Operating Room Foundations

Operating Room Foundations is a one-credit course that introduces students to the exciting and dynamic world of the operating room, and exposes students to an array of multidisciplinary specialties and concepts within perioperative medicine. Course content focuses on the knowledge and skills needed to promote patient safety and optimize surgical outcomes. Operating Room Foundations is offered to students in grades 10-12 upon successful completion of the mandatory prerequisite, Foundations of Health Science. Operating Room Foundations is recommended for students who want to prepare for further study in an array of health-related fields at the postsecondary level that utilize sterile technique, and/or care for patients preoperatively, intraoperatively, or postoperatively.

HOSA - Future Health Professionals is the Career and Technical Student Organization (CTSO) affiliated with this course. CTSO's are integral, co-curricular components of each career and technical education course. These organizations serve to enhance classroom instruction while helping students develop leadership abilities, expand workplace-readiness skills, and broaden opportunities for personal and professional growth.

Students will:

Institutional and Career Exploration

1. Describe types of healthcare facilities that perform surgery: Ambulatory Surgery Centers vs. Hospitals, Public vs. Private facilities, Academic vs. Private Practice, Trauma Center Designation/Verification (I, II, III, IV, V), etc.
2. Define the perioperative phases of surgery: Preoperative, Intraoperative, Postoperative.
3. Differentiate between the functions of different areas of the surgical department: Preoperative Holding (Preop), Operating Room (OR), Post Anesthesia Care Unit (PACU/Recovery), Sterile Processing Department (SPD), restricted/semi-restricted/non-restricted areas.
4. Explain the roles, responsibilities, and educational pathways of sterile and non-sterile surgical team members within perioperative services: Surgeon, Registered Nurse (RN), Surgical Technologist (ST), Anesthesiologist, Certified Registered Nurse Anesthetist (CRNA), Medical Sales Representative, Sterile Processing Technician, Operating Room Care Technician, etc.
5. Describe rationale of perioperative environment arrangement, and proximity to patient care units in the hospital.
6. Describe interdepartmental interactions with multidisciplinary team members throughout the health care facility: Emergency Department (ED), Intensive Care Units (ICU), Medical-Surgical Nursing Units (Med-Surg), Blood Bank, Biomedical Engineering, Pathology, Radiology, etc.

Safety and Standards of Practice

7. Explain the perioperative role of The Joint Commission (formerly known as JCAHO) accreditation, Food and Drug Administration (FDA) regulation, Association for the Advancement

of Medical Instrumentation (AAMI) and the Association of periOperative Registered Nurses (AORN) benchmarking, and the Centers for Disease Control and Prevention (CDC) guidelines.

8. Examine safe work practices within the surgical suite by adhering to Occupational Safety and Health Administration (OSHA) standards: Safety Data Sheets, Waste Anesthetic Gases, Bloodborne Pathogens (BBP's), Latex Allergy, Compressed Gases, Static and Awkward Postures, Smoke Plum, Laser Hazards, Hazardous Chemicals, Equipment Hazards, Slips/Trips/Falls, Radiation Exposure, Tuberculosis, etc.
9. Describe emergency, disaster, safety, and security hazard procedures/protocols: Lockdown, Intruder/Active Shooter, Tornado, Earthquake, Mass Casualty Response, Chemical Release, etc.
10. Describe surgical fire and electrical injury prevention and management.
11. Demonstrate proper handwashing techniques used in the operative careers.
12. Demonstrate donning and removing personal protective equipment as utilized in the operative careers.

Legal and Ethical Implications

13. Explain medical law and ethics and the importance of confidentiality and patients' rights and responsibilities: HIPAA, Advanced Directives, Informed Consent, etc.
14. Recognize sentinel events, explain reporting procedures, and describe prevention measures: retained foreign object, wrong-site surgery, etc.

Patient Care and Advocacy

15. Identify the physical, psychosocial, and spiritual needs of diverse surgical patients: Maslow's Hierarchy of Needs, special populations, cultural diversity, family considerations, pre-surgery anxiety, etc.
16. Explain importance of patient advocacy in the perioperative setting.

Surgical Environment and Procedures

17. Describe the historical development and timeline of surgery.
18. Identify various surgical specialties and basic procedures, including anatomy, medical terminology, and approved abbreviations.
19. Differentiate between routine, urgent, and emergent surgical procedures.
20. Explain the concepts of "surgical conscience" used behind the "red line": attire, behavior, movement, sterile field surveillance, etc.
21. Define principles and procedures of antisepsis, disinfection, and sterilization.
22. Explain patient positioning concepts and equipment for supine positioning.
23. Discuss importance of perioperative thermoregulation and embolism prevention.
24. Identify integral components of Universal Protocol: pre-procedure verification, surgical site marking, time-out.

25. Define hemostasis and identify hemostatic agents and methods: mechanical, thermal, pharmacological.
26. Explain surgical wound classification.
27. Discuss potential sources of contamination.

Instrumentation, Supplies, and Equipment

28. Identify and describe the handling of basic surgical instruments, supplies, furniture, equipment, machines, and technology.
29. Differentiate between disposable and non-disposable items.
30. Explain importance of cost-containment strategies.

Pharmacology and Medical Math

31. Explain the role of the hospital pharmacy in regard to perioperative services.
32. Define types of anesthesia: General, IV/Monitored Sedation, Regional, Local.
33. Describe Malignant Hyperthermia, and identify best treatment practices.
34. Demonstrate understanding of basic safe medication handling, labeling, dosages, conversions, and calculations.

Employability and Technical Skills

35. Demonstrate workplace readiness skills needed in the operating room, to include but not limited to:
    a. punctuality, regular attendance, time management, organization, adaptability, stress management, physical endurance, adherence to rules and procedures, accountability, critical thinking and problem-solving skills, communication, teamwork, positive attitude, professional behavior, personal moral integrity, honesty, technology etiquette, resume writing and interview skills.
36. Demonstrate basic technical skills utilized in the preoperative phase of patient care, to include but not limited to:
    a. Bed-making, vital signs, preoperative checklist and documentation, surgical hand scrub, donning/doffing surgical attire, gowning and gloving members of surgical team, creating/maintaining sterile field, set up of basic surgical instruments/supplies/furniture/equipment/machines, inspecting and opening sterile items to the surgical field, pouring sterile solutions, transferring patient to the operating room table, supine patient positioning/draping, preoperative hair removal, electrosurgical unit (ESU) pad placement, Foley catheter insertion (simulation only), thermoregulation and anti-embolism methods, basic patient skin preparation, initial surgical count, time-out.