SURT-1300: INTRODUCTION TO SURGERY

Cuyahoga Community College

Viewing: SURT-1300 : Introduction to Surgery

Board of Trustees:

May 2025

Academic Term:

Fall 2025

Subject Code

SURT - Surgical Technology

Course Number:

1300

Title:

Introduction to Surgery

Catalog Description:

Presentation and discussion of development of modern day surgery, organization of operating room department, roles of operating room personnel, health care reform practices, and care of surgical patient. Infection control applicable to operative setting discussed including sterilization of surgical supplies, sterile techniques, and application of sterile techniques in operating room. Discussion of special items used in operating room, general and regional anesthesia, wound healing, sutures, and staplers. Legal and ethical aspects of operating room practice introduced.

Credit Hour(s):

5

Lecture Hour(s):

5

Requisites

Prerequisite and Corequisite

Concurrent enrollment in SURT-130L Surgery Lab and departmental approval: Admission to program.

Outcomes

Course Outcome(s):

Describe and discuss the various elements of the surgical technology profession including history; terminology; scope of practice; and legal and ethical responsibilities of the surgical technologist and other surgical team members when working in the operating room (OR) environment.

Objective(s):

1. Identify members of the surgical team and their roles.
2. Define key terms related to the concepts of surgical technology.
3. Discuss the historical development of surgery and surgical technology.
4. Identify and interpret a job description for the surgical technologist.
5. Identify different types of health care facilities.
6. Identify and describe all-hazards preparedness.
7. Identify hospital departments and their relationship to surgical services.
8. Identify the legal responsibilities of the surgical technologist and other surgical team members.
9. Evaluate the role of the risk management department in the health care facility.
10. Identify and describe hazards to the patient in the operative environment.
11. Identify the proper care and handling of surgical specimens.
12. Analyze the role of morality during ethical decision making.

Course Outcome(s):

Follow the principles of sterilization and asepsis when working in the OR environment.

Objective(s):

1. Discuss the principles of asepsis.
2. Define and discuss the concept of surgical conscience.
3. Identify the principles and procedures related to disinfection and sterilization.
4. Identify cleaning procedures, traffic patterns, and routines required in the operative environment.
5. Explain the type of air-handling system required in the OR and the temperature and humidity required maintaining a sterile field.
6. Describe the basic principles and applications in the OR of electricity and robotics.
7. Explain the classification of surgical wounds.

Course Outcome(s):

Recognize and distinguish surgical wounds, suturing, surgical instrumentation, supplies equipment, and drug and blood replacement administration when working in the OR environment.

Objective(s):

1. Explain the classification of surgical wounds.
2. Describe the stages/phases and characteristics of wound healing.
3. List and define common suture terms.
4. Identify suture materials and their usage.
5. Identify and describe the use of and demonstrate proper handling of the various types of surgical needles.
6. Discuss the relationship between instrumentation, equipment, supplies, and quality patient care in the OR.
7. Identify types of special equipment utilized in OR practice.
8. Identify and discuss the basic uses and advantages of stapling instruments.
9. Describe the action, uses, and modes of administration of drugs, blood replacement and anesthetic agents used in the care of the surgical patient.
10. Discuss care and precautions in identifying drugs and solutions in the OR.
11. Discuss methods of hemostasis and blood replacement, and demonstrate the preparation and use of appropriate agents or devices.

Course Outcome(s):

Distinguish and assess the physical, spiritual, and psychological needs of a patient.

Objective(s):

1. Compare and contrast the surgical care considerations for pediatric patients, obese, diabetic, pregnant, immuno-compromised, disabled, geriatric, bariatric, have substance abuse, mentally challenged, in need of isolation, have language barriers or experiencing trauma.
2. Explain the process used to obtain an informed consent for a surgical procedure or treatment.
3. Describe pre-operative routines.
4. Identify developing emergency situations, initiate appropriate action, and assist in treatment of the patient.
5. Describe death and dying as it relates to the patient's family and health care personnel.

Methods of Evaluation:

1. Examinations
2. Quizzes
3. Case study presentation

Course Content Outline:

1. Orientation to surgical technology
    a. History of surgical technology
    b. Field of surgical technology
    c. Profession of surgical technology
2. Professional practice

a. Interpersonal skills
    i. Communication skills
    ii. Teamwork
    iii. Conflict resolution
b. Ethical and moral issues
c. Legal issues and risk management
d. Employability skills
e. Management and leadership

3. Healthcare facilities (HCF) information
    a. HCF organization and management
    b. Physical environment
    c. All-hazards preparation
4. Biopsychosocial concepts
    a. Needs of the patient
    b. Death and dying
5. Special populations
    a. Pediatric patients
    b. Obese patients
    c. Diabetic patients
    d. Pregnant patients
    e. Immuno-compromised patients
    f. Patients with disabilities
    g. Geriatric patients
    h. Bariatric patients
    i. Substance abuse patients
    j. Mentally challenged patients
    k. Isolation patients
    l. Patients with language barriers
    m. Trauma patients
6. Physical environment and safety standards
    a. Physical design of the surgery department
    b. Hazards and regulatory agencies
    c. Safety considerations
    d. Biological hazard and safety considerations
    e. Chemical hazards and safety considerations
    f. Electrical hazards and safety considerations
    g. All hazards preparation
7. Technological sciences
    a. Information technology
        i. Computer systems
        ii. Patient confidentiality

    b. Electricity
        i. Terminology
        ii. Components
        iii. Safety
    c. Lasers
        i. Systems
        ii. Safety
    d. Minimally invasive
        i. Endoscopy
        ii. Robotics
        iii. Navigation
    e. Interventional radiology
        i. Concepts
        ii. Considerations
        iii. Modalities
8. Asepsis and sterile technique

a. Pathogens and infection
b. Principles of asepsis
c. Surgical conscience
d. Gas sterilization
e. Liquid chemical sterilization process
f. Ionizing radiation
g. Methods of monitoring the sterilization process
h. Event-related sterility

9. General patient care and safety
    a. Pre-operative patient routines
        i. Periop documentation
        ii. Patient identification and timeout
        iii. Patient prep
    b. Thermo-regulatory devices
    c. Homeostasis and blood replacement
    d. Cardiopulmonary resuscitation
    e. Malignant hypothermia
    f. Objective and priorities in emergency situation
10. Surgical pharmacology and anesthesia
    a. Methods and techniques of anesthetic administration
    b. Nerve conduction blockade
    c. General anesthesia
11. Instrumentation, equipment, and supplies
    a. Instrumentation
    b. Specialty equipment
    c. Accessory equipment
    d. Supplies
12. Wound healing, sutures, needles, and stapling devices
    a. Types of wounds
    b. Process of wound healing
    c. Suture
    d. Stapling
    e. Needles

Resources

Fuller, Joanna Kotcher. *Surgical Technology Principles and Practice*. 8th ed. Elsevier, 2022.

Association of Surgical Technologists. *Surgical Technology for the Surgical Technologist: A Positive Care Approach*. 6th ed. Cengage-Learning, 2024.

Hornacky, Anita, and Nancymarie Phillips. *Berry Kohn's Operating Room Technique*. 15th ed. Mosby, 2024.

Rutherford, Colleen J. *Differentiating Surgical Instruments*. 3rd ed. F.A. Davis, 2020.

Venes, Donald, editor. *Taber's Cyclopedic Medical Dictionary*. 25th ed. F.A. Davis, 2025.

Rothrock, Jane. *Alexander's Care of the Patient in Surgery*. 17th ed. Mosby, 2023.

Goldman, Maxine A. *Pocket Guide to the Operating Room*. 4th ed. F.A. Davis, 2020.

Rothrock, Jane C., and Sherri M. Alexander. *Alexander's Surgical Procedures*. Elsevier Mosby, 2012.

Pieknik, Rebecca. *Suture and Surgical Hemostasis: A Pocket Guide*. Elsevier Mosby, 2006.

Dankanich, Nancy. *Operating Room Skills: Fundamentals for the Surgical Technologist*. 2nd ed. Pearson Education Inc., 2020.

Rutherford, Colleen J. *Surgical Equipment and Supplies*. 3rd ed. F.A. Davis, 2023.

Resources Other

Association of Surgical Technologists. 2025, https://www.ast.org/

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