

Surgical Technologist Certifying Exam Content Outline

Standard

Northstar Learning Topic

I. Peri-Operative Care

A. Pre-Operative Preparation

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| I.A.1 - Review surgeon's preference card. | <ul style="list-style-type: none"> • Preparing the Room and Instruments |
| I.A.2 - Verify availability of surgery equipment (e.g., reserve equipment for surgery). | <ul style="list-style-type: none"> • Preparing the Room and Instruments |
| I.A.3 - Prepare and maintain operating room environment according to surgical procedure (e.g., temperature, lights, suction, and furniture). | <ul style="list-style-type: none"> • Preparing the Room and Instruments |
| I.A.4 - Utilize preoperative documentation (e.g., informed consent, advanced directives, allergies, laboratory results). | <ul style="list-style-type: none"> • Preparing the Room and Instruments |
| I.A.5 - Obtain and apply additional equipment (e.g., pneumatic tourniquet, sequential compression devices, thermoregulatory devices). | <ul style="list-style-type: none"> • Preparing the Room and Instruments |
| I.A.6 - Don personal protective equipment. | <ul style="list-style-type: none"> • Preparing the Room and Instruments |
| I.A.7 - Obtain instruments, supplies, and equipment and verify readiness for surgery. | <ul style="list-style-type: none"> • Preparing the Room and Instruments |
| I.A.8 - Check package integrity of sterile supplies. | <ul style="list-style-type: none"> • Preparing the Room and Instruments |
| I.A.9 - Open sterile supplies/instruments while maintaining aseptic technique. | <ul style="list-style-type: none"> • Preparing the Room and Instruments |
| I.A.10 - Perform surgical scrub (e.g., initial, waterless). | <ul style="list-style-type: none"> • Preparing the Room and Instruments |
| I.A.11 - Assemble, inspect, and set up sterile instruments and supplies for surgical procedures. | <ul style="list-style-type: none"> • Preparing the Room and Instruments |
| I.A.12 - Gown and glove sterile team members. | <ul style="list-style-type: none"> • Preparing the Room and Instruments |
| I.A.13 - Participate in "Time Out." | <ul style="list-style-type: none"> • Preparing the Patient |
| I.A.14 - Drape the patient. | <ul style="list-style-type: none"> • Preparing the Patient |
| I.A.15 - Transport patient to and from operating room utilizing correct patient positioning. | <ul style="list-style-type: none"> • Preparing the Patient |
| I.A.16 - Transfer patient to operating room table. | <ul style="list-style-type: none"> • Preparing the Patient |
| I.A.17 - Apply patient safety measures (e.g., safety strap, protective padding, x-ray safety). | <ul style="list-style-type: none"> • Preparing the Patient |
| I.A.18 - Apply patient monitoring devices. | <ul style="list-style-type: none"> • Preparing the Patient |
| I.A.19 - Position the patient. | <ul style="list-style-type: none"> • Preparing the Patient |
| I.A.20 - Prepare surgical site (e.g., hair removal, surgical preparation). | <ul style="list-style-type: none"> • Preparing the Patient |
| I.A.21 - Consider patient needs (e.g., pediatrics, immuno-compromised, patient allergies). | <ul style="list-style-type: none"> • Preparing the Patient |

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| I.A.22 - Don gown and gloves. | <ul style="list-style-type: none"> • Preparing the Room and Instruments |
| I.A.23 - Perform medical hand wash. | <ul style="list-style-type: none"> • Preparing the Room and Instruments |
| I.A.24 - Secure cords/tubing to drapes and apply light handles. | <ul style="list-style-type: none"> • Preparing the Room and Instruments |
| I.A.25 - Drape specialty equipment (e.g., c-arm, Da Vinci, microscope). | <ul style="list-style-type: none"> • Preparing the Room and Instruments • Using Specialty Equipment |
| <i>B. Intra-Operative Procedures</i> | |
| I.B.1 - Provide intraoperative assistance under the direction of the surgeon. | <ul style="list-style-type: none"> • Managing Instruments • Surgical Specialties |
| I.B.2 - Perform counts with circulator at appropriate intervals. | <ul style="list-style-type: none"> • Managing Instruments |
| I.B.3 - Identify instruments by: <ul style="list-style-type: none"> a. function b. application c. classification | <ul style="list-style-type: none"> • Managing Instruments |
| I.B.4 - Prepare bone and tissue grafts (e.g., allograft, autograft, synthetic). | <ul style="list-style-type: none"> • Managing Instruments |
| I.B.5 - Anticipate the steps of surgical procedures. | <ul style="list-style-type: none"> • Surgical Specialties • Understanding Surgeries |
| I.B.6 - Differentiate among the various methods and applications of hemostasis (e.g., mechanical, thermal, chemical). | <ul style="list-style-type: none"> • Understanding Surgeries |
| I.B.7 - Specify methods of operative exposure. | <ul style="list-style-type: none"> • Understanding Surgeries |
| I.B.8 - Place and secure retractors. | <ul style="list-style-type: none"> • Assisting the Surgeon • Surgical Specialties |
| I.B.9 - Verify with surgeon the correct type and/or size of implantable devices. | <ul style="list-style-type: none"> • Assisting the Surgeon |
| I.B.10 - Pass instruments and supplies during surgery. | <ul style="list-style-type: none"> • Assisting the Surgeon • Surgical Specialties |
| I.B.11 - Irrigate, suction, and sponge operative site. | <ul style="list-style-type: none"> • Assisting the Surgeon • Surgical Specialties |
| I.B.12 - Monitor and maintain aseptic technique throughout the procedure. | <ul style="list-style-type: none"> • Assisting the Surgeon |
| I.B.13 - Assemble, test, and operate specialty equipment during surgery. | <ul style="list-style-type: none"> • Using Specialty Equipment |
| I.B.14 - Utilize specialty equipment: <ul style="list-style-type: none"> a. microscopes b. computer navigation systems c. thermal ablation d. robotic technology e. laser technology f. ultrasound technology g. phacoemulsification h. endoscopic technology i. power equipment and fracture sets | <ul style="list-style-type: none"> • Physics and Technology • Using Specialty Equipment |
| I.B.15 - Verify, mix, and label all medications and solutions. | <ul style="list-style-type: none"> • Handling Supplies and Medications |
| I.B.16 - Minimize intraoperative cross contamination. | <ul style="list-style-type: none"> • Handling Supplies and Medications |
| I.B.17 - Follow Standard and Universal precautions. | <ul style="list-style-type: none"> • Handling Supplies and Medications |
| I.B.18 - Monitor medication and solution use. | <ul style="list-style-type: none"> • Handling Supplies and Medications |
| I.B.19 - Prepare drains, catheters, and tubing for insertion. | <ul style="list-style-type: none"> • Handling Supplies and Medications |
| I.B.20 - Verify, prepare, and label specimen(s). | <ul style="list-style-type: none"> • Handling Supplies and Medications |

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| I.B.21 - Observe patient's intra-operative status (e.g., monitor color of blood, blood loss, patient position). | <ul style="list-style-type: none"> • Caring for the Patient |
| I.B.22 - Apply thermal surgical techniques and safety precautions (e.g., cryo-surgery, laser surgery, ESU). | <ul style="list-style-type: none"> • Caring for the Patient |
| I.B.23 - Prepare suture materials. | <ul style="list-style-type: none"> • Suturing |
| I.B.24 - Cut suture material as directed. | <ul style="list-style-type: none"> • Suturing |
| I.B.25 - Identify appropriate usage of sutures/needles and stapling devices. | <ul style="list-style-type: none"> • Suturing |
| I.B.26 - Provide assistance with stapling devices. | <ul style="list-style-type: none"> • Suturing |
| I.B.27 - Perform appropriate actions during an emergency. | <ul style="list-style-type: none"> • Suturing |
| I.B.28 - Initiate preventative actions in potentially hazardous situations. | <ul style="list-style-type: none"> • Caring for the Patient |
| I.B.29 - Connect and activate drains to suction apparatus. | <ul style="list-style-type: none"> • Caring for the Patient |
| I.B.30 - Prepare and apply sterile dressings. | <ul style="list-style-type: none"> • Assisting the Surgeon |
| I.B.31 - Assist in the application of casts, splints, braces, and similar devices. | <ul style="list-style-type: none"> • Assisting the Surgeon |

C. Post-Operative Procedures

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| I.C.1 - Report abnormal post-operative findings (e.g., bleeding at surgical site, hematoma, rash). | <ul style="list-style-type: none"> • Post-Operative Procedures |
| I.C.2 - Transfer patient from operating table to stretcher. | <ul style="list-style-type: none"> • Post-Operative Procedures |
| I.C.3 - Remove drapes and other equipment (e.g., suction, cautery, nondisposable items) from patient. | <ul style="list-style-type: none"> • Post-Operative Procedures |
| I.C.4 - Perform room clean up after surgery. | <ul style="list-style-type: none"> • Post-Operative Procedures |
| I.C.5 - Dispose of contaminated waste and drapes after surgery in compliance with Standard Precautions. | <ul style="list-style-type: none"> • Post-Operative Procedures |
| I.C.6 - Dispose of contaminated sharps after surgery in compliance with Standard Precautions. | <ul style="list-style-type: none"> • Post-Operative Procedures |
| I.C.7 - Report use of local anesthetic. | <ul style="list-style-type: none"> • Post-Operative Procedures |
| I.C.8 - Complete terminal cleaning of operating room. | <ul style="list-style-type: none"> • Post-Operative Procedures |
| I.C.9 - Transport laboratory specimens. | <ul style="list-style-type: none"> • Post-Operative Procedures |
| I.C.10 - Participate in case debrief (e.g., following sentinel event). | <ul style="list-style-type: none"> • Post-Operative Procedures |

II. Additional Duties

A. Administrative and Personnel

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| II.A.1 - Revise surgeon's preference card as necessary. | <ul style="list-style-type: none"> • Administration and Personnel |
| II.A.2 - Utilize computer technology for: <ol style="list-style-type: none"> surgeon's preference cards interdepartmental communication continuing education research | <ul style="list-style-type: none"> • Administration and Personnel • Physics and Technology |
| II.A.3 - Follow hospital and national disaster plan protocol (e.g., safety drills, mass casualty drills, biologic hazard). | <ul style="list-style-type: none"> • Administration and Personnel |
| II.A.4 - Recognize safety and environmental hazards (e.g., fire, chemical spill, laser, smoke). | <ul style="list-style-type: none"> • Administration and Personnel |
| II.A.5 - Follow proper cost containment processes. | <ul style="list-style-type: none"> • Administration and Personnel |
| II.A.6 - Apply ethical and legal practices related to surgical patient care. | <ul style="list-style-type: none"> • Administration and Personnel |

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| II.A.7 - Use interpersonal skills (e.g., listening, diplomacy, responsiveness) and group dynamics. | • Administration and Personnel |
| II.A.8 - Understand the importance of cultural diversity. | • Administration and Personnel |
| II.A.9 - Serve as preceptor to perioperative personnel. | • Administration and Personnel |
| II.A.10 - Understand concepts of death and dying. | • Administration and Personnel |
| II.A.11 - Participate in organ and tissue procurement. | • Administration and Personnel |
| II.A.12 - Understand basic principles of electricity and electrical safety. | • Administration and Personnel |

B . Equipment Sterilization and Maintenance

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| II.B.1 - Operate cleaning and sterilizing devices (e.g., ultrasonic washers, autoclave, cart washer). | • Equipment Sterilization and Maintenance |
| II.B.2 - Troubleshoot equipment malfunctions. | • Equipment Sterilization and Maintenance |
| II.B.3 - Decontaminate and clean instruments and equipment. | • Equipment Sterilization and Maintenance |
| II.B.4 - Inspect, test, and assemble instruments and equipment. | • Equipment Sterilization and Maintenance |
| II.B.5 - Package and sterilize instruments and equipment. | • Equipment Sterilization and Maintenance |
| II.B.6 - Perform quality assurance functions (e.g., biological monitoring of sterilization methods). | • Equipment Sterilization and Maintenance |
| II.B.7 - Maintain equipment records and logs (e.g., Sterrad, biological, laser log, sterilizers). | • Equipment Sterilization and Maintenance |
| II.B.8 - Sterilize equipment for immediate use (e.g., short cycle). | • Equipment Sterilization and Maintenance |

III. Basic Science

A. Anatomy and Physiology

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| III.A.1 - Use appropriate medical terminology and abbreviations. | • Medical Terminology |
| III.A.2 - Demonstrate knowledge of anatomical systems as they relate to the surgical procedure. | • Anatomy and Physiology • Surgical Specialties |
| III.A.3 - Demonstrate knowledge of human physiology as it relates to the surgical procedure. | • Anatomy and Physiology • Surgical Specialties |
| III.A.4 - Identify the following surgical pathologies: a.abnormal anatomy b.disease processes c.traumatic injuries d.malignancies | • Pathology |

B. Microbiology

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| III.B.1 - Apply the following principles of surgical microbiology to operative practice: a.classification and pathogenesis of microorganisms b.infection control procedures (e.g., aseptic technique) c.principles of tissue handling (e.g., Halsted principles, tissue manipulation methods, traction/counter traction) d.stages of, and factors influencing wound healing (e.g., condition of patient, wound type) e.surgical wound classification. | • Microbiology |
| III.B.1 - Identify and address factors that can influence an infectious process. | • Microbiology |

C. Surgical Pharmacology

- III.C.1 - Apply the following principles of surgical pharmacology to operative practice:
- anesthesia related agents and medications
 - blood and fluid replacement
 - complications from drug interactions (e.g., malignant hyperthermia)
 - methods of anesthesia administration (e.g., general, local, block)
 - types, uses, action, and interactions of drugs and solution (e.g., hemostatic agents, antibiotics, IV solutions)
 - weights, measures, and conversions

- Surgical Pharmacology

- III.C.2 - Maintain awareness of maximum dosage.

- Surgical Pharmacology

