

# Surgical Techniques

## Instructional/Task Analysis

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### Section A: Aseptic Technique

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#### Module 1-A: Principles of Aseptic Technique

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##### **Related information: What the student should know**

1. Select true statements concerning infection control and the principles of asepsis, especially in the hospital environment.
2. Select true statements concerning OR functional and aseptic divisions.
3. List the sources of contamination in an operating room (OR).
4. Select true statements concerning the modes of contamination within the OR sterile field.
5. List the purposes of proper OR attire.
6. List the components of basic OR attire required in the semi-restricted and restricted areas of an OR suite.
7. Complete statements that describe the basic principles of asepsis.

##### **Application: What the student should be able to do**

8. Evaluate your personal health and hygiene. (Assignment Sheet 1)
9. Investigate policies and procedures concerning OR attire for a specific medical facility. (Assignment Sheet 2)
10. Complete case studies on applications of the principles of aseptic technique. (Assignment Sheet 3)
11. Perform a two- to three-minute medical handwash. (Job Sheet 1)
12. Package an item for sterilization (envelope or square fold). (Job Sheet 2)
13. Open a sterile pack on a back table. (Job Sheet 3)
14. Open a sterile peel-pack. (Job Sheet 4)
15. Open a sterile cloth- or paper-wrapped package. (Job Sheet 5)
16. Open a sterile basin on a ringstand. (Job Sheet 6)
17. Pour a sterile solution. (Job Sheet 7)

### Module 2-A: Scrubbing, Gowning and Gloving

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#### **Related information: What the student should know**

1. Select true statements concerning anatomically and biologically relevant information for the surgical scrub.
2. List purposes of the surgical scrub and/or surgical hand preparation.
3. Describe processes used to remove microbes from the skin.
4. Select true statements concerning surgical scrub materials.
5. Describe methods for performing a mechanical surgical scrub.
6. List in sequential order anatomical areas cleaned during a mechanical surgical scrub.
7. Select true statements concerning mechanical surgical scrub characteristics.
8. Complete statements concerning aseptic guidelines used for a surgical scrub.
9. Explain reasons for gowning and gloving.
10. Complete statements concerning gowning and gloving methods.
11. Select true statements concerning gown characteristics.
12. Select true statements concerning glove characteristics.
13. Complete statements concerning aseptic guidelines used for gowning and gloving.

#### **Application: What the student should be able to do**

14. Perform a mechanical surgical scrub. (Job Sheet 1)
15. Perform a brushless surgical hand scrub. (Job Sheet 2)
16. Dry hands after a surgical scrub. (Job Sheet 3)
17. Perform self-gowning technique. (Job Sheet 4)
18. Self-glove using the closed technique. (Job Sheet 5)
19. Perform assisted-gowning technique. (Job Sheet 6)
20. Perform assisted-gowning tie and closure. (Job Sheet 7)
21. Replace contaminated gown and gloves mid-procedure. (Job Sheet 8)
22. Self-glove using the open technique. (Job Sheet 9)
23. Remove contaminated gown and gloves. (Job Sheet 10)

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**Module 3-A: Sanitation, Sterilization and Disinfection**

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**Related information: What the student should know**

1. List purposes of hospital asepsis.
2. Distinguish among principles for contamination prevention on living and inanimate objects.
3. Describe in sequential order the three levels of contamination prevention.
4. Match surgical supply preparation phases with their proper descriptions.
5. Select true statements concerning handling contaminated instruments during and after a surgical procedure.
6. Complete statements concerning decontamination methods used for cleaning instruments.
7. Identify the methods of packaging items for sterilization.
8. Select from a list the recommended characteristics for packaging materials.
9. Select true statements concerning the preparation phase for packaging.
10. Complete statements concerning guidelines for packing and loading instruments for sterilization.
11. Describe methods of sterilization.
12. Match factors that affect selection of a particular sterilization process with their appropriate descriptions.
13. Match types of steam sterilizers with their correct descriptions.
14. Select true statements concerning steam sterilization.
15. Select true statements concerning dry heat sterilization.
16. Complete statements regarding peracetic acid systems.
17. Select true statements concerning hydrogen peroxide gas/plasma sterilization.
18. Complete statements concerning ethylene oxide (EO) sterilization.
19. Complete statements concerning disinfection and sterilization with activated glutaraldehyde.
20. Select true statements concerning sterilization by irradiation.
21. Match methods of monitoring the sterilization process with their correct descriptions.
22. Distinguish between concurrent and terminal disinfection.
23. List factors that affect the disinfection of items.
24. Match classes of disinfectants with their correct descriptions and usage.
25. Complete statements concerning the proper use of liquid chemical disinfectants.
26. Match disinfectant agents with their correct descriptions and usage.

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27. Describe cleaning the operating room prior to the first surgical procedure of the day.
28. Complete statements concerning confining contamination to the sterile area during a surgical procedure.
29. Select true statements concerning cleaning and preparing the operating room after a surgical procedure.
30. Select true statements concerning terminal disinfection at the completion of the daily schedule.
31. Select peripheral areas of the surgical suite that require weekly cleaning.

### **Application: What the student should be able to do**

32. Hand wash instruments. (Job Sheet 1)
  33. Clean an endoscope. (Job Sheet 2)
  34. Inspect instruments. (Job Sheet 3)
  35. Package an item for sterilization. (Job Sheet 4)
  36. Operate a flash sterilizer or autoclave. (Job Sheet 5)
  37. Sterilize an endoscope with a Steris. (Job Sheet 6)
  38. Clean up an operating room after case. (Job Sheet 7)
  39. Clean up an operating room at end of day. (Job Sheet 8)
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## **Module B: Patient Care**

### **Module 1-B: Preoperative Routine and Related Nursing Procedures**

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#### **Related information: What the student should know**

1. State the purposes of the preoperative routine.
  2. Select true statements concerning preadmission to the health care facility.
  3. Complete statements concerning preadmission procedures performed before surgery.
  4. State the purposes of an operative consent form.
  5. Match types of consents with their correct definitions.
  6. Select true statements concerning prerequisites for signing an informed surgical consent form.
  7. Complete statements concerning preoperative nursing staff responsibilities the morning of surgery.
  8. Match methods for transporting a patient with their correct descriptions.
  9. Identify the safety features of a standard stretcher.
  10. Complete statements concerning safety procedures for transporting a patient on a stretcher.
  11. List responsibilities of the circulator when admitting the patient to the preoperative holding area.
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12. Select true statements concerning normal and abnormal body temperatures.
13. Select true statements concerning measuring and recording blood pressure.
14. Distinguish between normal and abnormal heart sounds when taking a patient's blood pressure.
15. Complete statements concerning pulse characteristics.
16. Identify sites for taking a pulse.
17. Match pulse rate and pulse pressure to their correct descriptions.
18. Match conditions related to respiration and breathing difficulties and their definitions.
19. Discuss the criteria used when assessing pulse and respiration rates.

**Application: What the student should be able to do**

20. Complete preoperative checklist and operative consent form. (Assignment Sheet 1)
21. Prepare a stretcher. (Job Sheet 1)
22. Transport patient from room to OR. (Job Sheet 2)
23. Transfer patient from stretcher to OR table. (Job Sheet 3)
24. Transfer anesthetized patient from stretcher to OR table. (Job Sheet 4)
25. Transfer patient from OR table to recovery stretcher. (Job Sheet 5)
26. Assess radial pulse. (Job Sheet 6)
27. Assess apical pulse. (Job Sheet 7)
28. Assess apical/radial pulse. (Job Sheet 8)
29. Assess respirations. (Job Sheet 9)
30. Obtain blood pressure reading. (Job Sheet 10)

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**Module 2-B: Care of Patients With Special or Complex Needs**

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**Related information: What the student should know**

1. Select true statements concerning characteristics of patients with special or complex needs.
2. Describe the nine characteristics that qualify a patient as having special or complex needs.
3. Select true statements concerning the three primary areas that must be addressed when caring for patients with complex needs.
4. Distinguish between acute and chronic conditions.
5. Match normal reactions to diagnosis or illness to their proper descriptions.

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6. Select true statements concerning how to approach the psychosocial aspects of caring for special needs patients.
7. Discuss general physical considerations for those caring for special needs patients.
8. List general spiritual considerations for those caring for special needs patients.
9. Complete statements concerning care of patients who are physically challenged.
10. Complete statements concerning care of patients with emotional/mental impairments.
11. Complete statements concerning care of patients with metabolic impairments.
12. Select true statements concerning care of patients with hematological disorders.
13. List three approaches in caring for patients with sexually-related disorders or procedures.
14. Select true statements concerning care of patients with aseptically critical conditions.
15. Complete statements concerning care of aging patients.
16. Select the proper care of patients with special language, cultural, and religious needs.
17. Distinguish between acute and chronic illnesses.
18. Select true statements concerning clinical and biological death.
19. List those major body systems whose failure results in death.
20. Explain the three phases of secondary trauma the family and surgical team may experience when caring for or at the death of a chronic or terminal patient.

### **Application: What the student should be able to do**

21. Complete complex needs case studies. (Assignment Sheet 1)

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### **Module 3-B: Positioning and Prepping**

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### **Related information: What the student should know**

1. List the purposes for properly positioning the surgical patient.
2. Complete statements related to patient positioning guidelines.
3. Identify the basic surgical positions and their variations.
4. Match equipment and supplies used in positioning with their proper uses.
5. List the purposes of a surgical skin prep.
6. Select true statements concerning patient preparation for a surgical procedure.
7. Match types of antiseptic agents used for surgical skin preps with the correct descriptions.
8. Complete statements concerning common surgical sites to be prepped.

**Application: What the student should be able to do**

9. State positions commonly used for various surgical procedures. (Assignment Sheet 1)
10. Define the limits for surgical skin preps on various surgeries. (Assignment Sheet 2)
11. Position patient in the supine position and its variations. (Job Sheet 1)
12. Position patient in the prone position and its variations. (Job Sheet 2)
13. Position patient in the lateral position and its variations. (Job Sheet 3)
14. Prep patient's skin for abdominal surgery. (Job Sheet 4)
15. Prep patient's skin for surgery on an extremity. (Job Sheet 5)

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**Module 4-B: Care of Specimens**

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**Related information: What the student should know**

1. List the purposes of specimen collection.
2. List types of specimens.
3. Complete statements concerning general guidelines for care and handling of specimens.
4. Complete a table concerning pathologic specimen preparation.
5. Describe standard precautions for handling specimens once they are handed off of the sterile field.
6. Complete statements concerning proper care and handling of surgical specimens.
7. Select true statements concerning procedures for receiving a pathologic specimen on the sterile field.
8. Complete statements concerning specimen preparation and labeling procedures performed by the circulator.
9. List the basic components of a pathology requisition form.

**Application: What the student should be able to do**

10. Complete pathology form for specimen. (Assignment Sheet 1)
11. Pass specimen from sterile field to circulator. (Job Sheet 1)
12. Receive specimen from sterile field. (Job Sheet 2)

### Module C: Surgical Case Management

#### Module 1-C: Duties of Surgical Team

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##### Related information: What the student should know

1. Select job responsibilities of the surgical technologist during the pre-operative phase prior to surgery.
2. Complete statements that accurately describe the responsibilities of the surgical technologist during the intra-operative phase.
3. Select job responsibilities of the surgical technologist during the post-operative phase after surgery.
4. Select job responsibilities of the circulator during the pre-operative phase prior to surgery.
5. Complete statements that accurately describe the responsibilities of the circulator during the intra-operative phase.
6. Select true statements concerning responsibilities of the circulator during the post-operative phase after surgery.
7. Select from a list duties that are shared by both the surgical technologist and circulator.

##### Application: What the student should be able to do

8. Differentiate between perioperative roles and responsibilities of the surgical technologist and circulator. (Assignment Sheet 1)
  9. Perform perioperative surgical technologist's duties. (Job Sheet 1)
  10. Perform perioperative circulator's duties. (Job Sheet 2)
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### Module 2-C: Surgical Environment and Equipment

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##### Related information: What the student should know

1. Select true statements concerning the physical layout of the operating room (OR) suite.
2. Distinguish among the three zones of the OR suite.
3. Describe OR environmental control system requirements.
4. Match basic OR furniture typical to each OR to their functions.
5. Complete statements concerning equipment required to perform minimally invasive endoscopic surgery.
6. Match surgical specialty equipment to their functions.

##### Application: What the student should be able to do

7. Describe the hospital and operating room environment. (Assignment Sheet 1)
  8. Diagram a typical OR room. (Assignment Sheet 2)
  9. Apply a pneumatic tourniquet. (Job Sheet 1)
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**Module 3-C: Instrumentation**

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**Related information: What the student should know**

1. Identify the parts of a standard surgical instrument.
2. Match the composition of a surgical instrument to its proper description and function.
3. Select true statements concerning functional classifications of surgical instruments.
4. Identify basic cutting/dissecting instruments.
5. Identify basic clamping/occluding instruments.
6. Identify basic grasping/holding instruments.
7. Identify basic retracting/exposing instruments.
8. Identify needle holders instruments.
9. Identify dilating/probing instruments.
10. Identify basic visualization instruments.
11. Match the various tools required to perform minimally invasive surgery with an endoscope to their correct descriptions.
12. Complete statements that accurately describe how to properly handle endoscopes.
13. Select true statements concerning the function of each instrument set.
14. Complete statements concerning the preoperative handling and care of surgical instruments.
15. Complete statements concerning the intraoperative handling and care of surgical instruments.

**Application: What the student should be able to do**

16. Classify basic surgical instruments according to their functions. (Assignment Sheet 1)
17. Determine appropriate instrumentation for case study. (Assignment Sheet 2)
18. Load and unload a scalpel blade on a scalpel handle. (Job Sheet 1)
19. Pass a loaded scalpel to another person. (Job Sheet 2)
20. Pass various instruments to another person. (Job Sheet 3)
21. Assemble a Bookwalter self-retaining retractor. (Job Sheet 4)

### Module 4-C: Sutures, Needles and Stapling Devices

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#### **Related information: What the student should know**

1. List purposes for wound closure and hemostasis.
2. Match methods of wound closure with their correct descriptions.
3. Match characteristics of suture material with their correct descriptions.
4. Classify sutures by their properties.
5. Select true statements concerning factors that influence suture selection.
6. Differentiate between suturing techniques.
7. Identify types of surgical stitches.
8. Identify information on suture packaging.
9. Complete statements concerning guidelines for handling sutures.
10. Identify the components and features of a surgical needle.
11. Identify surgical needles according to their classifications.
12. List types of specialty needles.
13. Select true statements concerning needle selection.
14. Complete statements concerning the handling of surgical needles.
15. Complete statements concerning surgical staplers, staples and ligating clips.
16. Select true statements concerning uses and benefits of surgical staples and ligating clips/instrumentation.
17. Complete statements concerning loading, handling and cleaning stapling or clipping devices.

#### **Application: What the student should be able to do**

18. Prepare and transfer suture material to sterile field. (Job Sheet 1)
19. Straighten sutures. (Job Sheet 2)
20. Load and pass a needle holder with swaged needle for right- and left-handed surgeons. (Job Sheet 3)
21. Load, thread, and pass a needle holder with eyed needle for right- and left-handed surgeons. (Job Sheet 4)
22. Pass ties. (Job Sheet 5)
23. Tag and cut sutures. (Job Sheet 6)

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**Module 5-C: Sponges, Dressings, Packings and Counts**

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**Related information: What the student should know**

1. List the four uses of a surgical sponge.
2. Distinguish between the types and characteristics of commonly used surgical sponges.
3. Select true statements concerning uses of surgical dressings.
4. Match the layers of a surgical dressing with their functions.
5. Complete statements concerning the use of surgical wound packing.
6. Complete statements concerning specialty dressings.
7. Complete statements concerning the application of a sterile surgical dressing.
8. List reasons for counts of sponges, sharps, and instruments.
9. Select items that are included in a sponge, sharp, and instrument count.
10. Select true statements concerning when counts are performed.
11. Complete statements concerning the safety rules for achieving accurate counts of sponges, sharps and instruments.
12. Complete statements concerning the required procedure for sponge counts.
13. Select true statements concerning the required procedure for sharp counts.
14. Complete statements concerning the required procedure for instrument counts.
15. Complete statements concerning the required procedure for an incorrect count.

**Application: What the student should be able to do**

16. Complete a count sheet. (Assignment Sheet 1)
17. Construct a sponge stick. (Job Sheet 1)
18. Assemble and apply a routine post-operative abdominal dressing. (Job Sheet 2)
19. Apply an ostomy bag to an abdominal stoma site. (Job Sheet 3)
20. Assemble and apply a Montgomery strap. (Job Sheet 4)
21. Perform a sponge, sharp, and instrument count. (Job Sheet 5)

## Instructional/Task Analysis

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### Module 6-C: Drainage Systems and Tubes

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#### Related information: What the student should know

1. Select true statements concerning reasons for introducing and placing items for wound drainage or catheterization.
2. Distinguish among uses for catheters, drains, and tubes.
3. List composition and sizing information for catheters, drains and tubes.
4. Identify common types of urethral catheters and urinary collection devices.
5. Distinguish between passive and active drainage mechanisms.
6. Match types of wound drains with their correct uses.
7. Complete statements concerning airway tubes used in OR.
8. Complete statements concerning chest drains or chest tubes used in OR and their uses.
9. Select true statements concerning chest drain components.
10. Match types of gastrointestinal tubes used in OR with their correct uses.
11. Select true statements concerning placing and securing or anchoring catheters, drains, and tubes.

#### Application: What the student should be able to do

12. Connect a Hemovac®. (Job Sheet 1)
13. Connect a Jackson-Pratt® or Blake® Drain. (Job Sheet 2)
14. Connect a chest tube to a closed drainage system. (Job Sheet 3)

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### Module 7-C: Preparation and Draping of the Sterile Field

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#### Related information: What the student should know

1. State the purpose of draping.
2. Select true statements concerning composition and characteristics of draping materials.
3. Match types of drapes with their uses.
4. Complete statements concerning guidelines for draping.
5. Describe organizational strategies for setting up the sterile field.

#### Application: What the student should be able to do

6. Solve problems for given draping situations. (Assignment Sheet 1)
  7. Drape a Mayo stand. (Job Sheet 1)
  8. Arrange a basic back table. (Job Sheet 2)
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9. Arrange a basic Mayo stand. (Job Sheet 3)
10. Drape patient for a laparotomy. (Job Sheet 4)
11. Drape patient for vaginal surgery. (Job Sheet 5)
12. Drape patient for surgery on an extremity (leg). (Job Sheet 6)
13. Perform perioperative surgical technologist's duties. (Job Sheet 7)
14. Perform perioperative circulator's duties. (Job Sheet 8)