in the workplace and actions to take if they are spilled into the environment. Specific cleanup and disposal methods are outlined. Most facilities require a yearly review of the MSDS process. Individual MSDS sheets for specific chemicals are online at www.msds.com.
5. **Disaster plan manual.** This manual outlines the plans for both internal and external disasters. Both internal and external disasters require rapid activation of all services within the hospital. Personnel who are off duty will be called to the facility and assigned as needed. Command centers and communications will be critical stations for the entire facility to follow and respond. Triage protocol will be followed carefully as defined by the facility.
   a. **An internal disaster is an event that happens within the facility** (e.g., an explosion, a fire) and requires employee assistance for control of the situation and evacuation of personnel and patients. An evacuation plan should be part of this planning structure because in-process surgeries cannot be abruptly halted and simply carried out of the building.
   b. **An external disaster is an event that happens outside the confines of the facility** (e.g., the World Trade Center terrorist actions of September 11, 2001). An external disaster could also be a natural phenomenon such as an earthquake or an accident (e.g., a train wreck).
   c. **A combined internal-external disaster such as Hurricane Katrina** is complex and may have multiple stages of resolution. Extremes of patient casualties may be brought in only to find the facility is to capacity in census. In some circumstances the facility may be out of communication with surrounding communities because of power failure or flooding and cannot easily reroute patients to a safe receiving hospital.
6. **Infection control manual.** This manual contains the policies and procedures designed to minimize the risk of infection and control the spread of disease within the health care facility. It includes state, local, federal, and professional standards for the protection of the patient and the caregiver.

7. **Perioperative policy and procedure manual.** This manual, usually a hardcover ringed binder, contains the policies pertaining solely to the administration and operation of the perioperative environment. A copy is available for reference in the manager's office, at the control desk, or in both places. The primary purpose of the perioperative policy and procedure manual is to detail why and how procedures should be specifically performed within the perioperative environment. It includes both supportive activities and practices that involve direct perioperative patient care.
8. **Orientation manual.** This manual is designed to acquaint personnel with the environment, policies, and procedures specific to performance and the position descriptions of all personnel in the department.
9. **Instrument book.** The individual instruments and trays required for each surgical procedure are listed in a central processing computer or in a separate book that is kept in the instrument processing area. Photographs or catalog illustrations help instrumentation personnel identify the vast number of instruments and how they are compiled into sets. Flash cards and educational instrument textbooks are commercially available.
10. **Surgeon's preference cards/case cart sheet.** A preference card is maintained in a computerized database or written note card for each surgical procedure that each surgeon performs. The surgeon's specific preferences and any variance from the procedures in the procedure book are listed on these cards. The cards are revised as procedures and personal preferences for new technology change. A set of these cards is kept readily available in a central file or in a computer under the surgeon's name, and they are pulled for each day's surgical procedures.
11. **Directories. Alphabetic listings of the location of supplies and equipment** are maintained for the instrument room, general workroom, sterile supply room, and general perioperative storage areas. Regardless of where the storage areas are located, personnel should know the location of supplies and equipment. Directories save time in trying to locate items.

Universal Protocol

Universal Protocol is a standardized means for keeping patient safe in surgery. The World Health Organization ***(WHO) created a basic surgical safety checklist*** under the guidance of Dr. Atul Gawande and a select team of anesthesiologists, surgeons, and registered nurses. The purpose of the checklist is **to globally reduce surgical harms to patients** in a manner that can be applied universally in high- and low-income countries. Initial multinational studies of the checklist use demonstrated a one-third reduction in surgical mortality and morbidity.

The initial 19 items require oral confirmation at three critical points during perioperative patient care that include:

(1) the "sign in" before induction of anesthesia,
(2) "time out" before skin incision, and
(3) "sign out" before the patient leaves the OR.

The universal checklist provides a means for documentation of each step of care for patients undergoing invasive and noninvasive surgical procedures. **AORN has incorporated the Joint**

Commission's 2010 Patient Safety Goals and Universal Protocol into the WHO Surgical Safety Checklist to create a Comprehensive Surgical Checklist (Fig. 2-1).

Identifying the Patient

- When a patient enters the facility, ***a plastic identification wristband*** **is put on patient**.
- Care is taken to ***place wristband*** in a location that not interfere with surgical site.
- ***Patient spell*** his or her name and ***pronounce*** it.
- The ***circulating nurse*** & ***anesthesia provider*** **check wristband** with ***patient & surgeon***, the ***patient's chart***, and the ***surgical schedule***.
- The ***surgeon*** should ***visit with the patient*** before an anesthetic is administered.
- ***A parent***, ***legal guardian***, or ***individual with power of attorney*** can complete this identification process.
- TJC indicates that ***at least two methods*** should be employed ***to identify a patient*** as part of the patient safety goals.

Identifying the Surgical Site

- ***Surgical site indicated by consent form*** verified between ***circulating nurse*** & ***patient***.
- ***Universal methods of surgical site verification*** by ***asking*** patient ***to describe*** procedure.
- If ***procedure is on a particular side***, patient asked to ***point to & clarify site***.
- ***Surgeon should mark site*** with his or her initials in ***indelible ink***.
- Before making incision ***entire team pauses for a time out*** as surgical site ***listed on consent***.
- ***Entire team confirms*** that this is ***correct information***.
- During this process ***availability of correct implants or special equipment is confirmed***.
- Surgical site ***marking*** & ***identification*** should be ***standardized*** within facility & policy.
- ***Time out process*** should be ***documented in patient's record*** by ***circulating nurse***.
- More information can be found at www.aorn.orgin the official statements section and on the TJC website at www.thejointcommission.org.
- TJC described factors that contribute to ***wrong site***, ***wrong patient***, & ***wrong procedure*** surgery. They are as follows:
  - ✓ Emergencies
  - ✓ Morbid obesity
  - ✓ Physical deformity
  - ✓ Unusual equipment or setup of the OR
  - ✓ Multiple surgeons
  - ✓ Multiple procedures
  - ✓ Unmarked patients
  - ✓ Unverified patients
  - ✓ No checklist
  - ✓ No assessment
  - ✓ Staffing issues
  - ✓ Distractions and disharmony among staff members
  - ✓ Lack of information about the patient
  - ✓ Organizational culture of the facility

Protecting Personal Property

- ***Preoperative personnel*** are responsible for removing ***valuables & prostheses***.
- The ***circulating nurse*** is responsible for ***double-checking***.
- Personal items as ***religious medals***, ***hearing aid(s)***, ***eyeglasses***, ***dentures***, & ***eye prostheses*** permitted to remain with patient who is having local or regional anesthesia.
- ***Circulating nurse*** inform anesthetics & surgeon of their presence & document in chart.
- Artificial extremities, undergarments, wigs, hairpins, wristwatches, rings be removed.
- ***Jewelry could get lost***, or ***stuck*** on patient's finger as a result of postoperative swelling.
- In addition to danger of losing or damaging these items, some could cause pressure areas on the anesthetized patient's body.

"Time Out" for Prevention of Wrong Site Surgery

- Correct patient?
- Correct position?
- Correct site?
- Correct procedure?
- Correct equipment?
- Correct images? (scans or x-rays in proper orientation)
- Correct implants? (as appropriate)

Observing the Patient

- Unattended patients may ***fall from a stretcher*** or the ***OR bed***.
- ***Falls*** are one of the ***most frequent causes of avoidable injuries***.
- ***Side rails***, ***restraints***, & ***safety straps*** should be used to protect all patients.
- A small child could reach and insert a tiny finger into an electrical socket.
- Patients should be observed at all times in the perioperative environment.

Positioning the Patient

- ***Care is taken*** when moving all ***patients to and from the OR bed***.
- Patient should be ***positioned to ensure adequate exposure of surgical site*** for the surgeon but not compromise any body system.
- Anesthesia provider determine physiologic safety of patient's body systems.
- Cardiopulmonary functioning should not be impaired.
- Adequate joints support & limbs should be provided during movement into desired position.
- ***Pressure areas*** should be ***adequately protected*** to prevent neurovascular damage.
- Plan of care should include ***appropriate numbers of personnel*** for ***safe patient movement***.
- Patients who are incapable of assisting with physical motion require a ***minimum of four people*** to ensure a safe move from one surface to another.
- side of the patient, one at the foot, and one at the head to monitor the patient's airway and physiologic response.
- The person guiding the ***patient's head, usually anesthesia*** provider, should be the one who counts "one—two—three" to pace the synchronized movement from one surface to another.

- Surgeon determines appropriate surgical position in consultation with anesthesia provider. The circulating nurse and first assistant help position the patient.
- ***A stretcher is kept nearby*** at all times if a patient is placed in ***a prone position*** or any position other than supine.
- In ***emergency***, patient will need to be placed in a ***supine position*** for treatment as (**CPR**).
- Many patients receive a general anesthetic or heavy sedation and are therefore unconscious or not in control of their protective reflexes.
- Constant vigilance is essential to safeguard patients who are vulnerable & unable to protect themselves.
- Liability on part of team would be difficult to dispute.
- Everyone in perioperative environment has a duty to monitor & protect patient at all times without exception.

Aseptic and Sterile Techniques

- Infection is a ***serious postoperative complication*** may become ***life threatening*** for patient.
- Perioperative team must ***know*** & ***apply principles of aseptic*** & ***sterile techniques*** at all times.
- Established procedures for ***aseptic technique***, ***sterilization***, & ***disinfection*** meticulously.
- Each member consider personal preferences for care of self & applied to care of patients.
- Inappropriate reuse of disposable items may be **indefensible** (unsterile endoscope)
- Anybody area is at risk when vascular system is entered & should be worthy of sterile instrumentation.
- Microorganisms can be transferred via any ***access portal*** to vascular system, including but not limited to the mouth, urethra, penis, vagina, rectum, and ear.
- ***Strict asepsis*** and ***sterile technique*** prevents many ***postoperative complications***.
- The following principle applies: "***When in doubt, throw it out***."

Accountability of Accurate Counts

- The primary responsibility for accounting for all ***sponges***, ***sharps***, & ***instruments*** before, during, and after every surgical procedure by **circulating nurse & scrub person**.
- There are several reasons to count & be accountable for items used in a surgical procedure.

1. ***Retained items from surgical procedure***. This is serious safety breach that is **not excusable**.
2. ***Instruments are costly***.
3. ***Instruments stuck in washing machines*** cause damage to the mechanisms.
4. **Many instruments (sharp or cutting)**, If in laundry it become source of injury to workers. Gloves worn for cleaning do not protect from sharp objects.

- ***Surgeon & first assistant*** facilitate the count of items on surgical field before closure
- Accountability for ***sponges, sharps, and instruments*** is essential to safe practice & **omission of appropriate counting** could result in a ***serious threat of liability***.
- There is ***no excuse for any retained foreign object***
- The ***circulating nurse*** should ***document final counts*** as correct or incorrect and any unusual incidents concerning them, including the ***need for a radiograph*** to look for a lost item.
- If a ***radiograph is taken***, name of radiologist and findings ***also should be documented***.
- An ***incident report*** should be ***filed on all counts*** that remain unresolved.

- The ***documentation of correct or incorrect counts is sufficient***.
- ***Any questionable count*** should be ***documented as resolved or unresolved***
- Tally sheets are merely worksheets & have no particular value to permanent record.

Using Equipment

- ***Instruments, equipment & appliances*** should be used & tested according to manufacturer.
- **Safety devices** as ***PPE*** or ***smoke evacuation apparatus*** should be employed as necessary.
- ***Electrical & laser equipment*** also should pass inspection by the biomedical engineering department and be tagged with a dated preventive maintenance sticker.
- **Electrical equipment** should be properly grounded to ***prevent electrical shock & burns***.
- The facility conduct training & competency reviews for all equipment used in patient care.
- Personnel who set up & operate facility-owned equipment may be found negligent if a patient is injured.
- Great care is critical to prevent injury when using all equipment in OR environment.
- **Adequate training on all equipment** for all personnel they operate during care in OR.
- Records of such training should be on file within the department.

Preventing Skin Injury

- Skin injury may be caused by an ***electrical or thermal device***, ***chemical agent***, ***sharp objects***, or ***mechanical pressure***.
- ***Pressure necrosis*** is possible after procedures ***lasting more than 2 hours***.
- The circulating nurse should assess the patient for skin injury.
- ***A burn*** may occur from use of a hot instrument taken ***directly out of autoclave***.
- Scrub person should ***immerse hot instrument*** in ***basin of cool***, sterile water ***before handing***
- Prolonged contact of even moderate temperatures can cause tissue damage.
- ***Patient under anesthesia*** has ***no protective reflexes*** to warn of an impending injury.
- ***Thermal injury*** can happen when any device or solution heated ***beyond 110° F (44° C)***.
- ***A patient may be burned*** during use of the ***electrosurgical unit (ESU).***
- ***Improper placement*** of the patient return ***electrode can cause a deep tissue burn***.
- Unintended burns may occur if hot tip touches other body parts or instrument. Use of a dry sponge against an activated tip causes ignition (اشتعال).
- ***Alcohol & other flammable solutions*** such as some one-step prep chemicals can ignite, ***causing flash fires*** if allowed to saturate drapes, in presence of oxygen.
- ***Vapors, fumes, or oxygen*** can accumulate under drapes & ignite if exposed to the ESU pencil.
- ***Thermal burn*** occur from electrical & laser equipment that is improperly maintained.

Administering Drugs

- Drug used (antibiotic or local anesthetic) is recorded in note by circulating n. & surgeon.
- Drug is checked nurse & scrub person before it is transferred to sterile field.
- The drug should be drawn into a syringe by the circulating nurse and dispensed into the sterile medicine cup after removing the needle used to penetrate the vial.

- Dispensing with needle in place can cause aerosolization of the drug, potentially causing airborne exposure of a sensitive person.
- Sterile medication cup and syringes (if used) are clearly labeled by the scrub person on the field.
- The drugs are properly marked.
- Each is correctly labeled and administered appropriately.
- The scrub person repeats drug name to surgeon when passing it.
- AORN has developed a medication toolkit for preventing medication errors.
- Contact AORN at www.aorn.orgfor more information about receiving this packet. Consider the "seven rights" of medication administration:

The "seven rights" of medication administration	
1. Right patient 2. Right dose 3. Right time 4. Right documentation	5. Right drug 6. Right reason 7. Right route

PROFESSIONAL PERIOPERATIVE NURSING

- Professional nursing is **dedicated to the promotion of optimal health** for all human beings in their various environments. AORN is the leading organization for perioperative nursing and sets the standard for professionalism. In the support of professional perioperative nursing in a wide variety of specialties, AORN has formed 23 specialty assemblies for specialized practice areas and professional interests.
- The specialty assemblies do not have regular meetings, but offer online and newsletter participation. Several times a year the specialty assemblies offer workshops. Assembly meetings are held at the annual AORN Congress. An abbreviated internal specialty assembly governance structure provides a chairman and other elected officials. A modest fee is charged for membership in each assembly. A perioperative nurse may belong to as many assemblies as desired.

The specialty assemblies include the following:

1. Perioperative nursing informatics 2. Rural and small hospitals 3. RN first assistant 4. Minimally invasive and laser 5. Pediatric 6. Orthopedic 7. Ophthalmology 8. Neurosurgery 9. Leadership 10. Federal nursing 11. Ambulatory surgery **12.** Integrated health practices	13. Cardiothoracic 14. Educator/clinical nurse specialist 15. Business, industry, and consulting 16. Retired nurses 17. Advanced practice nurses 18. Vascular-endovascular 19. Sterile processing/materials management 20. General surgery/gynecology 21. Multicultural nursing 22. Plastic and reconstructive surgery 23. Trauma

Integration of the Nursing Process into Perioperative Patient Care

- The **six components of the nursing process** are integrated into three phases of patient's perioperative experience: the ***preoperative phase***, the ***intraoperative phase***, and the ***postoperative phase***.
- Throughout the entire perioperative period, the patient is ***continually assessed***, the ***plan of care is modified***, ***implementation is effected***, and the ***cycle is evaluated for attainment*** of outcomes.
- The perioperative nurse is responsible for continually assessing the patient by observing and acknowledging parameters identified in Box 2-6.
- The system and the structure had been traditionally complex until specific data elements of perioperative patient care were clearly stated in a standardized manner.

BOX 2-4 The Nursing Process

ASSESSMENT
• Identify the actual or potential problems, needs, and health status considerations through appraisal of the physiologic, psychosocial, objective, subjective, cultural, and ethnic data related to the patient as an individual. Assessment is based on functional health patterns.
• Document assessment data.

NURSING DIAGNOSIS
• Formulate prioritized actual or potential nursing diagnoses unique to the patient. Human response patterns guide the development of nursing diagnoses.

IDENTIFICATION OF OUTCOMES
• Develop measurable and attainable expected outcomes and mutual goals in collaboration with the patient, significant others, and other health care providers.
• Identify realistic time frames in which fulfillment may be accomplished.

PLANNING
• Establish and prioritize a working set of interventions for the actual problems, needs, and health status considerations.
• Establish a contingency plan for the potential problems, needs, and health status considerations that may become actual during the course of the perioperative experience.
• Include the patient's input for the construction of the individualized plan.
• Document the plan of care in a retrievable manner.

IMPLEMENTATION
• Share the plan with the perioperative team for continuity of care.
• Activate the interventions in a systematic order of priority.
• Discontinue any intervention that is ineffective.
• Document the implementation of the interventions and their effectiveness.

EVALUATION
• Determine the effectiveness of the plan as the expected outcomes and mutual goals are met.
• Reformulate the plan and implement new interventions as necessary.
• Document the effectiveness of the plan of care in an ongoing, systematic manner.

Assessment Parameters That Are Monitored Throughout Perioperative Care by the Circulating Nurse	
▪ Physiologic ▪ Medical diagnosis ▪ Surgical site and procedure ▪ Results of diagnostic studies ▪ Laboratory tests ▪ Review of systems ▪ Mobility, range of motion ▪ Prosthetics (internal or external) ▪ Sensory impairments ▪ Allergies ▪ Skin condition ▪ Nutritional and metabolic status ▪ Height and weight ▪ Vital signs ▪ Elimination pattern (e.g., continence) ▪ Sleep, rest, exercise patterns ▪ Medications ▪ Substance abuse	▪ Psychosocial ▪ Cognition (e.g., mental status) ▪ Cultural and religious beliefs ▪ Perception of procedure ▪ Expectations of care ▪ Knowledge base (e.g., informed consent) ▪ Readiness to learn ▪ Ability to understand and retain teaching ▪ Stress level (e.g., anxiety, fears) ▪ Coping mechanisms ▪ Support from family or significant others ▪ Attitude and motivation (e.g., health management) ▪ Affective responses (e.g., ability to express feelings) ▪ Speech characteristics (e.g., language) ▪ Nonverbal behavior

Preoperative Phase

- The preoperative phase of the patient's surgical experience **begins when the decision is made to undergo surgical intervention**, and it **ends when the patient is transferred to the OR bed in the OR**.
- During this phase the perioperative nurse **performs the assessment**, **determines the nursing diagnoses**, **identifies potential outcomes**, and **develops a plan of care**.
- The nurse assesses the patient to **identify any actual or potential physiologic, psychosocial, and spiritual needs, problems**, or other health status considerations.
- In collaboration with the patient and/or significant others, the nurse then **determines the nursing diagnoses and identifies the expected outcomes** of the perioperative experience.
- The perioperative nurse ***plans***, ***prioritizes***, and ***initiates the patient care necessary*** for the attainment of the desired outcomes.

Intraoperative Phase

- The intraoperative phase **begins with placement of the patient on the OR bed** and continues **until the patient is admitted to a postprocedure or postoperative area**, such as PACU.
- Implementation of the plan and evaluation of care continue during this phase.
- The perioperative nurse either personally carries out the plan of care or supervises others in carrying out the plan with skill, safety, efficiency, and effectiveness.
- Modification of the plan may be necessary during the procedure.

Postoperative Phase

- The postoperative phase **begins with admission of the patient to a postprocedure or postanesthesia area,** which may be a postanesthesia care unit (PACU) or an intensive care unit (ICU).

- Patients admitted to the facility on an ambulatory 1-day-stay basis may return to the ambulatory unit.
- As indicated by his or her condition, the patient will t**ransfer from the immediate postoperative patient care division** for progressive stages of self-care on a surgical unit before being discharged from the hospital. The postoperative phase ends when the surgeon discontinues follow-up care.
- Evaluation, the sixth component of the nursing process, is completed during this phase.

STANDARDS OF PERIOPERATIVE

NURSING PRACTICE

- A standard is an authoritative statement established and published by a profession and by which the performance of practice can be measured. The standards of nursing practice establish parameters and competency levels against which the practice of the profession is compared.
- The ANA Standards of Clinical Nursing Practice reflect the nursing process and state the interventions to be performed. These standards are a description of a competent level of practice common to all nurses and form the foundation of all decision making in the provision of care to all patients. The interpretive statements that accompany each standard provide definitions of terms along with the interventions and guidelines necessary to achieve these standards. Criteria for the achievement of each standard are also stated and remain consistent with current nursing practice.
- Nursing practice is based on theory and evidence-based practice. Nursing is constantly evolving with the development of new technology and research. The standards are written in behavioral terms so nurses can measure to what degree each standard has been met.

The Standards of Perioperative Clinical Practice, originally published in 1981, were revised in 2009 by the AORN Board of Directors. The nursing activities inherent in each standard are incorporated in the nursing process during the three phases of surgical care.

Standard I: Assessment

- The perioperative nurse collects patient health data from which the nursing diagnoses are derived.
- Data collection is continual and ongoing.
- It may be gathered in the preoperative holding area, on the patient care unit, in the clinic, or by a telephone call to the patient at home. Information can be obtained from the patient's chart, by consultation with other members of the health care team (e.g., unit nurses, surgeon, anesthesia provider), through interviews with the patient and/or family or significant others, and by observation and physical assessment.
- Data collection is a progressive and orderly process of gathering meaningful information pertinent to the planned surgical intervention.
- It includes but is not limited to the following:
  - ✓ Current medical diagnosis and therapy
  - ✓ Diagnostic studies and laboratory test results
  - ✓ Physical status and physiologic responses, including allergies and sensory or physical deficits

- ✓ Psychosocial status, including education level
- ✓ Spiritual needs, ethnic and cultural background, and lifestyle
- ✓ Previous responses to illness, hospitalization, and surgery
- ✓ Patient's understanding, perceptions, and expectations of the procedure
- ✓ Pertinent data collected through physiologic and psychosocial assessment are documented.
- ✓ Box 2-6 lists the perioperative assessment parameters.
- ✓ The basic elements of a nursing assessment are described in the sections that follow.
  - **Subjective data**: Include the patient's perceptions and expectations of the procedure and may be recorded in the form of a direct quote.
  - **Objective data**: Include the nurse's observations of the patient and the interpretation of baseline data.

Physiologic Assessment

- The perioperative nurse performs a physical assessment of the patient. Techniques include inspection/observation, auscultation, percussion, palpation, and olfaction. The assessment of major body systems establishes the baseline health status of the patient. It provides a basis for planning appropriate patient care and provides a database for postoperative evaluation.
- The perioperative nurse should also be familiar with laboratory test norms so that critical deviations can be identified in all phases of perioperative care. Other important parameters for planning perioperative care include knowledge of allergies, skin integrity, sensory or physical limitations, prosthetic devices, nutritional/metabolic status, and chronic illness. The routine use of medications can affect or interact with anesthetic medications and postoperative recovery. A patient who smokes and who will have general anesthesia needs to be taught coughing and deep-breathing exercises. The patient who is dependent on alcohol or other drugs
- can suffer postoperative physiologic and psychologic manifestations of withdrawal. A chemically dependent person who is recovering from an addiction may refuse preoperative sedation and postoperative narcotics for pain.

Psychosocial Assessment

- The perioperative nurse performs a psychosocial assessment. Illness makes a person vulnerable, and individuals vary in their ability to cope with stressful situations. Culture, religion, and socioeconomic factors have an effect on a patient's interpretation of illness and response to the interaction with the perioperative environment. Anticipatory apprehension, although normal to some degree, may diminish critical-thinking and decision-making abilities. Stress may initiate an exaggerated response of normal coping mechanisms for self-protection. Establishing a preoperative psychosocial baseline facilitates prompt recognition of maladaptation to a perioperative event.

Documentation

Pertinent information should be recorded in the patient's chart or EHR for use by the perioperative team. Data collection sets the baseline for ongoing care in the perioperative environment and into the remote postoperative care period.

Computer information systems can be used to establish a computerized patient database.

Many facilities have incorporated the Internet to permit the patient access to his or her own medical record with a personalized logon and password. Use of the PNDS allows the nurse to use standardized terminology that in turn permits data collection about patient care. This is the foundation of evidence-based practice. A printed copy of the patient care plan can be printed for the patient's record. The nurse should review the printed copy and date and sign it for the permanent record.

Standard II: Diagnosis

The perioperative nurse analyzes the assessment data in determining the nursing diagnoses. Nursing diagnoses are conclusions based on analysis and interpretation of the human response patterns revealed by the assessment data. These are concise written statements about a patient's actual or potential problems, needs, or health status considerations amenable to nursing intervention.

A medical diagnosis defines problems on the basis of a patient's pathologic condition(s). NANDA International has developed a list of nursing diagnoses (www.nanda.org). This list, known as a taxonomy, classifies human response patterns and standardizes the nomenclature for describing them. It includes definitions and defining characteristics for each diagnosis and leads the nurse to generate assessment data that link to outcomes. The PNDS has 93 nursing diagnoses specific to perioperative patients. A NANDA nursing diagnosis has three components:

1. **Defining characteristics.**
   Human responses to altered body processes and other contributing factors describe the acuity of an actual or potential health status deviation. The nurse identifies the characteristics for which nursing interventions can legally be used to maintain current health status or to reduce, eliminate, or prevent its alteration. These interventions are based on human response patterns:
   a. **Problem.** Any health care condition that requires diagnostic, therapeutic, or educational action. Problems can be active (requiring immediate action) or inactive (having been solved). Problem-oriented medical records are built on this premise. An ongoing list is maintained in a database and is used throughout the managed care environment.
   b. **Need.** A lack of something essential for the maintenance of health that may be met through the plan of care. Needs may be actual (in existence at the time of assessment) or potential (anticipated to become actual during the length of stay [e.g., deficient knowledge]). Many of these needs are met through the intervention component of the plan of care.
   c. **Health status considerations.** A personal habit, lifestyle, or influencing agent that if uncontrolled can lead to a decline in physiologic or psychologic well-being (e.g., occupational hazards, exposure to chemical agent or smoke, substance abuse).

2. **Signs (objective) and symptoms (subjective).**

Data obtained during the assessment identify the defining characteristics of the patient's actual or potential health problems. The patient's functional health patterns are assessed (Box 2-7). Gordon has suggested that there are 11 functional health patterns that should be assessed. The domains include physiologic, psychologic, and sociologic aspects of observed behavior.

3. **Etiology/related factors.**

The causes of problems may be related to physiologic, psychosocial, spiritual, environmental, or other factors contributing to the patient's health status. These causes define relevant risk factors to be considered in planning patient care.

Documentation

Use of the PNDS terminology helps perioperative nurses establish standard communication when documenting nursing diagnoses. A common language facilitates continuity of patient care.

Standard III: Outcome Identification

The perioperative nurse identifies expected outcomes unique to the patient. Each outcome can be affected by nursing care (also referred to as "nurse sensitive") and is specific to the individual, the family, and the community. The Nursing Outcomes Classification (NOC) taxonomy is built on five levels: domains, classes, outcomes, indicators, and measures.

The standardized terminology gives quantifiable language to the statement of outcomes and has numeric codes that can be used in nursing informatics systems. Each outcome is evidence based and was researched using qualitative and quantitative methods in 10 midwestern centers in the United States.

The nurse measures the patient's responses and uses a five-point Likert scale to tally the score. A numeric baseline range is documented and the numeric target outcome is identified. This method permits the use of the data in an information system and empiric research. The 330 validated outcomes are closely linked and integral with 191 NANDA nursing diagnosese and can be used across the care continuum in all branches of nursing, including the perioperative care areas.

Expected perioperative outcomes are the desired and obtainable patient objectives after a surgical intervention. These outcomes occur within specified time frames and have specific criteria for evaluation, as demonstrated in the

Gordon's Functional Health Patterns of Observable Behaviors

1. Health perception/health management
2. Nutritional/metabolic
3. Elimination
4. Activity/exercise
5. Sleep/rest
6. Cognitive/perceptual
7. Self-perception/self-concept
8. Role/relationship
9. Sexuality/reproductive
10. Coping/stress tolerance
11. Value/belief

39 identified PNDS patient outcomes.

They direct patient care to modify or maintain the patient's baseline functional physical capabilities and behavioral patterns. The patient's rights and preferences are the cornerstones for expected outcomes. They should be realistic, attainable, and consistent with medical regimen and patient outcome standards for perioperative nursing.

Documentation

The results of care should be documented in standardized language. Examples of PNDS outcomes are prefixed with the letter O and the nomenclature and number from the PNDS list.

Select examples of PNDS documentation include the following:

- O30 The patient's neurologic status is consistent with or improved from baseline levels established preoperatively.
- O14 The patient's respiratory status is consistent with or improved from baseline levels established preoperatively.
- O13 The patient's fluid and electrolyte balance is consistent with or improved from baseline levels established preoperatively.

Standard IV: Planning

The perioperative nurse develops a plan of care that prescribes interventions to attain the expected outcomes.

Based on the assessment data, nursing diagnoses, and identified expected outcomes, the perioperative nurse devises a plan of care. The plan should include a provision for all phases of patient care in the perioperative environment. Key concepts to consider in planning perioperative patient care include but are not limited to the following:

- Participation of the patient and/or significant others in formulation of the plan
- Medical diagnosis and effect of surgical intervention on the patient's physiology
- Psychosocial and spiritual needs of the patient and his or her significant others
- Environmental safety, comfort, and well-being
- Provision of supplies, equipment, and technical expertise
- Current best nursing practices

The plan of care should reflect current standards, facilitate the prescribed medical care, and work toward the attainment of desired outcomes. The scope of the plan is determined by assessment data. Any unusual data are considered for individualized patient care. Alternative options or interventions, not just routine procedures, are a necessary part of the plan. Regardless of format, the plan of care specifies the following:

- Patient care necessary to achieve expected outcomes
- Interventional priorities and sequence of care
- Availability of resources needed to implement the plan
- How, where, and by whom the care will be delivered
- Specific modifications for individualized aspects of care
- Methods for evaluating the effectiveness of the plan

Documentation

Standardized patient care plans may be developed for patient populations undergoing similar procedures, with space provided to note any unique or unusual patient assessment data. These

care plans can be organized on preprinted forms to include the usual nursing diagnoses and expected outcomes and may include, but are not limited to, the following:

- The patient will demonstrate understanding of the procedure.
- The patient will be injury free.
- The patient will remain normothermic.
- The patient will be infection free.
- The patient's skin will remain intact.
- The patient will remain physiologically stable.
- The patient will demonstrate psychologic comfort.
- The patient will return to normal activities of daily living.

The format of the record may include checklists and spaces for specific patient data. This record accompanies the patient throughout the perioperative environment and serves as a guide for the perioperative team. Use of a standardized language, such as the PNDS, is beneficial for precise communication. Dissemination of the plan to all personnel involved in providing care to the patient is essential for continuity of care. The plan is modified as indicated by ongoing evaluation data.

Standard V: Implementation

The perioperative nurse implements the direct and indirect interventions identified in the plan of care. A taxonomy of nursing interventions known as the Nursing Intervention Classification (NIC) is the basis for the standardization of terminology.

The NIC is linked to NANDA International and describes 514 evidence-based interventions that are grouped into 30 classes. The seven domains of the NIC are Physiological: basic, Physiological: complex, Behavioral, Safety, Family, Health, and Community. The standardized terminology of the NIC gives quantifiable language to the nursing interventions and has numeric codes that can be used in nursing informatics systems.

The plan of care is implemented throughout the perioperative care period by the entire team. Scientific principles provide the basis for patient care interventions that are consistent with the plan for continuity of patient care in the perioperative environment. They are performed with safety, skill, efficiency, and effectiveness.

The patient's welfare and individual needs are paramount in every facet of activity and must not be compromised.

Seemingly routine details are significant. For example, taking a defective instrument out of circulation may prevent injury to the patient or team member. All preoperative preparations within the perioperative environment provide for the physical safety of the patient and team in an aseptic, controlled manner. The circulating nurse also provides emotional support to the patient before transfer to the OR bed and during induction of anesthesia.

This text focuses primarily on direct and indirect interventions that perioperative and perianesthesia nurses and surgical technologists perform to ensure achievement of expected patient outcomes. Implementation of safe and efficient patient care requires the application of technical and professional knowledge, sound clinical judgment, and a surgical conscience on the part of all team members. Nurses have a responsibility to monitor constantly the physical and psychologic responses of patients to care. They control environmental factors that affect outcomes of surgical intervention.

Documentation

All patient care interventions (both routine and individualized), observations of patient responses, and the resultant outcomes delineated in the patient care plan are documented as evidence of the care given. This written documentation becomes part of the patient's permanent record. The circulating nurse accountable for the patient's care is responsible for the documentation either in writing or through the EHR. The person completing the documentation should sign with a complete name and title. Interventions contributing to patient comfort and safety are identified. Activities other than direct patient care that are not recorded elsewhere and may affect patient outcomes are included (e.g., how tissue specimens were handled).

Writing nurses' notes or progress notes on the patient's chart or completing an accurate intraoperative observation checklist provides a profile of what has happened to the patient. The notes should contain what happened and why.

Intraoperative records not only have legal value but also are valuable to the postoperative care team.

The PNDS provides standardized language to describe 133 nursing interventions that are designated by the letter I and the nomenclature and number from the list. **Select PNDS intervention examples include:**

- I4 Administers care to wound site
- I5 Administers electrolyte therapy as prescribed
- I3 Administers care to invasive device sites
- I37 Evaluates for signs and symptoms of electrical injury
- I84 Manages specimen handling and disposition

Standard VI: Evaluation

The perioperative nurse evaluates the patient's progress toward the attainment of outcomes with an actual outcome statement as described in the PNDS. Evaluation is a continual process of reassessing the patient and his or her responses to implementation of the plan of care.

Perioperative caregivers accommodate a variety of intense situations within a short time. The perioperative team is always on the alert for, and prepared to respond to, the unexpected. The flexibility of the team is manifest in the quick modifications to the plan of care during emergency situations.

All components of the nursing process are performed concurrently during the intraoperative phase as changes occur in the patient's internal and external environments. The patient is observed during the surgical procedure and evaluated for responses to all interventions.

Determination of patient responses and the realization of expected outcomes can be verified by direct observation of and/or conversation with the patient. The perioperative nurse observes the patient's responses to interventions during the immediate preoperative and intraoperative phases of care in the perioperative environment. The perioperative nurse may accompany the patient to the PACU or postprocedure area to determine the level of attainment

of expected outcomes. The "hand-off" report should be standardized between the perioperative nurse and the postanesthesia nurse. Ideally the perioperative nurse visits the patient postoperatively on the patient care division or phones an ambulatory patient at home within 24 to 48 hours after discharge to complete the assessment of outcomes.

Documentation

The patient's permanent record should reflect the ongoing evaluation of perioperative nursing care and its outcomes.

This includes a comparison of expected outcomes to the degree of outcome attainment as determined by the patient's responses to nursing interventions. Documentation using a standardized language provides legal evidence of results of the plan of care and revisions to the plan after reassessment of the patient. Examples of PNDS in action include, but are not limited to, the following PNDS numbered nursing diagnoses and outcome statements:

• O31: Patient demonstrates knowledge of the expected responses to the procedure

• O11: Patient has wound/tissue perfusion consistent with or improved from baseline levels established preoperatively

• O12: Patient is at or returning to normothermia at the conclusion of the immediate postoperative period

• O2: Patient is free from injury from extraneous objects

CLINICAL COMPETENCY OF THE PERIOPERATIVE NURSE

Using the framework of the nursing process, AORN published Competency Statements in Perioperative Nursing in 1986 and revised them in 1992. These broadly written statements of expected competencies can be used to develop position descriptions, generate performance appraisals, and organize orientation and staff development activities. They may serve as guidelines for the skills a nurse should reasonably expect to achieve to function as a perioperative nurse in the perioperative environment.

These statements incorporate the many principles, procedures, and practices elaborated throughout this text for competent care of the surgical patient.

- Assess the physiologic health status of the patient.
- Assess the psychosocial health status of the patient and family.
- Formulate nursing diagnoses based on health status data.
- Establish the patient's expected outcomes based on nursing diagnoses.
- Develop a plan of care that identifies patient care interventions to achieve expected outcomes.
- Implement patient care interventions according to the plan of care.
- Evaluate the attainment of expected outcomes and effectiveness of patient care.
- Participate in patient and family teaching.
- Create and maintain a sterile field.
- Provide equipment and supplies based on patient needs.
- Perform sponge, sharps, and instrument counts.
- Administer drugs and solutions as prescribed.
- Physiologically monitor the patient during the surgical procedure and throughout the perioperative experience.
- Monitor and control the environment.
- Respect the patient's rights.
- Demonstrate accountability.

SCOPE OF PERIOPERATIVE NURSING PRACTICE

Perioperative nurses care for patients throughout the continuum of the perioperative intervention. The patient's needs are unique during this phase of care and require specific activities

particular to the realm of perioperative nursing. The professional nurses render direct care or oversee the implementation of the plan of care through specialized activities that include but are not limited to the following:

- Educate staff and peers
- Emotionally support and reassure the patient and his or her family
- Serve as patient advocate
- Control environment
- Provide resources
- Maintain asepsis
- Monitor physiologic and psychologic status
- Manage aggregate patient needs
- Supervise ancillary personnel
- Validate and explore current and prospective practices
- Integrate and coordinate care across all disciplines
- Collaborate and consult

These activities are incorporated into the scope of perioperative practice by managers, educators, practitioners, and researchers. These practices take place in hospitals, clinics, educational facilities, physicians' offices, provider organizations, and industry.

Legal, Regulatory, and Ethical Issues

Chapter objectives

After studying this chapter, the learner will be able to:

- Define negligence as it applies to caregivers.
- Discuss informed consent.
- Describe the importance of patient care documentation.
- List several methods of documentation of patient care.
- Identify three potential events that could lead to litigation.
- Describe the role of TJC in the promotion of patient safety.

Abandonment (التنازل عن او الاستسلام)

- Abandonment consists of **leaving the patient for any reason** when the patient's condition is **contingent** on the ***presence of the caregiver***. If the caregiver leaves the room knowing there is a potential need for care during his or her absence, even under the order of a physician, the ***caregiver is liable for his or her own actions***.
- In Czubinsky v. Doctor's Hospital, the **surgeon ordered the circulating nurse to leave the room** to help him start another procedure.
- **During the circulating nurse's absence**, the ***patient had a cardiac arrest***.
- The only team members on hand were ***anesthesia provider*** and the surgical technologist.
- At the trial, the ***circulating nurse admitted to knowing*** that ***it was wrong to leave patient because of his condition but left because of the surgeon's insistence***.
- The ***expert witness testified*** that the **circulating nurse** should not have been ordered away from the patient to work in another room.
- **The court decided that** if adequate help for resuscitation had been available in the OR during the patient's crisis, ***he would not have suffered permanent brain damage***, which occurred because of this breach of duty.
- According to the court, the **circulating nurse had a duty to remain with the patient**.
- If an event necessitates leaving a patient, it is important to transfer care to another caregiver of equal status and function.
- In uncontrollable circumstances, the perioperative manager should be consulted immediately. The patient must not be left unattended.
- No one, not even a physician, may **release a caregiver from a responsibility to a patient**.
- A child or disoriented patient left alone or unguarded in a holding area, for example, may sustain injury by an electric shock from a nearby outlet or by some other hazard within reach.
- The circulating nurse may be considered negligent by reason of abandonment for failure to monitor a patient in the OR.
- The circulating nurse should be in attendance during induction of and emergence from anesthesia and throughout the surgical procedure to assist as needed.

National Patient Safety Goals (NPSGs) Universal Protocol is incorporated into the sixteen National Patient Safety Goals implemented in July, 2010 by the Joint Commission. The following Joint Commission accreditation statements incorporate NPSGs' language to prevent wrong patient, wrong site, and wrong surgery events as part of Universal Protocol:

1. Ambulatory Health Care
2. Critical Access Hospital
3. Hospital
4. Office-Based Surgery

Reportable and Nonreportable Sentinel Events Identified by TJC REPORTABLE

- Any event that results in the loss of life or limb (e.g., death, paralysis, coma) associated with a medication error
- Suicide of a patient within 72 hours of being in an aroundthe-clock care setting
- Elopement or unauthorized departure of an individual from an around-the-clock care facility that results in suicide or homicide or permanent loss of function
- Abduction from a care facility
- Rape
- Discharge of an infant to the wrong family
- Hemolytic transfusion reaction involving the administration of blood or blood products having major blood group incompatibilities
- Surgery on the wrong patient or the wrong body part
- Intrapartum maternal death related to the birth process
- A perinatal death unrelated to a congenital condition in an infant weighing more than 2500 g
- Assault, homicide, or other crime resulting in patient death or a major permanent loss of function
- A fall that results in death or major permanent loss of function as a direct result of the injuries sustained
- Hemolytic transfusion reaction involving incompatible blood
- A retained foreign object from surgery

NONREPORTABLE

- Any near miss
- Full return of limb or bodily function by discharge or within 2 weeks of the initial loss of function
- Medication errors that do not result in death or the permanent loss of function
- Any sentinel event that has not affected the recipient of care
- A death or injury that follows discharge against medical advice (AMA)
- Unsuccessful suicide attempts
- Unintentionally retained foreign body without permanent loss of function
- Minor hemolysis with no clinical sequelae

Conduct a pre-procedure verification process

Address missing information or discrepancies before starting the procedure.

- Verify the correct procedure, for the correct patient, at the correct site.
- When possible, involve the patient in the verification process.
- Identify the items that must be available for the procedure.
- Use a standardized list to verify the availability of items for the procedure. (It is not necessary to document that the list was used for each patient.) At a minimum, these items include: relevant documentation Examples: history and physical, signed consent form, preanesthesia assessment labeled diagnostic and radiology test results that are properly displayed

Examples: radiology images and scans, pathology reports, biopsy reports any required blood products, implants, devices, special equipment

- Match the items that are to be available in the procedure area to the patient.

Mark the procedure site

At a minimum, mark the site when there is more than one possible location for the procedure and when performing the procedure in a different location could harm the patient.

- The site does notneed to be marked for bilateral structures.

Examples: tonsils, ovaries

- For spinal procedures: Mark the general spinal region on the skin. Special intraoperative imaging techniques may be used to locate and mark the exact vertebral level.
- Mark the site before the procedure is performed.
- If possible, involve the patient in the site marking process.
- The site is marked by a licensed independent practitioner who is ultimately accountable for the procedure and will be present when the procedure is performed.*
- Ultimately, the licensed independent practitioner is accountable for the procedure – even when delegating site marking.

*In limited circumstances, site marking may be delegated to some medical residents, physician assistants (P.A.), or advanced practice registered nurses (A.P.R.N.).

- The mark is unambiguous and is used consistently throughout the organization.
- The mark is made at or near the procedure site.
- The mark is sufficiently permanent to be visible after skin preparation and draping.
- Adhesive markers are not the sole means of marking the site.
- For patients who refuse site marking or when it is technically or anatomically impossible or impractical to mark the site (see examples below): Use your organization's written, alternative process to ensure that the correct site is operated on. Examples of situations that involve alternative processes: mucosal surfaces or perineum minimal access procedures treating a lateralized internal organ, whether percutaneous or through a natural orifice interventional procedure cases for which the catheter or instrument insertion site is not predetermined

Examples: cardiac catheterization, pacemaker insertion teeth premature infants, for whom the mark may cause a permanent tattoo

Perform a time-out

The procedure is not started until all questions or concerns are resolved.

- Conduct a time-out immediately before starting the invasive procedure or making the incision.
- A designated member of the team starts the time-out.
- The time-out is standardized.
- The time-out involves the immediate members of the procedure team: the individual performing the procedure, anesthesia providers, circulating nurse, operating room technician, and other active participants who will be participating in the procedure from the beginning.
- All relevant members of the procedure team actively communicate during the time-out.
- During the time-out, the team members agree, at a minimum, on the following: correct patient identity correct site procedure to be done
- When the same patient has two or more procedures: If the person performing the procedure changes, another time-out needs to be performed before starting each procedure.
- Document the completion of the time-out. The organization determines the amount and type of documentation

Patient safety is a serious concern when the patient's protective reflexes and cognition are impaired by preoperative medications and/or anesthetics. The focus of the applicable patient safety goals includes but is not limited to the following points:

1. Adequate patient identification
2. Accurate marking for surgical procedures
3. Eliminating medication errors
4. Improving communication between caregivers

5. Preventing health care–associated infections
6. Preventing injury from falls and pressure points

"Never Events" and Reimbursement for Hospitals and Healthcare Facilities The Centers for Medicare and Medicaid Services (CMS) took action to improve patient care and decrease errors and injury by denying payment for medical errors that result in serious harm or death for patients. CMS no longer reimburses for care rendered to patients to remedy the consequences of errors. Protection from "Never Events" is the goal of the 2009 CMS rule concerning denial of reimbursement for the following injuries acquired during care:

1. Air embolism
2. Blood incompatibility
3. Catheter-associated urinary tract infection
4. Poor control of blood sugar
5. Deep vein thrombosis or pulmonary emboli after total knee or total hip surgery
6. Falls or trauma while in care
7. Retained object from surgery
8. Pressure sores
9. Surgical site infection after certain orthopedic or bariatric surgery
10. Surgical site infection after coronary artery bypass surgery
11. Catheter-associated vascular (bloodborne) infection

Details concerning statistics and trends in CMS programs and rulings can be found at www.cms.gov.

CONSENT

General Consent

Informed Consent

Examples and Comparison of Consent Form Contents	
General Consent to Treat	**Informed Consent**
Admission to facility	Name of patient and legal guardian as appropriate
Time and date admitted	Name of facility
Admissions clerk name	Specific procedures and who explained them
Mode of admission	Specific practitioners and their roles
Treating/admitting physician	Risks of the procedure
Person responsible for payment	Alternatives to treatment
Contact persons for emergency	Signatures: patient or legal guardian, surgeon(s), and the witness to the signatures
Basic care assumptions (such as dietary orders, activity orders, testing, examination by physician)	Date and time the process took place

Responsibility for Informed Consent Before a Surgical Procedure

The surgeon is responsible for obtaining informed consent from the patient, which should include the risks, benefits, and possible complications of all proposed surgical procedures.

When checking the patient's identity and chart on arrival in the OR, it is the duty of the circulating nurse and the anesthesia provider to be certain of the following:

- The appropriate consents are on the chart and are properly completed, dated, and signed.
- The information on the form is correct concerning the patient, procedure, and personnel performing the procedure.

Validation of Consent

The patient should personally sign the consent unless he or she is a minor, is unconscious or mentally incompetent, or is in a life-threatening situation. The next of kin, legal guardian, or other authorized person should sign for these patients. The physician gives explanations to the parent of a minor or to the legal guardian of an incompetent adult.

If the patient is:

- A minor, a parent or legal guardian should sign.
- An emancipated minor, married, or independently earning a living, he or she may sign.
- A minor who is the parent of an infant or child who is having a procedure, he or she may sign for his or her own child.
- Illiterate, he or she may sign with an X, after which the witness writes, "Patient's mark." Because illiteracy implies the inability to read and write, the patient should indicate an understanding of a verbal explanation.
- Unconscious, a responsible relative or guardian should sign.
- Mentally incompetent, the legal guardian—who may be either an individual or an agency—should sign. A court order may be necessary to legalize the procedure in the absence of the legal guardian.
- An adult or an emancipated minor who is mentally incapacitated by alcohol or other chemical substance, the spouse or responsible relative of legal age may sign when the urgency of the procedure does not allow time for the patient to regain mental competence.

Consent documents vary. Policies related to informed consent are developed by the medical staff and governing body in accordance with legal requirements. All personnel involved in the care of patients should be familiar with these policies.

Witnessing a Consent

A witness verifies that the consent was signed without coercion after the surgeon explained the details of the procedure. The patient's or guardian's signature should be witnessed by one or more authorized people. The witnesses may be physicians, nurses, other facility employees,

or family members as established by policy. Checking or witnessing the signature of the patient or other authorized person does not constitute validation of informed consent. The witness assumes no liability or responsibility for the patient's understanding. The witness signing a consent document attests only to the following:

- Identification of the patient or legal substitute
- Voluntary signature, without coercion
- Mental state of signatory (i.e., not coerced, sedated, or confused) at the time of signing

Consent in Emergency Situations

In a life-threatening emergency, the consent to treat and stabilize is not essential. Although every effort should be made to obtain consent, the patient's physical condition takes precedence over a procedure permit. The patient's state of consciousness may prevent him or her from verbalizing or signing a permit for treatment. Permission for a lifesaving procedure, especially for a minor, may be accepted from a legal guardian or responsible relative by telephone, fax, or other written communication. If it is obtained by telephone, two nurses should monitor the call and sign the form, which is signed later by the parent or legal guardian on arrival at the facility.

Right to Refuse a Surgical Procedure

The patient should reconcile the advantages and disadvantages of the surgical intervention. Each patient is entitled to receive sufficient information from which to intelligently base a decision regarding whether to proceed. The patient has the right to decide what will or will not be done to him or her. Only after making this decision is the patient asked to sign a written consent for a surgical procedure.

The patient has a right to withdraw written consent at any time before the surgical procedure. The surgeon is notified, and the patient is not taken into the OR. The circulating nurse documents the situation in the patient's record. The surgeon should explain the medical consequences of refusing the surgical procedure. If therapeutically valid, alternative methods of medical management should be offered. The surgical procedure is postponed until the patient makes a final decision. The procedure may be canceled.

The surgeon should document the patient's refusal for surgical treatment. For legal protection, the surgeon should also obtain from the patient, parent, or legal guardian a written refusal for the procedure or other treatment. The physician is required to inform the patient of the consequences of refusing diagnostic tests or therapeutic procedures.

Second Opinion

If the surgeon or patient has doubts about the necessity of a procedure, another opinion should be sought from a qualified specialist in the appropriate field of surgery. Consultation is a common and desirable part of good surgical practice. A second opinion may be required by third-party payers (i.e., insurance carriers) or managed care services. This is particularly indicated if the surgical procedure involves extended disability. Policy may require special consultation or consent for procedures resulting in reproductive sterilization or a pregnancy termination.

Advance Directives

The Patient Self-Determination Act enacted by the U.S. Congress in December 1991 ensures the patient the opportunity to participate in decision making before a procedure.

DOCUMENTATION OF PERIOPERATIVE PATIENT CARE

Verbal communication between patients and health care providers does not constitute legal documentation of care. Entries in the record by nurses and physicians provide a history of the patient's clinical course and responses to treatment. The record serves to identify what was done. The broad assumption is that if something is not documented, it was not done. The record serves as a means of communication among providers for continuity of care.

Policies and procedures should be in place for documentation. Each patient care facility is responsible for the following:

• Establishing, evaluating, and enforcing policies and procedures for patient care documentation

• Interpreting and outlining standards for care documentation in accordance with accreditation guidelines

• Protecting the privacy of patients by preventing unauthorized access and use of documented patient care data and reports

• Creating forms and charting formats for personnel to use in hard copy documentation

• Selecting protocol for computerized archives of patient care records and reports

• Providing a timely mechanism for retrieval of archived patient care records and reports for reference in a timely manner for routine or emergency care

All interactions with patients should be documented in the patient's chart in the appropriate format. Regardless of the format or the media used for the patient's record, all entries should be:

• Documented on the appropriate form (e.g., code sheet, perioperative record, medication sheet, progress note).

• Written legibly in ink without erasures. The charting procedure may be specific (e.g., all entries are to be made in black ink).

• Stated factually. Documentation of objective data and services rendered should be very specific. Observations and actions should be stated definitively, objectively, and concisely. Record what is seen, heard, felt, or smelled (i.e., the facts without judgment or opinion). Write quotes of the patient's subjective expression.

• Stated in understandable terminology. Abbreviations may be permissible only for very commonly accepted medical terms (e.g., T&A, D&C, TUR). Most institutions provide a standard list of their accepted medical abbreviations for charting purposes.

• Dated (month, day, year), including the time (am/pm) the note is written and the time action was performed as appropriate for significant events or changes in the patient's condition. Late entries are documented as per facility policy.

• Signed with the full legal signature, title, and status of the writer, either in permanent ink or electronically.

• Corrected if an error is made. The date, time, and initials of the person making a correction should be noted next to the correction. A single line should be drawn through incorrect information on a paper document without obliterating it (the mistake should not be scribbled out or erased), and the

correct information should then be entered. Correction fluid is not acceptable. If an entire page must be recopied, the original is attached to the new copy and not destroyed.

Additional documentation in the patient's record should include the following:

- Execution of the physician's orders and the patient's responses
- Any teaching of the patient or family, including how he, she, or they indicated understanding
- Any unusual event, such as a fall, spontaneous change in condition, or injury
- All visitors, especially physicians
- Any notification of physicians or supervisors

The perioperative nurse should be alert to signs that a patient does not clearly understand what is going to happen as a result of surgical intervention. This should be documented and brought to the attention of the surgeon. Significant observations should be recorded in the chart. For example, if a patient verbally withdraws consent for a surgical procedure or expresses a fear of death in the OR, the perioperative nurse is responsible for communicating this information to the surgeon and anesthesia provider and for recording the patient's statement.

Benefits of Documentation to the Facility

There are many reasons for accurate documentation other than those for legal application. Some facilities use the data for strategic planning and growth of the organization. Benefits of accurate documentation to the facility include but are not limited to the following:

- Legal permanent record
- Billing and reimbursement
- Performance improvement (PI)
- Measurement of clinical pathways
- Budget and financial planning
- Staffing ratios
- Research protocol
- Utilization review
- Risk management
- Patient acuity and census

Standards and Methods for Documentation of Patient Care

The standards for patient care documentation are established by the American Nurses Association (ANA) and TJC. The standard of care requires that patient care documentation reflect the application of the nursing process (assessment, nursing diagnosis, outcome identification, planning, intervention, and evaluation) during the entire length of stay, according to ANA and TJC. The use of the Perioperative Nursing Data Set (PNDS) is the method of choice for perioperative patient care documentation. The PNDS provides a standardized universal language for patient care documentation and is used by many surgical computer information system manufacturers.

1) **Charting Modalities**

   Many ways of recording patient care information have been used over the years. Changes in technology have created more methods of recording patient care. The following are examples:

2) **Narrative charting**
   Expository writing about significant events using third-person commentary, quotes, and standard abbreviations. Entries are sequential, timed, dated, and signed.
3) **Block charting.**
   Short commentary on activity that resembles narrative charting covering a longer period of several hours or days. Entries are sequential, timed, dated, and signed. Some facilities use a checklist format.
4) **Focus charting**
   Specific documentation directed at a designated aspect of the patient's needs, status, or health considerations.
5) **Subjective-objective charting (subjective-objective assessment** plan [SOAP]).
   Multidisciplinary approach to documenting care according to cues given by a patient with a specific set of signs and symptoms. This approach uses direct quotes and assessment data.
6) **Problem-oriented charting** (problem-oriented medical record [POMR]).
   Approach using a problem list as the working element from which care is planned. Working from the list, patient priorities are investigated, diagnosed, treated, minimized, solved, or remain ongoing. As problems are solved, they are stricken from the list.
7) **Computer-generated charting**.
   Use of standardized care plans formulated in the computer and modified for the individual patient. The computer time and date stamps the plan as it is printed for the hard copy record. This form of charting requires the caregiver's signature.
8) **Computer information systems**, check-off forms, and flow sheets.
   Commonly used as shortcuts for record keeping. Unfortunately, it is easy to rely on the standardized data on these preprinted records and inadvertently omit potentially important individualized information. Most computerized patient records have secondary documentation fields to complete for individualized data capture.
9) **Computerized Documentation**
   Many facilities have been using computers for patient admitting, billing, scheduling, and human resource information for several decades. Within the past few years, patient data have been recorded and stored electronically at the patient care unit level. Referred to as electronic health records (EHR) or electronic medical records(EMR), the documentation is transmitted electronically to multiple sites including the OR, surgeon's offices, and patient care areas. Only select personnel are permitted to access this information and must log on using employee identification and passwords to enter the computer system.

Passwords are changed at routine intervals. Retrievable data recorded and accumulated in these electronic files include patient care information, laboratory results, surgical reports, admission and discharge summaries, and many highly sensitive details about a patient's financial status. Many larger multihospital systems, such as the Cleveland Clinic, have utilized the Internet to permit multiple record access points for office-based physicians, surgeons, and the patient. All authorized users have access to reports and health data as soon as they are entered into the system.

Perioperative Documentation

- ☒ Specific care given in perioperative environment is documented on patient's chart
- ☒ Most facilities ***use a preprinted form*** with a standardized plan of care.
- ☒ **Space** ***to add individualized patient needs*** and ***to document additional interventions***.
- ☒ **Data** included in the record **come from** ***several patient care areas***.
- ☒ **A comprehensive checklist** is included with the chart to assist the circulating nurse to determine if all of data initiating Universal Protocol are included on the chart (see Fig. 3-1).
- ☒ **Expected outcomes** should be specified (e.g., ***patient is free from injury***). The circulating nurse should document specific activities performed to achieve the expected outcomes. The permanent perioperative record should ***include but not be limited to the following***:
  - Preoperative history, physical (H&P) examination, laboratory reports, consent form(s), and other documents in the chart per policy. Any area on the patient's body with redness or injury before hands-on care begins must be documented as "present on admission."
  - Patient identification and verification of the surgical site, intended surgical procedure, allergies, and nothing-bymouth (NPO) status
  - Significant intraoperative times, such as arrival in and departure from the OR, anesthesia start and finish, and incision and closure
  - Patient's condition on transfer to and from the OR, as well as the method of transport to and from the OR, and by whom. Any change in the patient's skin integrity, such as redness or injury should be documented as "not present on admission."
  - Level of consciousness or anxiety manifested by objective observation
  - Patient position, and types of restraints and supports used for maintaining the patient's position on the OR bed and for protecting pressure areas, and by whom
  - Personal property disposition, such as religious articles, hearing aid, spectacles, and dentures • Skin condition and antimicrobials used for skin preparation, and by whom
  - Intravenous (IV) site, time started, type of needle or cannula, solutions administered IV (including blood products), and by whom
  - Medication types and amounts (including local anesthetic agents), irrigating solutions used and amounts, and by whom
  - Tourniquet cuff location, pressure, inflation duration, identification of unit, and applied by whom
  - Estimated blood loss and urinary output, as appropriate
  - Sponge, sharps, and instrument counts as correct or incorrect. If inconclusive, state steps taken in remedy of the situation and notification steps taken
  - Surgical procedure performed, location of the incision
  - Specific equipment used (e.g., laser), electrosurgical unit (ESU), dispersive and monitoring electrode(s), and prosthetic devices implanted, if applicable, including the manufacturer and lot/serial number
  - Specimens and cultures sent to the laboratory
  - Site and types of drains, catheters, and packing as applicable
  - Wound classification is documented at the end of the procedure when all risks for infection have been identified
  - Type of dressing applied
  - Any unusual event or complication, and action performed

- All personnel in the room and their roles, including physicians, visitors, sales personnel, students, and others as applicable

Incident Report

- **When accident or unusual incident** occurs involving ***patient***, ***employee***, or ***property*** in facility, ***factual details reported*** to nurse manager & documented according to institutional policy.
- **Details should be objective**, ***complete***, and ***accurate***.
- They should be **written as statements of facts *without interpretation*** or ***opinion***. e.g, ***area of patient's skin under inactive dispersive electrode*** of electrosurgical unit ***was mottled & red*** when electrode was removed, **rather than** that patient's skin appeared burned by dispersive electrode.
- **Details of equipment used**, including ***serial No***. or ***asset tag identification*** of generator & ***lot number*** of electrode, should be included.
- The **action performed** as a result of any **adverse event** should be ***described in detail***.
- **Any equipment in question** should be ***removed from service*** and ***tagged a***s "**out of order**" for repair by the biomedical personnel of the facility.
- **Any suspect device should be inspected** & **reapproved for use** according to institutional policy before it is returned to service.
- **All devices & their identifying wrappers** suspected of being defective is ***secured for inspection*** by facility's risk management personnel.
- Incident reports are ***completed per policy*** & ***retained by risk management department***.
- They should be reviewed as part of overall institution and departmental quality improvement and risk management programs.
- Incident reports are ***considered work products*** and ***constitute privileged information***.
- They may serve to ***refresh individual's memory of events***, for preparation of defense in a lawsuit.
- The fact that **incident report** was completed ***should not be documented in patient's permanent record***.
- Examples of situations that require incident reporting are included in **Box 3-4.**

Pros and Cons of Computerized Documentation

PROS

- Terminology is standardized.
- Abbreviations are standardized.
- Useful for accumulation of data from many sources.
- Data retrieval is easier and efficient.
- Information is legible and in standard terminology.
- Uses standardized formats, flow charts, and graphs.
- All entries and printing are time and date stamped.
- Can minimize error if physicians record orders online.
- Data can be transferred electronically between physician's office and care facility.
- Record updating is more timely and ongoing.

- Can save time, space, and resources.
- Easier to retrieve archived charts from previous admissions.
- Health care organizations with multiple remote sites can transfer patient data online.

CONS

- Can be confusing for inexperienced users.
- Failure to log off can leave the system available to unauthorized use.
- Can be out of service for undetermined periods.
- Needs periodic maintenance and software updates.
- Backups of files are needed in case of failure.
- Paper records must be kept when the system is down.
- Impersonal interaction between patient and caregivers.
- Preoutlined care plans are less individualized.
- Hardware and software can be costly to install.
- Potential for breach of security if files are transferred online.

Unusual Situations That Require an Incident Report

- Falls or unexpectedly finding a patient, visitor, or other personnel lying on the floor
- Injury to patient, visitor, or other personnel
- Needlesticks
- Any fire or smoke event
- Possible theft or loss of an item
- Malfunctioning equipment
- Intruder or unauthorized personnel
- Medication error
- Medication reaction
- Lost sponge or instrument during a procedure (incorrect and unresolved count)
- Object retained within patient

The manufacturer must be able to provide to the FDA the following specific information:

1) Device

a. Lot, batch, model, and serial numbers or other identification used by the manufacturer
b. Date(s) of receipt or acquisition within the chain of distribution
c. Name(s) of person(s) or supplier from whom the device was received

2) Patient

a. Date of implantation
b. Name, address, and telephone number of the recipient patient
c. Social Security number, if the patient's permission is obtained to release his or her Social Security number to the manufacturer

3) Physician(s) who prescribed, implanted, and/or explanted the device

4) End-of-life information about the device, as applicable

a. Date of explantation
b. Date of patient's death
c. Date the device was returned to the distributor or manufacturer
d. Date the device was permanently retired from use or disposed of

Also in 1993 the FDA began the voluntary MedWatch program to encourage physicians, nurses, pharmacists, and other health care professionals to report adverse events and defects or problems with regulated drugs and devices.

The purpose of MedWatch is to provide a nationwide standardized system for reporting to the FDA any medical device or drug suspected of causing a patient's death, life-threatening injury or illness, disability, prolonged hospitalization, congenital anomaly, and/or experience that required intervention to prevent permanent health impairment. Adverse events can be reported online at https://www.accessdata.fda.gov/scripts/medwatch/medwatchonline.htm. Examples of reportable problems include latex sensitivity, malfunction of drug infusion pumps, and failure of an alarm during malfunction of a ventilator.

BOX 5 Code of Ethics: Association of Surgical Technologists

1. To maintain the highest standards of professional conduct and patient care
2. To hold in confidence, with respect to patient's beliefs, all personal matters
3. To respect and protect the patient's legal and moral right to quality patient care
4. To not knowingly cause injury or any injustice to those entrusted to our care
5. To work with fellow technologists and other professional health groups to promote harmony and unity for better patient care
6. To always follow the principles of asepsis
7. To maintain a high degree of efficiency through continuing education
8. To maintain and practice surgical technology willingly, with pride and dignity
9. To report any unethical conduct or practice to the proper authority
10. To adhere to the Code of Ethics at all times in relationship to all members of the health care team

Code for Nurses: American

Nurses Association (ANA)

1. The nurse provides services with respect for human dignity and the uniqueness of the patient, unrestricted by considerations of social or economic status, personal attributes, or the nature of health problems.
2. The nurse safeguards the client's right to privacy by judiciously protecting information of a confidential nature.
3. The nurse acts to safeguard the patient and the public when health care and safety are affected by incompetent, unethical, or illegal practice by any person.
4. The nurse assumes responsibility and accountability for individual nursing judgments and actions.
5. The nurse maintains competence in nursing.
6. The nurse exercises informed judgment and uses individual competency and qualifications as criteria in seeking consultation, accepting responsibilities, and delegating nursing activities.
7. The nurse participates in activities that contribute to the ongoing development of the profession's body of knowledge.
8. The nurse participates in the profession's efforts to implement and improve standards of nursing.
9. The nurse participates in the profession's efforts to establish and maintain conditions of employment conducive to highquality patient care.
10. The nurse participates in the profession's effort to protect the public from misinformation and misrepresentation and to maintain the integrity of nursing.

11. The nurse collaborates with members of the health professions and other citizens in promoting community and national efforts to meet the health needs of the public.

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Moral Principles in Decision Making

Autonomy:

Self-determination implies freedom of choice and ability to make decisions to determine one's own course of action. Decisions may be made in collaboration with others, based on reasonable and prudent information. Decisions should be acknowledged and respected by others.

Beneficence:

Duty to help others seek balance between what is good to do and what might produce harm to another or self.

Nonmaleficence:

Duty to do no harm.

Justice:

Allocation of human, material, and technologic resources a person has a right to receive or claim (i.e., equality of care).

Veracity:

Devotion to truthfulness (i.e., to give accurate information).

Fidelity:

Quality of faithfulness, based on trust and honesty, that protects rights of individuals (e.g., dignity, privacy).

Confidentiality:

Respect for privileged information received from another person with disclosure only to appropriate others.

Nonsterile and Sterile Team Members

The perioperative team is subdivided according to the functions of its members:

1. **The nonsterile team**
   a. Anesthesia provider
   b. Circulating nurse
   c. Perianesthesia nurse
   d. Others (e.g., students, sales representatives, laboratory or radiography personnel)
2. **The sterile team**
   a. Surgeon
   b. First assistant (second assistant if needed)
   c. Scrub person

Anesthesia provider

- The anesthesia provider is an **indispensable** member of the perioperative team.
- Functioning as a guardian of **patient's physiology** throughout entire care period, the anesthesia provider manages the ***patient's medication***, ***vital signs***, and ***generalized well-being***.
- Anesthesia provider is **inducing & maintaining anesthesia** at required levels & managing **untoward physiologic reactions** throughout the surgical procedure.
- **Medically delegated functions** of an anesthetic nature are performed **under overall supervision of** a **responsible physician** & **written guidelines** approved within the **health care facility**.
- An **anesthesiologist** is an MD or DO, certified by **Board of Anesthesiology**, who **specializes** in **administering anesthetics** to produce **various states of anesthesia**.
- Physicians complete a **2-year anesthesia residency program** after **medical school**.
- **Anesthetist**⇨qualified RN, **anesthesiologist assistant**⇨dentist,or physician administers anesthetics

Circulating nurse

- Circulating nurse is vital to the smooth flow of events before, during, and after surgical procedure.
- The **patient's medical record** is required to identify who provided circulating duties.
- The circulating nurse's role as ***patient's advocate*** & ***protector*** throughout the entire perioperative.
- The circulating nurse **monitors** and **coordinates all activities** within the room and to manage the care required for each patient.
- The circulating nurse ***controls the physical and emotional atmosphere in the room***, which allows other team members to concentrate on tasks without distraction.
- As of 2010, the laws in 37 states ***specify that one RN circulate in each room***.
- **Circulating nurse** is vital to the provision of care that includes, but is not limited to, the following:
  1. **Applying the nursing process** to ***directing*** and ***coordinating all activities*** related to the care and support of patient ***before, during ،and after a surgical intervention***.
  2. Creating & maintaining ***safe & comfortable environment*** by implementing ***principles of asepsis***.
     - The circulating nurse ***demonstrates a strong sense of surgical conscience***.
     - Any break in technique by anyone in room should be ***recognized & corrected instantly***.
     - The circulating nurse is on the alert to ***catch any breaks that others may not have seen***.
     - The circulating nurse is better able to ***observe the entire field*** and the ***sterile team members***.
  3. **Providing assistance to any member of the OR team**.
     - Ensures that the sterile team is supplied with every item necessary to perform the surgical procedure efficiently.
     - Must ***know all supplies***, ***instruments***, and ***equipment***; obtain them quickly
     - ***Guard against inadvertent hazards*** in their use and care.

- He or she must be ***competent to direct the scrub person***.

4. **Identifying potential environmental danger** or **stressful situation** (for patient, team, or both).
    - Constant **flexibility to meet unexpected** & to act in efficient, rational manner at all times.
5. **Maintaining communication link** between ***events*** & ***team members*** in sterile field & people who are not in the OR but are concerned with the outcome of the surgical procedure.
    - They includes ***patient's family*** or ***significant others*** plus other ***personnel*** in hospital.
6. **Directing activities of all learners**.
    - Capability and teaching skills.
    - Give ***assistance to the learner's*** confidence.
    - Acts as a ***supervisor***, ***adviser***, and ***teacher*** in OT room.

CNOR: The certified perioperative nurse

A perioperative nurse who has been in clinical perioperative practice for 24 months and who has successfully passed a national examination is certified by the Competency & Credentialing Institute (CCI, www.cc-institute.org) as a certified perioperative nurse, which is designated as CNOR.

Physical and Psychological Attributes of the Circulating Nurse's Role

1. **Visual acuity** with or without correction →
    - ***Precise observation*** of the environment, patient, and team, and for reading small print.
    - ***Protective eyewear*** is required when near to surgical field or at risk for a splash/aerosol exposure.
    - ***Visual accuracy is imperative***.
2. Manual dexterity and accuracy of motion are required for fast action during emergencies. Inability to coordinate body motions could cause injury to the patient, team, or self. Physical ability to maneuver around the periphery of the sterile field without causing contamination or disruption of the surgical procedure is critical.
3. Eye-hand coordination is essential for safe and efficient delivery of sterile items to the field. Eye-hand coordination is imperative for the safety and preservation of the sterile field.
4. Ability to concentrate and remain alert during long procedures.
5. Thinking on one's feet is a hallmark of the circulating nurse.
6. Multitasking is essential because the coordination of the room, patient care, team, documentation, and anticipation demands clear thinking.
7. Ability to lift instrument trays of at least 20 pounds and assist with moving large incapacitated patients using proper body mechanics.
8. Auditory acuity in both ears with or without amplification is critical for hearing and understanding commands while machinery is running. Voices are kept low during surgery, especially when the patient is awake. Hearing correctly is imperative.
9. Ability to quickly anticipate and discern commands and needs of the team. Must be able to differentiate and prioritize the needs of the surgical team and the anesthesia provider efficiently and to be able to offer appropriate alternatives in extraordinary circumstances.
10. The ability to speak, understand, and document clearly using the English language is critical to safe patient care. Appropriate terminology and use of approved standard accepted abbreviations are essential to communication in the OR.
11. Communication is essential between the team, anesthesia provider, control desk, family waiting room, labs, and perianesthesia care areas. The circulating nurse coordinates pertinent information among all areas concerning the care of the perioperative patient.
12. The ability to remain calm and function quickly, safely, and precisely during an emergency. Must be able to make decisions and problem solve effectively without loss of emotional control.
13. Mental clarity. Use of medications or substances that alter alertness and attentiveness are not acceptable in the OR. Lack of sleep can affect thought processes.

Sterile Team Members

Surgeon

- Surgeon must have ***knowledge***, ***skill*** & ***judgment*** required to perform ***surgical procedure***.
- ***Protection of the patient and quality care*** are preeminent in these principles.
- Surgeon's responsibilities: ***preoperative diagnosis*** & ***care***, ***selection*** & ***performance*** of the surgical procedure, and ***postoperative management*** of care.
- Surgeon **must be prepared for the unexpected** by having knowledge of fundamentals of basic sciences and by having the ability to apply this knowledge to the diagnosis and management of the patient before, during, and after surgical intervention.
- Assumes full responsibility for all medical acts of judgment & for management of surgical patient.
- A surgeon is a licensed & who is ***specially trained*** and ***qualified by knowledge*** and ***experience*** to ***perform surgical procedures***.
- All 10 boards governing the surgical specialties require at least 3 years of approved formal residency training, and most set the minimum at 4 or 5 years.
- Any physician who aspires to become a boardcertified surgeon must meet these requirements.
- Appreciates his or her own cognitive skills and personal characteristics and can intervene effectively in a patient's illness or injury.
- **Appropriate clinical skills** (e.g., ***data gathering***, ***decision making***, ***problem solving***) and appropriate personal characteristics (e.g., ***humanistic concern***, ***accountability***, ***compassionate interpersonal behavior***) are important attributes of a surgeon.

First assistant

Under direction of surgeon, a qualified first assistant **helps**

- ***Maintain visibility of the surgical site***, ***control bleeding***, ***close wounds***, and ***apply dressings***.
- The first assistant ***handles and manipulates tissues*** and uses instruments to ***provide hemostasis***.
- In determining this need, the characteristics of the **surgical procedure should be evaluated**: ***anticipated blood loss***, ***anesthesia time for the patient***, ***fatigue factors affecting the OR team***, and the ***potential for complications***.

Scrub person

- The scrub person is a patient care staff member of the sterile team.
- The scrub role may be filled by an RN, LPN/LVN, or an ST.
- **Holding retractors**, for example, can cause **permanent injury** to a patient **if inappropriately positioned**, maintained in alignment, or placed in contact with electrocautery inadvertently.
- Scrub is responsible for **establishing & maintaining** ***integrity***, ***safety*** & ***efficiency*** ***of sterile field*** throughout the surgical procedure.
- **Knowledge of & experience** ***with aseptic & sterile techniques*** qualify the scrub person to prepare and arrange instruments and supplies and to facilitate the surgical procedure by ***providing the required sterile instruments and supplies***.
- The scrub person must ***anticipate, plan for, & respond to needs of surgeon & other team members by constantly*** watching the sterile field.
- Manual dexterity and physical stamina are required.
- Other important assets include a ***stable temperament***, an ***ability to work under pressure***, a ***keen sense of responsibility***, and ***a concern for accuracy*** in performing all duties.

Physical and Psychological Attributes of the Scrub Person's Role

1. Visual acuity with or without correction is critical to threading small needles and reading small print. Protective eyewear is required at all times when at the surgical field. Bright lights or dim lights are commonly used throughout the surgical procedure, and people with photosensitivity or susceptibility to light-mediated eye irritation will find the OR environment problematic. Visual accuracy is imperative.
2. Manual dexterity and accuracy of motion is required for fast action during emergencies. Inability to coordinate body motions could cause injury to the patient, team, or self.
3. Manual dexterity is imperative.
4. Eye-hand coordination and alertness are essential for safe handling of instruments during surgery. Eye-hand coordination is imperative for the efficiency of the procedure.
5. Ability to delay nutritional intake for prolonged periods during long procedures.
6. Ability to stand in a confined space for prolonged periods.
7. Ability to lift instrument trays of at least 20 pounds and assist with moving large incapacitated patients using proper body mechanics.
8. Auditory acuity in both ears with or without amplification is critical for hearing and understanding commands while machinery is running. Voices are kept low during surgery, especially when the patient is awake. Hearing correctly is imperative.
9. Ability to quickly anticipate and discern commands and needs of the team. Must be able to differentiate between instruments and supplies efficiently and to offer appropriate alternatives in extraordinary circumstances.
10. The ability to speak, understand, and document clearly using the English language is critical to safe patient care. Appropriate terminology and use of approved standard accepted abbreviations are essential to communication in the OR.
11. The ability to remain calm and function quickly, safely, and precisely during an emergency. Must be able to make decisions and problem solve effectively without loss of emotional control.
12. Mental clarity. Use of medications or substances that alter alertness and attentiveness are not acceptable in the OR. Lack of sleep can affect thought processes.

WHAT DOES THE FIRST ASSISTANT DO?

Position, Prep, and Drape the Patient

- The first assistant is frequently ***responsible for positioning the patient*** on table after anesthesia.
- ***Provision for safe exposure of surgical site*** without compromising the physiology of patient.
- Alcohol-based preps are flammable so ***prep is completely dry before drapes*** are applied.
- Be sure that the ***safety straps are correctly positioned***.

Handle Instrumentation

- Knowledge of the equipment and instrumentation
- Knowledge of how and when to use the equipment and instrumentation
- Dexterity of holding and using basic instrumentation (Figs. 5-3, 5-4, 5-5, and 5-6)
- Skill in the use or operation of the equipment and machinery
- Knowledge of potential for injury to underlying and surrounding tissues

Provide Exposure

- Methods include: ***use retractors***, ***grasping instruments*** (clamps, forceps), ***Silastic bands*** (vessel loops), ***rubber drains*** (e.g., Penrose), ***umbilical tapes***, ***Raytec sponges***, ***laparotomy tapes***, ***suture traction***, ***plastic isolation bags*** (bowel bags), & ***suction***, as well as by ***direct hand positioning***.
- First assistant should be sure to **irrigate the site** lightly with an ***appropriate irrigant***.
- Use of **manual retractors**

- Suction should be used with caution.

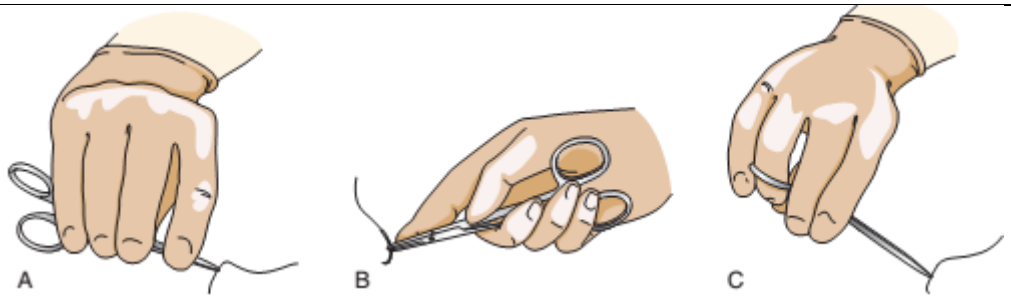


Fig: 3): **A,** ***Holding a needle holder*** **correctly** ***in dorsal view***. **B**, ***Holding a needle holder*** **correctly** ***in palmar*** view. **C, Incorrect** ***way to hold a needle holder, with finger in***.

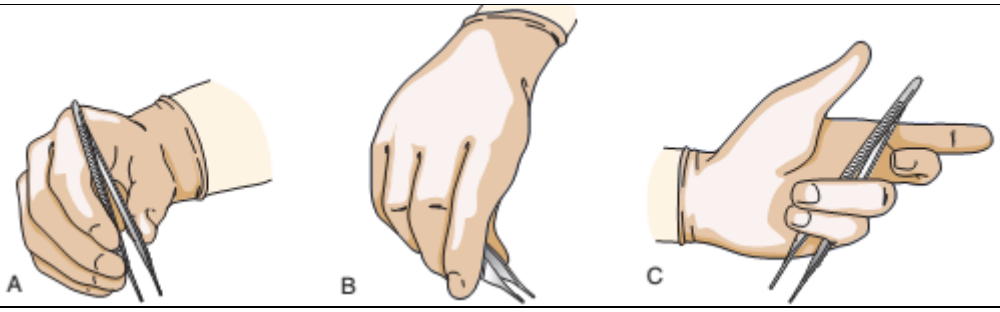


Fig: 4): A, **Correct** way to hold forceps. B,**Incorrect** way to hold forceps. C,Palming a forceps.

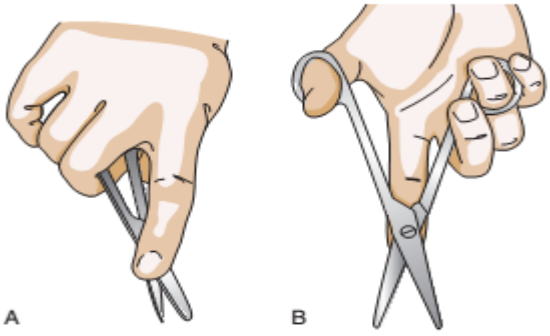


FIG. 5
A, **Correct** way to hold scissors, using the tripod grip showing dorsal hand view.

B, **Correct** way to hold scissors with tripod grip showing the palmar hand view.



Provide Hemostasis

Hemostasis is provided by mechanical, chemical, or thermal means. The decision of which to use at a given point in a procedure requires significant knowledge and skill.

1. **Manual hemostasis**. Direct pressure over a part; indirect pressure adjacent to a part.
   a. ***Clip*** (metallic, plastic, temporary, permanent, absorbable)
   b. ***Suture*** (suture ligature, free tie) (see Fig. 5-6)
   c. ***Clamp and tie*** (hemostat: crushing or noncrushing) (Fig. 5-7)
   d. ***Tourniquet*** (Rummel vascular sliding occlusion, vessel loop, umbilical tape, Penrose drain, pneumatic tourniquet). Occlusion of the circulation should be held to the least amount of time possible to prevent tissue damage.
   e. ***Hand and/or fingers*** over area to create pressure. Directly hold or blot sponge over site. Do not wipe off the newly formed clot; doing so will cause bleeding to resume.
2. **Chemical hemostasis**. Agent is placed over localized bleeding surface to control active bleeding. **Chemical hemostatic agents** are **topical** (***liquid, gelatin sponge, collagen fibers or sponge, cellulose, fibrin glue, or albumin***).
3. **Thermal hemostasis**.
   a. **Electrosurgery unit (ESU)**. Active electrode ***touched directly to tissue*** or ***to a forceps*** holding a segment of tissue.
   b. **Laser.** Extreme caution is exercised at all times during laser use. **Eyewear** of the appropriate optical density **is worn** by everyone, including the patient.

Handle Tissue with Instrumentation

The first assistant should always be aware of each tissue type and the appropriate means by which to handle it. All tissue should be handled with care, using the fewest instruments possible. Knowledge of the instrumentation and its intended use is critical.

Dissection

The first assistant should be familiar with and skillful in methods of tissue dissection. Procurement of vascular conduit or preparing kidneys for transplant requires the first assistant to know sharp and blunt methods of separating tissue.

Sharp methods require the use of a scalpel or scissors.

Some tissue is slippery or highly mobile. Use of traction counter traction maintains enough tightness to prevent excess jagged edges as the primary incision is made using a scalpel.
Scalpels are used to sharply open the skin, separate tissues, and create precise incisions.

Suture

The first assistant may be required to suture (Fig. 5-12) and cut suture (Fig. 5-13) during and at the end of the procedure. Suturing is considered a form of closure and can entail the use of conventional suture material and needles, metallic or absorbable clips, staplers, wound tape strips, wound glue, wire, and other materials for joining tissue. **Intraoperative suturing** is performed for ***hemostasis***, stabilization of a part, ***traction***, or other tissue ***manipulation***.

Recognize Surgical Hazards

The first assistant ***should know the steps to take to resume a safe environment.*** Primary hazards are biologic, physical, and chemical.

- **Biologic hazards.**
  Can be ***blood***, ***plume***, ***excreta***, ***transudate***, ***exudate***, ***tissue***, ***semen***, or any other physiologic substance.

- **Physical hazards.**
  Risk for ***sharps puncture***, ***fire***, ***tissue damage***, ***pressure injury***, ***burns***, ***physical mechanical stress***, ***electrocution***, or ***other physiologic damage*** to the patient or team.
- **Chemical hazards.**
  Medications, prep solution, sterilants, anesthetics, cement, cytotoxic material, or any substance not derived from biologic sources.

Respond Appropriately to Emergency Situations

The first assistant should be credentialed in cardiopulmonary resuscitation (CPR), preferably at the advanced cardiac life support (ACLS) level. The first assistant is a key member of the team during lifesaving procedures. Emergencies can be environmental fires or other events that place human life at risk.

Registered Nurse First Assistant

The qualifications to function as a first assistant should include but are not limited to the following:

- Demonstrated competency in both **scrub** and **circulating nurse** roles for a minimum of ***2 years***
- Knowledge and skill in ***applying the principles of aseptic*** and ***sterile techniques*** to ensure infection control
- Knowledge of ***surgical anatomy***, ***physiology***, ***fluid*** and ***electrolyte balance***, ***acid-base regulation***, ***clinical pathology***, and ***wound healing*** because these factors relate to surgical procedures
- Comprehension of ***risk factors*** & ***potential intraoperative complications*** and ***knowledge of actions to minimize them***
- Technical skill and manual dexterity in ***handling tissue***, ***providing exposure***, ***using instruments*** and ***devices***, ***providing hemostasis***, ***tying sutures*** and ***knots***, and ***applying dressings***
- Ability to ***recognize safety hazards*** and ***initiate appropriate preventive and corrective actions***
- Ability to ***perform cooperatively*** and ***effectively*** with ***other team members***
- Ability to ***perform effectively in stressful*** and ***emergency situations***
- Certification in ***cardiopulmonary resuscitation*** (basic cardiac life support (BCLS) or advanced cardiac life support preferred (ACLS))
- Completion of formal CCI-accepted3 ***RNFA*** program based on the ***AORN RNFA*** Core

Registered Nurse First Assistant Sample Performance Description

Job Title: Registered Nurse First Assistant (RNFA)
Purpose of Position:
Assist under the direction of the primary operating surgeon in the perioperative care of the patient undergoing a surgical experience.
The RNFA uses the nursing process in the formulation of the plan of care. The RNFA functions within the policies and guidelines established by the facility and reports directly to the Surgical Unit Manager. The RNFA is an expanded role of the registered nurse and is accountable for exemplifying leadership and professionalism in the implementation of the role.
Qualifications:

1. Graduate of accredited school of nursing
2. Licensed to practice in the state of Ohio
3. Minimum of 24 months perioperative experience, both scrubbing and circulating
4. Satisfactory completion of CCI approved RNFA program
5. Certification in perioperative nursing (CNOR)
6. Certified in cardiopulmonary resuscitation, basic life-saver BCLS (CPR-ACLS preferred)
7. Accumulation of 125 contact hours of continuing education every 5 years to maintain CNOR status.

8. BSN and 2000 practice hours in role of RNFA if planning certification (CRNFA) credential with CCI

Functions:	**Satisfactory Performance:**
1. Preoperative assessment and teaching of the patient and family (significant other)	1. RNFA reviews objective and subjective data. Is aware of lab results and pending tests. The assessment includes the patient as a member of a family unit and a member of society. RNFA is aware of cultural and personal influences in the interpretation of assessment data. RNFA communicates findings to the primary surgeon.
2. Formulation of nursing diagnoses	2. RNFA interprets the assessment data and plans care appropriate to the pending surgical procedure. RNFA collaborates with the primary surgeon and others to facilitate the pending surgical procedure and the attainment of favorable patient outcomes.
3. Recognizes potential hazards and initiates corrective action	3. RNFA is aware of the environment observing for potential sources of injury to self, team, and the patient. RNFA practices universal precautions at all times and is in observance of OSHA regulations.
4. Practices within the guidelines established by the state of Ohio	**4. RNFA:** a. Handles tissue b. Provides exposure c. Uses instrumentation d. Sutures e. Provides hemostasis f. Closes tissue and skin **Prohibitions:** a. May not perform the intended procedure b. May not perform the task of the surgeon c. Does not simultaneously function as scrub nurse
5. Demonstrates intraoperative competency as an RNFA 5	Knowledge:
	a. Principles of asepsis and infection control b. Surgical anatomy and physiology c. Surgical procedures d. Recognizes hazards and effects safety measures Skill: a. Manual dexterity b. Suturing and ligating c. Providing hemostasis d. Exposing the surgical site e. Positioning, prepping, and draping
6. Continuous assessment of the patient during the intraoperative phase of the surgical experience	6. RNFA observes condition of patient and initiates emergency measures as needed.
7. Postoperative assessment, evaluation and teaching	7. RNFA accompanies the patient to the postoperative unit as needed and communicates with the patient and family (significant other) as designated by the primary surgeon. RNFA, in collaboration with the primary surgeon and others, evaluates the attainment of expected outcomes.
8. Communicates postoperative information as directed by primary surgeon	8. Writes orders as per policy for verbal orders with the co-signature of the primary surgeon.
9. Adheres to institutional policies and procedures reflecting attendance, registered nurse professional responsibility, standards of care, and communication through chain of command	9. Observes institutional policy and practices the art and science of registered nursing in the expanded role of the RNFA

CRNFA Recertification

Requires That the CNOR Credential Is Maintained

CLINICAL PRACTICE HOURS AND CONTACT HOURS

Half of the contact hours must be RNFA specific:

- 1000 clinical practice hours (at least 700 hours must be intraoperative care) and 200 contact hours
- 500 clinical practice hours (at least 350 hours must be intraoperative care) and 300 contact hours
- Continuing Medical Education Units (CME) may be applied to accrued contact hours.
- 1 CME 51contact hour. Up to 100 CME may be used as part of the contact hour requirement

CLINICAL PRACTICE HOURS AND POINTS

- 1000 clinical practice hours (at least 700 hours must be intraoperative care) and 400 points
- 500 clinical practice hours (at least 350 hours must be intraoperative care) and 500 points

RECERTIFICATION BY EXAMINATION

- 1000 clinical practice hours to recertify by exam; 700 hours must be intraoperative care.