

Introduction to Surgical Technology

Crosswalk to AST Core Curriculum

This crosswalk aligns the MAVCC module objectives for *Introduction to Surgical Technology* to the content outlines in AST's *Core Curriculum for Surgical Technology*. If a blank appears under the "MAVCC Module Objectives" column, then the area is not covered in the MAVCC curriculum. The instructor should use supplemental resources to teach these areas.

AST Course Outline	MAVCC Module Objective
MICROBIOLOGY	
I. Introduction to microbiology A. Historical background B. Historical theories C. Fields of study	
II. Introduction to the microscope A. Microscope 1. Parts of a microscope 2. Use of a microscope (in a lab setting)	
III. Cell structure A. Cells 1. Cell theory 2. Basic characteristics 3. Cell classification a. Prokaryotic b. Eukaryotic	<i>Anatomy and Physiology</i> , Module Set I, Module 3-C: Objective 23—State the cell theory
B. Cell structure — eukaryotic cells 1. Nucleus a. Nuclear membrane b. Chromatin/chromosomes 2. Cell membrane 3. Cytoplasm 4. Nucleolus 5. Ribosomes 6. Endoplasmic reticulum 7. Mitochondria 8. Golgi apparatus 9. Lysosomes 10. Pinocytotic vesicles 11. Centrioles 12. Microtubules/microfilaments 13. Cilia/flagella	<i>Anatomy and Physiology</i> , Module Set I, Module 3-C: Objective 26—Label the major parts of a cell; Objective 27—Match the major parts of a cell to their correct functions; Objective 28—Describe the major parts of a cell nucleus <i>Anatomy and Physiology</i> , Module Set I, Module 3-C: Objective 29—Describe the specialized structures in cells; Objective 30—State the functions of the specialized structures in cells

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<p>C. Cell structure — prokaryotic cells</p> <ol style="list-style-type: none"> 1. Cell envelope <ol style="list-style-type: none"> a. Capsule or slime layer b. Cell wall c. Cytoplasmic membrane 2. Mesosomes <ol style="list-style-type: none"> a. Nucleoid b. Plasmids c. Ribosomes d. Flagella e. Pili/fimbriae 	<p><i>Anatomy and Physiology</i>, Module Set I, Module 3-C: Objective 26—Label the major parts of a cell; Objective 27—Match the major parts of a cell to their correct functions</p>
<p>IV. Fluid movement concepts</p> <ol style="list-style-type: none"> A. Diffusion B. Osmosis C. Filtration D. Active transport E. Phagocytosis F. Pinocytosis 	<p><i>Anatomy and Physiology</i>, Module Set I, Module 3-C: Objective 35—Match types of active transport to their correct descriptions</p>
<p>V. Microorganisms</p> <p>A. Classification of organisms</p> <ol style="list-style-type: none"> 1. Kingdom <ol style="list-style-type: none"> a. Plantae b. Animalia c. Fungi d. Protists e. Monera 2. Phylum 3. Class 4. Order 5. Family 6. Genus 7. Species 	<p>Module 1-C: Objective 1—Arrange in order the levels of the taxonomy system for classifying organisms</p>
<p>B. Specific classes of microorganisms</p> <ol style="list-style-type: none"> 1. Algae 2. Protozoa 3. Fungi (yeasts and molds) 4. Bacteria 5. Rickettsiae 6. Viruses 7. Prions 	<p>Module 1-C: Objective 2—Select major classes of microorganisms; Objective 3—Describe the classes of microorganisms</p>
<p>C. Characteristics of algae</p> <ol style="list-style-type: none"> 1. Morphology 2. Occurrence 3. Relationship to humans 4. Uses 	<p>Module 1-C: Objective 13—Distinguish between characteristics of fungi and algae</p>
<p>D. Characteristics of protozoa</p> <ol style="list-style-type: none"> 1. Morphology 2. Nutrition 3. Classification according to locomotion 4. Pathogenicity 5. Occurrence in humans 6. Occurrence in nature 	<p>Module 1-C: Objective 15—Select true statements concerning characteristics of protozoa; Objective 16—Match protozoan diseases to their correct causes and characteristics</p>

<p>E. Characteristics of fungi (yeasts and molds)</p> <ol style="list-style-type: none"> 1. Morphology 2. Nutrition 3. Reproduction methods 4. Pathogenicity 5. Occurrence in humans 6. Occurrence in nature 	<p>Module 1-C: Objective 13—Distinguish between characteristics of fungi and algae; Objective 14—Distinguish between characteristics of yeasts and molds</p>
<p>F. Characteristics of bacteria</p> <ol style="list-style-type: none"> 1. Morphology and grouping 2. Staining 3. Motility 4. Colonization 5. Nutrition 6. Biochemical activities 7. Pathogenicity 8. Occurrence in humans 9. Occurrence in nature 	<p>Module 1-C: Objective 7—Select true statements concerning characteristics of bacteria; Objective 8—Label types of bacteria according to their shape; Objective 9—Match specialized structures of bacteria to their correct descriptions; Objective 10—Distinguish between types of toxins produced by bacteria; Objective 11—Select true statements concerning growth requirements of bacteria; Objective 12—Match pathogenic bacteria to the correct diseases they cause</p>
<p>G. Characteristics of rickettsiae</p> <ol style="list-style-type: none"> 1. Morphology 2. Staining 3. Transmission 4. Pathogenicity 5. Occurrence in humans 6. Occurrence in nature 	<p>Module 1-C: Objective 17—Complete statements concerning the characteristics of rickettsiae; Objective 18—List diseases caused by rickettsiae</p>
<p>H. Characteristics of viruses</p> <ol style="list-style-type: none"> 1. Classification 2. Morphology 3. Differentiation from other cells 4. Lysogenic cycle 5. Bacteriophages 6. Genetic changes 7. Transmission 8. Pathogenicity 9. Occurrence in humans 10. Occurrence in nature 	<p>Module 1-C: Objective 21—Complete statements concerning characteristics of viruses; Objective 22—List viral diseases according to type</p>
<p>I. Characteristics of prions</p> <ol style="list-style-type: none"> 1. Classification 2. Morphology 3. Pathogenicity 4. Occurrence in humans 5. Occurrence in nature 	
<p>J. Common microbes and their diseases</p> <ol style="list-style-type: none"> 1. Staphylococcus aureus 2. Streptococcus pyogenes 3. Streptococcus pneumoniae 4. Neisseria gonorrhoeae 5. Emissaria meningitidis 6. Escherichia coli 7. Pseudomonas aeruginosa 8. Hemophilus influenzae 9. Mycobacterium tuberculosis 	<p>Module 1-C: Objective 12—Match pathogenic bacteria to the correct diseases they cause; Assignment Sheet 1—Research the causes and prevention of a human disease; Module 2-C: Objective 11—Match organisms that cause common nosocomial infections to the infections they cause; Assignment Sheet 1—Determine human portals of entry and exit for various diseases and infections</p>

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<p>J. Common microbes and their diseases (cont.)</p> <ol style="list-style-type: none"> 10. Hemolytic streptococcus, alpha type 11. Nonhemolytic streptococcus 12. Clostridium perfringens 13. Clostridium tetani 14. Bacteroides species 15. Candida albicans 16. Hepatitis A virus 17. Hepatitis B virus 18. Hepatitis C virus 19. Hepatitis D virus 20. Human Immunodeficiency Virus (HIV) 21. Prion disease 	<p>Module 1-C: Objective 12—Match pathogenic bacteria to the correct diseases they cause; Module 1-C: Assignment Sheet 1—Research the causes and prevention of a human disease; Module 2-C: Objective 11—Match organisms that cause common nosocomial infections to the infections they cause; Assignment Sheet 1—Determine human portals of entry and exit for various diseases and infections</p> <p>Module 1-C: Objective 14—Distinguish between characteristics of yeasts and molds</p> <p>Module 2-C: Teacher Supplement 2—Types of viral hepatitis</p> <p>Module 2-C: Objective 11—Match organisms that cause common nosocomial infections to the infections they cause</p> <p>Module 2-C: Teacher Supplement 2—Types of viral hepatitis</p> <p>Module 2-C: Objective 11—Match organisms that cause common nosocomial infections to the infections they cause; Assignment Sheet 3—Practice critical thinking: complete a case study on immunity and infection</p>
<p>VI. Immunologic defense mechanisms</p> <p>A. Immunology</p> <ol style="list-style-type: none"> 1. Antigen 2. Antibody/immunoglobulin 3. Antigen-antibody reaction 	<p>Module 2-C: Objective 9—Complete statements concerning the effects of infection on a human host</p> <p>Module 2-C: Objective 22—Describe the phases of the antibody-production cycle that follows the body's exposure to an antigen</p> <p>Module 2-C: Objective 29—Select true statements concerning the rejection syndrome</p>
<p>B. Immune response</p> <ol style="list-style-type: none"> 1. Lag phase 2. Primary response 3. Secondary response 	<p>Module 2-C: Objective 22—Describe the phases of the antibody-production cycle that follows the body's exposure to an antigen</p>
<p>C. Acquired immunity</p> <ol style="list-style-type: none"> 1. Active <ol style="list-style-type: none"> a. Natural b. Artificial 2. Passive <ol style="list-style-type: none"> a. Natural b. Artificial 	<p>Module 2-C: Objective 24—Select true statements concerning the types of immunity; Objective 25—Match types of acquired immunity to their correct descriptions</p>

<p>D. Vaccines</p> <ol style="list-style-type: none"> 1. Nonpathogenic strains 2. Closely related microorganisms 3. Attenuated living pathogens 4. Killed pathogens 5. Extracts of pathogens 6. Toxoids 7. Recombinant DNA 	<p>Module 2-C: Objective 26—List types of vaccines</p>
<p>VII. Hypersensitivity</p> <ol style="list-style-type: none"> A. Immediate B. Delayed C. Autoimmunity D. Terminology <ol style="list-style-type: none"> 1. Allergen 2. Allergy 3. Localized allergic reaction 4. Anaphylactic shock 	<p>Module 2-C: Objective 27—Complete statements concerning the allergic response</p>
<p>VIII. Process of infection</p> <ol style="list-style-type: none"> A. Terminology <ol style="list-style-type: none"> 1. Abscess 2. Acute infection 3. Aerobic 4. Anaerobic 5. Antibiotic 6. Antibody 7. Antigen 8. Antisepsis 9. Antiseptic 10. Bacteremia 11. Bactericide 12. Bacteriostasis 13. Bioburden 14. Carrier 15. Chronic infection 16. Chronic/permanent 17. Community-acquired infection 18. Contaminated 	<p>Module 2-C: Objective 5—Match types of infections to their correct descriptions; Objective 6—Match the stages of an acute infection to their correct descriptions</p> <p>Module 1-C: Objective 3—Describe the classes of microorganisms</p> <p>Module 2-C: Objective 13—Complete statements concerning the body’s defenses against diseases</p> <p>Module 2-C: Objective 9—Complete statements concerning the effects of infection on a human host</p> <p>Module 2-C: Objective 3—List human portals of exit</p> <p>Module 2-C: Objective 5—Match types of infections to their correct descriptions</p> <p>Module 3-C: Objective 5—Match classes of traumatic wounds to their correct descriptions</p>

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A. Terminology (cont.)	
19. Contamination	Module 2-C: Objective 8—Describe means of controlling the transmission of infections
20. Convalescent carrier	
21. Cross-contamination	
22. Cross-infection	Module 2-C: Objective 5—Match types of infections to their correct descriptions
23. Culture	Module 1-C: Objective 6—Describe the purpose of a gram stain
24. Disease	Module 2-C: Objective 1—Define the term infection
25. Disinfectant	
26. Disinfection	
27. Droplet	Module 2-C: Objective 7—Distinguish between direct and indirect contact in the transmission of pathogens
28. Endogenous source	
29. Endotoxin	Module 1-C: Objective 10—Distinguish between types of toxins produced by bacteria
30. Exogenous source	
31. Exotoxin	Module 1-C: Objective 10—Distinguish between types of toxins produced by bacteria
32. Facultative	Module 1-C: Objective 7—Select true statements concerning characteristics of bacteria
33. Flora	Module 1-C: Objective 5—Distinguish among normal flora, resident flora, and transient flora
34. Fomite	Module 2-C: Objective 7—Distinguish between direct and indirect contact in the transmission of pathogens
35. Host	
36. Infection	Module 2-C: Objective 1—Define the term infection
37. Infectious agent	
38. Inflammation	Module 2-C: Objective 13—Complete statements concerning the body’s defenses against diseases
39. Local infection	Module 2-C: Objective 5—Match types of infections to their correct descriptions
40. Necrotic	Module 3-C: Objective 10—Complete statements concerning the effects of operative technique on wound healing
41. Nonsterile	

A. Terminology (cont.)

42. Nosocomial infection	Module 2-C: Objective 5—Match types of infections to their correct descriptions
43. Obligatory	
44. Parasite	Module 1-C: Objective 3—Describe the classes of microorganisms
45. Pathogens	Module 2-C: Objective 6—Match the stages of an acute infection to their correct descriptions
46. Phagocytosis	Module 1-C: Objective 9—Match specialized structures of bacteria to their correct descriptions; Module 2-C: Objective 13—Complete statements concerning the body’s defenses against diseases
47. Primary infection	Module 2-C: Objective 5—Match types of infections to their correct descriptions
48. Principles of asepsis	
49. Pus	Module 3-C: Objective 9—Describe factors that present possible complications to the wound-healing process
50. Reservoir	
51. Resident microorganism	Module 1-C: Objective 5—Distinguish among normal flora, resident flora, and transient flora
52. Saprophyte	Module 1-C: Objective 13—Distinguish between characteristics of fungi and algae
53. Secondary infection	Module 2-C: Objective 5—Match types of infections to their correct descriptions
54. Sepsis	
55. Septicemia	Module 1-C: Objective 12—Match pathogenic bacteria to the correct diseases they cause
56. Septicemia	
57. Source	Module 1-C: Objective 13—Distinguish between characteristics of fungi and algae
58. Spore	Module 1-C: Objective 9—Match specialized structures of bacteria to their correct descriptions
59. Sterile	
60. Sterile field	
61. Sterile technique	
62. Sterilization	Module 2-C: Objective 8—Describe means of controlling the transmission of infections

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<p>A. Terminology (cont.)</p> <ul style="list-style-type: none"> 63. Sterilizer 64. Superinfection 65. Suppuration 66. Surgically clean 67. Systemic infection 68. Toxin 69. Transient microorganism 70. Transitory/temporary 71. Vector 	<p>Module 2-C: Objective 5—Match types of infections to their correct descriptions</p> <p>Module 2-C: Objective 1—Define the term infection</p> <p>Module 1-C: Objective 5—Distinguish among normal flora, resident flora, and transient flora</p> <p>Module 2-C: Objective 7—Distinguish between direct and indirect contact in the transmission of pathogens</p>
<p>B. Pathogenicity</p> <ul style="list-style-type: none"> 1. Aggressiveness and virulence of the pathogen 2. Size and composition of the microbe population 3. Physical environment 4. Susceptibility of the host 	<p>Module 2-C: Objective 4—Select factors influencing the occurrence of infection</p>
<p>C. Inflammatory process</p> <ul style="list-style-type: none"> 1. Signs of inflammation <ul style="list-style-type: none"> a. Redness b. Heat c. Swelling d. Pain 2. Physiology <ul style="list-style-type: none"> a. Increased blood supply to the site and dilation of blood vessels = heat and increased # WBCS + phagocytosis b. Edema, swelling from fluid formation = pain c. Accumulation of dead/living microbes + WBCS = pus 3. Infection <ul style="list-style-type: none"> a. Invasion b. Localization c. Resolution 	<p>Module 2-C: Objective 15—List the symptoms of acute inflammatory response</p> <p>Module 2-C: Objective 9—Complete statements concerning the effects of infection on a human host</p>

<p>II. Terminology</p> <p>A. General definitions</p> <ol style="list-style-type: none"> 1. Pharmacology 2. Pharmacokinetics <ol style="list-style-type: none"> a. Absorption b. Distribution c. Biotransformation d. Excretion 3. Pharmacodynamics <ol style="list-style-type: none"> a. Onset b. Peak affect c. Duration of action d. Indication e. Contraindication 	<p>Module 4-D: Objective 1—Define pharmacology, pharmacodynamics, and pharmacokinetics</p>
<p>B. Types of medication actions/effects</p> <ol style="list-style-type: none"> 1. Actions <ol style="list-style-type: none"> a. Synergist b. Agonist c. Antagonist d. Additive 2. Effects <ol style="list-style-type: none"> a. Relaxation b. Sedation c. Amnesia d. Neuroleptic e. Analgesia f. Drying secretions g. Gastric acid reduction h. Vagal blockade i. Other 	<p>Module 5-D: Objective 19—List narcotic antagonists used intraoperatively</p> <p>Module 5-D: Objective 5—Complete statements concerning classifications of premedications</p>
<p>C. Abbreviations</p> <ol style="list-style-type: none"> 1. Stat 2. IV 3. IM 4. SC 5. PO 6. OS, OD, OU 7. Qid, bid, tid 8. PRN 9. NPO 10. Other 	<p>Module 2-D: Objective 7—Write the correct abbreviations pertaining to the handling of medications</p>
<p>III. Medications</p> <p>A. Medication nomenclature</p> <ol style="list-style-type: none"> 1. Chemical name 2. Generic name 3. Trade or brand name 	<p>Module 4-D: Objective 5—Distinguish among the types of names that a drug may have</p>
<p>B. Medication control classifications</p> <ol style="list-style-type: none"> 1. Controlled substance 2. Prescription medications 3. Nonprescription medications—over the counter (OTC) 4. Other 	

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<p>C. Medication/solution violations</p> <ol style="list-style-type: none"> 1. Narcotic precautions 2. Personnel negligence 3. Consequences to patient 	<p>Module 4-D: Objective 13—Complete statements concerning narcotic analgesics</p>
<p>D. Laws, policies and procedures</p> <ol style="list-style-type: none"> 1. Hospital policies and procedures 2. State laws 3. Verbal orders as accepted practice 	<p>Module 4-D: Objective 23—Select true statements concerning the care and handling of medications</p>
<p>E. Medication publications</p> <ol style="list-style-type: none"> 1. <i>Physician's Desk Reference</i> (PDR) 2. <i>The National Formulary</i> 3. <i>Pharmacopedia of the United States of America</i> - (the U.S.P.) 4. <i>National Code Directory</i> 5. <i>America Hospital Formulary Service Index</i> - (AHFS) 	<p>Module 4-D: Objective 6—Select common sources of information concerning drugs; Assignment Sheet 2—Use a drug information reference</p>
<p>F. Sources of medications</p> <ol style="list-style-type: none"> 1. Plants 2. Animals 3. Minerals 4. Laboratory synthesis 5. Biotechnology 	<p>Module 4-D: Objective 4—List primary sources of drugs</p>
<p>G. Pharmaceutical preparations (drug forms)</p> <ol style="list-style-type: none"> 1. Gas 2. Liquid <ol style="list-style-type: none"> a. Solution b. Suspension c. Emulsion d. Solid e. Semisolid 	<p>Module 4-D: Objective 3—List the types of drug preparations with their correct descriptions</p>
<p>H. Routes of administration</p> <ol style="list-style-type: none"> 1. IV 2. IM 3. SC 4. PO 5. Intrathecal 6. Instillation 7. Injection 8. Topical application 	<p>Module 4-D: Objective 8—Complete statements concerning the route of administration of drugs</p>
<p>IV. Care & handling of medications and solutions</p> <p>A. Medication identification</p> <ol style="list-style-type: none"> 1. Label information 2. Trade name 3. Generic name 4. Concentration 5. Amount 6. Expiration date 7. Directions for reconstitution/dilution 8. Storage/handling precautions/warnings 9. Route of administration 10. Circulator duty/responsibility 11. Surgical technologist (STSR) 	<p>Module 4-D: Objective 23—Select true statements concerning the care and handling of medications</p>

<p>B. Medication preparation</p> <ol style="list-style-type: none"> 1. Nonsterile area <ol style="list-style-type: none"> a. Draw up medication into a syringe 2. Nonsterile to sterile field transfer <ol style="list-style-type: none"> a. Draw up medication into a syringe b. Accept medication into the sterile field 	<p>Module 4-D: Objective 23—Select true statements concerning the care and handling of medications</p> <p>Module 3-D: Job Sheet 1—Fill an irrigating syringe; Job Sheet 2—Draw up medication held by circulator</p> <p>Module 3-D: Job Sheet 2—Draw up medication held by circulator</p> <p>Module 4-D: Objective 24—Complete statements concerning the procedure for the surgical technologist to accept medication from the circulator; Job Sheet 1—Receive medication onto the sterile field</p>
<p>C. Techniques of identification</p> <ol style="list-style-type: none"> 1. Labeling devices 2. Containers on sterile field 3. Identifying medication or solution to other team members 	<p>Module 4-D: Objective 23—Select true statements concerning the care and handling of medications; Job Sheet 1—Receive medication onto the sterile field</p>
<p>V. Medications used in surgery</p> <p>A. Classifications of agents</p> <ol style="list-style-type: none"> 1. Analgesics 2. Narcotics 3. Narcotic antagonists 4. Analgesic antipyretic agents 5. Sedative-hypnotic agents 6. Tranquilizers 7. Anticonvulsants 8. Central nervous system stimulants <ol style="list-style-type: none"> a. Analeptics b. Emetics 9. Antiemetics and antihistamines 	<p>Module 4-D: Objective 9—Match classifications of common drugs used in surgery with their actions; Assignment Sheet 1—Classify various drugs according to type (all items in left column are covered in this objective and AS; some are also covered in separate objectives as noted below and on next two pages)</p> <p>Objective 13—Complete statements concerning narcotic analgesics; Objective 5-D: Objective 5—Complete statements concerning classifications of premedications; Objective 18—List supplemental agents used in conjunction with oxygen to accomplish complete anesthesia; Objective 19—List narcotic antagonists used intraoperatively</p> <p>Module 4-D: Objective 2—List purposes of drugs</p> <p>Module 5-D: Objective 5—Complete statements concerning classifications of premedications; Objective 18—List supplemental agents used in conjunction with oxygen to accomplish complete anesthesia</p>

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A. Classifications of agents (cont.)

10. Autonomic agents <ul style="list-style-type: none">a. Adrenergic (alpha and beta)b. Adrenergic blockersc. Cholinergicsd. Cholinergic blockers	Objective 22—Match miscellaneous drugs used in surgery for emergency situations with their correct descriptions
11. Cardiac medications <ul style="list-style-type: none">a. Inotropic agentsb. Antiarrhythmicsc. Coronary dilatorsd. Other	
12. Coagulants and hemostatics	Module 4-D: Objective 11—Complete statements concerning the characteristics of hemostatic agents
13. Anticoagulants and fibrinolytics	Module 4-D: Objective 10—Select true statements concerning the characteristics of anticoagulants
14. IV fluids	Module 4-D: Objective 20—Complete statements concerning characteristics of intravenous solutions
15. Blood replacement <ul style="list-style-type: none">a. Whole bloodb. Component therapyc. Autologous bloodd. Non-blood replacements/plasma expanders	Module 4-D: Objective 21—Complete statements concerning blood replacements, blood components, and blood substitutes; Objective 5-D: Objective 30—Complete statements concerning hemostasis and blood replacement
16. Diuretics	Module 4-D: Objective 15—Select true statements concerning characteristics of diuretics
17. Ophthalmic medications <ul style="list-style-type: none">a. Enzymes<ul style="list-style-type: none">(1) Zonulysis(2) Local anesthesia adjunctsb. Irrigating solutionsc. Mydriatics/cycloplegicsd. Antibioticse. Viscoelastics/lubricantsf. Dyesg. Other	Module 4-D: Objective 14—Match drugs used for ophthalmic surgery with their correct uses
18. Gastric medications <ul style="list-style-type: none">a. H2-receptor blockersb. Other	Module 4-D: Objective 9—Match classifications of common drugs used in surgery with their actions; Module 5-D: Objective 5—Complete statements concerning classifications of premedications
19. Obstetrical agents <ul style="list-style-type: none">a. Oxytocicsb. RhoGAMc. Other	Module 4-D: Objective 17—Complete statements concerning characteristics of hormones

<p>A. Classifications of agents (cont.)</p> <p>20. Hormones</p> <ul style="list-style-type: none"> a. Sex hormones b. Corticosteroids c. Insulin/glucagon d. Prostaglandins e. Other <p>21. Anti-infective agents</p> <ul style="list-style-type: none"> a. Penicillins/cephalosporins b. Sulfonamides c. Polymyxins d. Aminoglycoside e. Antimicrobial f. Tetracyclines g. Antifungals h. Other <p>22. Contrast media</p> <p>23. Antineoplastic chemotherapy</p> <p>24. Dyes</p> <p>25. Irrigation solutions</p>	<p>Module 4-D: Objective 16—Select true statements concerning characteristics of steroids; Objective 17—Complete statements concerning characteristics of hormones</p> <p>Module 4-D: Objective 12—Select true statements concerning the characteristics of antibiotic/anti-infectives commonly used in surgery</p> <p>Module 4-D: Objective 18—Complete statements concerning characteristics of contrast media</p> <p>Module 4-D: Objective 19—Match common dyes used in surgery with their correct descriptions</p>
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ANESTHESIA

<p>I. Anesthesia administration</p> <p>A. Selection</p> <ul style="list-style-type: none"> 1. American Society of Anesthesiologists (ASA) risk classification 2. Patient factors <ul style="list-style-type: none"> a. Age b. Height and weight c. General health d. Comorbid conditions e. Current medications f. Allergies g. Substance abuse h. Emergency conditions i. Patient's psychological/emotional state j. Other 3. Type of procedure (duration and required position) 4. Surgeon's preference 5. Patient's preference 6. Anesthesia provider's preference 7. Other 	<p>Module 5-D: Objective 4—Complete statements concerning the selection of preoperative medications; Objective 6—Select true statements concerning anesthesia</p>
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<p>B. Preoperative medications</p> <ol style="list-style-type: none"> 1. Narcotics 2. Sedatives-hypnotic agents 3. Tranquilizers 4. Analgesics 5. Anticholinergics 6. Antacid/H₂-receptor blocking agents 7. Other 	<p>Module 5-D: Objective 5—Complete statements concerning classifications of premedications</p>
<p>C. Types of anesthesia</p> <ol style="list-style-type: none"> 1. General 2. Balanced 3. Neuroleptic analgesia 4. Regional <ol style="list-style-type: none"> a. Spinal/caudal b. Epidural c. Nerve block d. Bier block 5. Local <ol style="list-style-type: none"> a. Injection b. Topical 6. Positioning for administration <ol style="list-style-type: none"> a. General b. Regional c. Local d. Other 7. Anesthesia delivery <ol style="list-style-type: none"> a. Delivery devices <ol style="list-style-type: none"> (1) Mask (2) Laryngeal mask airway (3) Endotracheal intubation b. Assistive devices <ol style="list-style-type: none"> (1) Laryngoscope <ol style="list-style-type: none"> (a) Rigid (b) Flexible (2) McGill forceps (3) Stylet (4) Oral airway (5) Nasal airway (6) Nerve stimulator c. Other techniques <ol style="list-style-type: none"> (1) Cryoanesthesia (2) Hypnoanesthesia (3) Acupuncture (4) Other 	<p>Module 5-D: Objective 8—Distinguish among types of anesthetics (covers items 1–5 in the left column)</p> <p>Module 5-D: Objective 13—Match types of local or regional anesthetics with their correct descriptions (covers items 4 and 5 in the left column)</p> <p>Module 5-D: Objective 13—Match types of local or regional anesthetics with their correct descriptions</p> <p>Module 5-D: Objective 15—Match other anesthetic techniques occasionally used with their correct descriptions</p>
<p>D. Methods of administration</p> <ol style="list-style-type: none"> 1. Intravenous 2. Inhalation 3. Intramuscular 4. Intrathecal 5. Epidural 6. Infiltration 7. Topical 8. Other 	<p>Module 5-D: Objective 9—Distinguish between methods of administering a general anesthetic</p>

E. Anesthetic medications

1. Inhalation agents
 - a. O₂
 - b. N₂O
 - c. Fluothane
 - d. Enthane
 - e. Isoflurane
 - f. Sevoflurane
 - g. Desflurane
2. Intravenous anesthetics
 - a. Induction barbiturates
 - b. Thiopental sodium
 - c. Methohexital sodium
 - d. Propofol
 - e. Etomidate
3. Opiates and synthetics
 - a. Meperidine
 - b. Morphine
 - c. Fentanyl
 - d. Sufentanil
 - e. Alfentanil
 - f. Remifentanil
 - g. Other
4. Neuromuscular blocking agents
 - a. Depolarizing
 - (1) Succinylcholine
 - b. Non-depolarizing
 - (1) Atracurium
 - (2) Rocuronium
 - (3) Vecuronium
 - (4) Pancuronium
 - (5) Other
5. NMB reversal agents
 - a. Edrophonium
 - b. Neostigmine
6. Antimuscarinics/anticholinergics
 - a. Atropine
 - b. Robinul
7. Antiemetics
8. Sedative/tranquilizers
 - a. Diazepam
 - b. Midazolam

Module 5-D: Objective 10—List agents used for general anesthesia

Module 5-D: Objective 18—List supplemental agents used in conjunction with oxygen to accomplish complete anesthesia

Module 5-D: Objective 16—Complete statements concerning the characteristics of muscle relaxant drugs

Module 5-D: Objective 17—Distinguish between types of muscle relaxants

Module 5-D: Objective 5—Complete statements concerning classifications of premedications

Module 5-D: Objective 18—List supplemental agents used in conjunction with oxygen to accomplish complete anesthesia

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<p>E. Anesthetic medications (cont.)</p> <ul style="list-style-type: none"> 9. Reversal/antagonist agents <ul style="list-style-type: none"> a. Naloxone b. Flumazenil 10. Dissociative agents 11. Neuroleptic agents <ul style="list-style-type: none"> a. Droperidol 12. Local/topical agents <ul style="list-style-type: none"> a. Amides <ul style="list-style-type: none"> (1) Lidocaine (2) Bupivacaine (3) Mepivacaine b. Esters <ul style="list-style-type: none"> (1) Cocaine (2) Pontocaine/tetracaine (3) Cetacaine (4) Other 	<p>Module 5-D: Objective 19—List narcotic antagonists used intraoperatively</p> <p>Module 5-D: Objective 5—Complete statements concerning classifications of premedications</p> <p>Module 5-D: Objective 14—List agents used for local or regional anesthesia</p>
<p>F. Roles during administration</p> <ul style="list-style-type: none"> 1. Hospital policy 2. Assisting anesthesia personnel <ul style="list-style-type: none"> a. General anesthesia b. Spinal/epidural anesthesia c. Regional anesthesia d. Local anesthesia 3. Dispensing 4. Documenting 5. Monitoring 	<p>Module 5-D: Objective 21—Discuss circulator and scrub personnel roles during administration of anesthesia</p>
<p>G. Phases of general anesthesia</p> <ul style="list-style-type: none"> 1. Induction 2. Maintenance 3. Emergence 4. Recovery 	<p>Module 5-D: Objective 11—List the four phases of general anesthesia</p>
<p>H. Stages of general anesthesia</p> <ul style="list-style-type: none"> 1. Stage 1 2. Stage 2 3. Stage 3 4. Stage 4 	<p>Module 5-D: Objective 12—Match stages of general anesthesia with their correct descriptions</p>
<p>I. Adjuncts to anesthesia</p> <ul style="list-style-type: none"> 1. Hypothermia/hyperthermia unit 2. Fluid warming devices 3. Fluid pump 4. Infusion control devices 5. Double-cuffed pneumatic tourniquet 6. Other 	<p>Module 5-D: Objective 28—Match equipment used as adjuncts to anesthesia with their uses</p>
<p>J. Anesthesia equipment</p> <ul style="list-style-type: none"> 1. Anesthesia machine 2. Vaporizer 3. Ventilator 4. Rebreathing apparatus 5. Scavenging system 	<p>Module 5-D: Objective 27—Match OR anesthesia equipment used for delivering anesthetics and/or monitoring the patient with their correct descriptions</p>

<p>K. Monitoring devices and methods</p> <ol style="list-style-type: none"> 1. Electrocardiogram 2. Blood pressure devices 3. Bispectral index monitor (BIS) 4. Pulmonary artery catheter 5. Central venous pressure 6. Temperature monitors <ol style="list-style-type: none"> a. Probes b. Foley temperature catheters c. Skin temperature strip 7. Pulse oximeter 8. Controlled ventilation 9. System for anesthetic and respiratory analysis (SARA) 10. Stethoscopes and Doppler 11. Arterial blood gases 12. Other 	<p>Module 5-D: Objective 27—Match OR anesthesia equipment used for delivering anesthetics and/or monitoring the patient with their correct descriptions</p>
<p>L. Complications of anesthesia</p> <ol style="list-style-type: none"> 1. Allergic reaction 2. Aspiration 3. Sellick’s maneuver 4. Laryngospasm/bronchospasm 5. Malignant hyperthermia 6. Shock <ol style="list-style-type: none"> a. Hemorrhagic b. Cardiogenic 7. Cardiac dysrhythmias 8. Cardiac arrest 9. Other 	<p>Module 5-D: Objective 22—List possible complications of anesthesia (all items in left column are covered in this objective; some are also covered in separate objectives as noted below)</p> <p>Module 5-D: Objective 25—Complete statements concerning anaphylactic reactions</p> <p>Module 5-D: Objective 23—Select true statements concerning malignant hyperpyrexia—malignant hyperthermia syndrome</p> <p>Module 5-D: Objective 26—Distinguish among actions of the surgical team if cardiac arrest occurs on the operating room table</p>

COMPUTER SKILLS

<p>I. Computer hardware</p> <p>A. Basic computer components</p> <ol style="list-style-type: none"> 1. On/off 2. Drives <ol style="list-style-type: none"> a. C: drive (hard) b. A: drive (floppy) c. D: drive (CD-ROM) d. E: drive (Zip) 	<p>Module 1-E: Objective 2—Identify the basic components of a computer system (all items in left column are covered in this objective; some are also covered in separate objectives as noted below)</p> <p>Module 1-E: Assignment Sheet 1—Examine computer operating manual(s) for basic operating procedures; Job Sheet 1—Start/boot the computer</p> <p>Module 1-E: Objective 6—Match computer storage devices to their correct descriptions</p>
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<p>A. Basic computer components (cont.)</p> <ol style="list-style-type: none"> 3. Monitor 4. Keyboard 5. Mouse 6. Printer 7. Modem 8. Speakers 9. Scanner 	<p>Module 1-E: Objective 4—Complete statements concerning output devices</p> <p>Module 1-E: Objective 3—Match types of input devices to their correct uses</p> <p>Module 1-E: Objective 3—Match types of input devices to their correct uses; Student Supplement 1—Operating a mouse</p> <p>Module 1-E: Objective 4—Complete statements concerning output devices</p> <p>Module 1-E: Objective 14—Complete statements concerning the basics of using the Internet</p> <p>Module 1-E: Objective 4—Complete statements concerning output devices</p> <p>Module 1-E: Objective 3—Match types of input devices to their correct uses</p>
<p>II. Computer applications</p> <p>A. Word processing</p> <ol style="list-style-type: none"> 1. Desktop 2. Toolbars 3. Finding/opening files 4. Text manipulation <ol style="list-style-type: none"> a. Changing font style/size b. Changing case c. Cut/copy/paste d. Creating footnotes/endnotes e. Underlining/italicizing/bolding f. Numbering of text g. Spacing of text h. Hanging indents 5. Page numbering 6. Spell/grammar check 	<p>Module 1-E: Objective 9—List the characteristics of word-processing software; Assignment Sheet 2—Examine word-processing software manual for basic operations (all items in left column are covered in this objective; some are also covered in separate objectives as noted below and on next page)</p> <p>Module 1-E: Objective 8—Match terms related to the computer desktop to their correct descriptions</p> <p>Module 1-E: Job Sheet 2—Open and close a program; Job Sheet 3—Create a word-processed document; Job Sheet 4—Practice using the formatting toolbar</p> <p>Module 1-E: Objective 10—Match basic word-processing software text-tool operations to their correct functions; Objective 11—Match page-setup features to their correct descriptions; Objective 12—Identify the primary functions of the icons located on a word-processing toolbar; Objective 13—Match the primary functions on a word-processing toolbar to their icons; Job Sheet 4—Practice using the formatting toolbar</p> <p>Module 1-E: Job Sheet 4—Practice using the formatting toolbar</p> <p>Module 1-E: Job Sheet 3—Create a word-processed document</p>

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<p>A. Word processing (cont.)</p> <p>7. Saving files</p> <p>8. Scrolling</p> <p>9. Printing documents</p> <p>10. Closing files/applications</p>	<p>Module 1-E: Job Sheet 3—Create a word-processed document; Job Sheet 4—Practice using the formatting toolbar</p> <p>Module 1-E: Job Sheet 4—Practice using the formatting toolbar</p> <p>Module 1-E: Job Sheet 3—Create a word-processed document; Job Sheet 4—Practice using the formatting toolbar</p> <p>Module 1-E: Job Sheet 2—Open and close a program; Job Sheet 3—Create a word-processed document; Job Sheet 4—Practice using the formatting toolbar</p>
<p>B. Graphics</p> <p>1. Saving</p> <p>2. Importing</p> <p>3. Manipulation</p>	<p>Module 1-E: Job Sheet 5—Insert graphic and footnote/endnote in word-processed document</p>
<p>C. Internet</p> <p>1. E-mail</p> <p>2. Research</p> <p>3. Saving graphics</p> <p>4. Saving information</p>	<p>Module 1-E: Objective 14—Complete statements concerning the basics of using the Internet</p> <p>Module 1-E: Objective 15—Select true statements concerning e-mail; Job Sheet 7—Use e-mail</p> <p>Module 1-E: Job Sheet 6—Search the Internet</p>

ELECTRICITY

<p>I. Definition</p>	<p>Module 2-E: Objective 1—Define electricity</p>
<p>II. Terms</p> <p>A. Circuit</p> <p>B. Conductor</p> <p>C. Current</p> <p>D. Frequency</p> <p>E. Ground</p> <p>F. Insulator</p> <p>G. Isolated circuit</p> <p>H. Radio frequency</p>	<p>Module 2-E: Objective 16—Complete statements concerning facts about electrical shock</p> <p>Module 2-E: Objective 3—Select true statements concerning the principles of electron flow</p> <p>Module 2-E: Objective 7—Match terms related to electrical current with their correct descriptions</p> <p>Module 2-E: Objective 12—Match the wires contained in an electrical receptacle with their correct descriptions</p> <p>Module 2-E: Objective 3—Select true statements concerning the principles of electron flow</p> <p>Module 2-E: Objective 16—Complete statements concerning facts about electrical shock</p> <p>Module 2-E: Objective 7—Match terms related to electrical current with their correct descriptions</p>

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<p>II. Terms (cont.)</p> <p>I. Receptacle</p> <p>J. Resistance</p> <p>K. Voltage</p>	<p>Module 2-E: Objective 12—Match the wires contained in an electrical receptacle with their correct descriptions</p> <p>Module 2-E: Objective 16—Complete statements concerning facts about electrical shock</p> <p>Module 2-E: Objective 8—Select true statements concerning measuring electricity</p>
<p>III. Basic principle of electrical flow</p>	<p>Module 2-E: Objective 3—Select true statements concerning the principles of electron flow</p>
<p>IV. Types of current</p> <p>A. Direct current</p> <p>B. Alternating current</p> <p>C. Cycle</p> <p>D. Frequencies</p>	<p>Module 2-E: Objective 7—Match terms related to electrical current with their correct descriptions</p>
<p>V. Electrical receptacles</p> <p>A. Hot wire</p> <p>B. Neutral wire</p> <p>C. Ground wire</p>	<p>Module 2-E: Objective 12—Match the wires contained in an electrical receptacle with their correct descriptions</p>

PHYSICS

<p>I. Physics</p> <p>A. Mechanics</p> <ol style="list-style-type: none"> Study of motion Projectile and satellite motion Newton's Law of Motion Newton's Law of Gravity Momentum Energy and work 	<p>Module 3-E: Objective 1—Distinguish among gravitational, magnetic, and electrical forces; Objective 2—Complete statements concerning pressure; Objective 3—Match Newton's three laws of motion to their correct descriptions; Objective 4—Explain why blood separates in a centrifuge; Objective 5—Select true statements concerning types of simple machines; Objective 6—Explain center of gravity and its effect on posture and occupational safety; Objective 7—Complete statements concerning the modes of motion; Student Supplement 1—Motion and the human body; Assignment Sheet 1—Apply motion and leverage to the workplace</p>
<p>B. Properties of matter</p> <ol style="list-style-type: none"> Atomic nature of matter Solids Liquids Gases and plasmas 	<p>Module 3-E: Objective 8—Select true statements concerning the composition of matter; Objective 9—Select true statements concerning matter's three changes of state; Student Supplement 2—Understanding matter and energy; Assignment Sheet 2—Evaluate states of matter</p>
<p>C. Heat</p> <ol style="list-style-type: none"> Temperature, heat and expansion Heat transfer Change of state 	<p>Module 3-E: Objective 10—Complete statements concerning heat transfer; Objective 11—Explain cryosurgery and its advantages; Assignment Sheet 2—Evaluate states of matter</p>

<p>D. Sound, vibrations and waves</p> <ol style="list-style-type: none"> 1. Simple harmonic motion 2. Vibrating strings 	<p>Module 3-E: Objective 12—Complete statements concerning waveforms; Objective 13—Describe how ultrasound scans work; Student Supplement 3—Waves; Student Supplement 4—Sound waves; Assignment Sheet 3—Apply electromagnetic waveforms to medicine; Job Sheet 2—Create waveform polarization</p>
<p>E. Electricity and magnetism</p> <ol style="list-style-type: none"> 1. Electrostatics 2. Electric current 3. Magnetism 4. Electromagnetic interactions 	<p>Module 3-E: Objective 17—Complete statements concerning magnetism characteristics; Objective 18—Distinguish between static and dynamic electricity; Objective 19—Complete statements concerning electricity and electric current; Objective 20—List the physical and biological effects of electric current that prove helpful in medicine; Student Supplement 6—Electricity and surgery; Assignment Sheet 3—Apply electromagnetic waveforms to medicine; Job Sheet 2—Create waveform polarization</p>
<p>F. Light</p> <ol style="list-style-type: none"> 1. Reflection and refraction 2. Color 3. Light waves 4. Light emission 	<p>Module 3-E: Objective 15—Complete statements concerning the dual nature of light; Objective 16—Match the electromagnetic spectrum types to their correct uses; Objective 21—Complete statements concerning fiber optics; Objective 22—Describe how optical fiber is used in endoscopic surgeries; Objective 23—Complete statements concerning the use of lasers in surgery; Objective 24—Match laser types to their correct descriptions; Student Supplement 5—Electromagnetic spectrum; Assignment Sheet 4—Research lasers</p>
<p>G. Modern physics</p> <ol style="list-style-type: none"> 1. Atomic and nuclear physics 2. Relativity 	<p>Module 3-E: Objective 25—Select true statements concerning the use of nuclear medicine in surgery; Objective 26—Complete statements concerning CT scans; Objective 27—Explain the importance of setting irradiation and measuring dosage; Objective 28—List methods for protecting against occupational irradiation; Assignment Sheet 5—Visit a hospital to view radiation from preparation to disposal; Assignment Sheet 6—Recognize the implications of using nuclear medicine</p>

ROBOTICS

<p>I. Robotics</p> <p>A. Basic concepts</p> <ol style="list-style-type: none"> 1. Terminology 2. Design 3. Robotic components and mechanisms 	<p>Module 4-E: Terminology is covered throughout this module.</p> <p>Module 4-E: Student Supplement 3—Robotic design</p> <p>Module 4-E: Objective 21—List the primary serial robotic components; Objective 22—Identify each of the components in a telesurgical interaction; Objective 23—Describe the functions of sensors and actuators; Objective 24—Match sensor types to their correct descriptions; Objective 25—Describe the function of the robotic components in the articulated mechanical system (AMS); continued on next page</p>
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<p>A. Basic concepts (cont.)</p> <p>3. Robotic components and mechanisms (cont.)</p> <p>4. Preparation/positioning of the robotic arm(s)</p> <p>5. Decontamination and sterilization of robotic components</p>	<p>Module 4-E: Objective 26—Match means of driving robotic arms to their correct descriptions; Objective 34—Identify components of robotic control; Objective 35—List the options available for the user interface control and for monitoring surgical process; Objective 36—List sensate options that should be available for an optimal haptics interface design; Student Supplement 4—System components; Student Supplement 6—Robotic control; Assignment Sheet 3—Identify robotic components</p> <p>Module 4-E: Objective 25—Describe the function of the robotic components in the articulated mechanical system (AMS); Objective 27—Describe the sequence of events leading to robotic manipulation; Objective 28—List the four basic types of movement; Objective 29—Define yaw, pitch, and roll; Objective 30—Match the degrees of freedom in the human arm to their correct motions; Objective 31—Complete statements comparing degrees of freedom in a rigid endoscope and a flexible endoscope; Objective 32—Complete statements concerning the degrees of freedom in the jointed medical robotic arm; Objective 33—Complete statements concerning the four possible robotic control modes; Objective 41—Arrange in order the four basic preparatory steps for MIS or robotic procedures; Objective 42—Arrange in order the steps to properly prepare and position robotic systems; Objective 43—Complete statements concerning issues that must be addressed for integrating robotics into OR; Student Supplement 5—Robotic motion; Assignment Sheet 4—Identify robotic motion; Job Sheet 1—Demonstrate degree of freedom in the human arm</p> <p>Module 4-E: Objective 42—Arrange in order the steps to properly prepare and position robotic systems; Student Supplement 7—Robotics in the operating suite</p>
<p>B. Clinical applications</p> <p>1. Robotics in minimally invasive surgery</p>	<p>All assignment sheets and the job sheet in this module cover clinical applications of robotics.</p> <p>Module 4-E: Objective 1—Complete statements concerning the trend towards minimally invasive surgery; Objective 2—List the four drawbacks of minimally invasive surgery; Objective 3—Complete statements concerning surgical categories more easily adapted to MIS techniques; Objective 4—List the fundamental impacts digital information has had on MIS technologies; Objective 5—List the conditions which make the use of a robot instead of a human attractive; Objective 6—Match the robotic characteristics that promote their use in surgical procedures to their correct descriptions; Objective 7—Arrange in order the steps for integrating robotics into surgical procedures; Objective 8—Describe the benefits of using robotics in MIS; Objective 17—List the primary issues in minimally invasive surgery; Student Supplement 1—Minimally invasive surgery</p>

Crosswalk to AST Core Curriculum

SURGICAL WOUND CLASSIFICATION

I. Wound classifications according to their degree of microbial contamination

- A. Class I: Clean
- B. Class II: Clean contaminated
- C. Class III: Contaminated
- D. Class IV: Dirty/infected

II. Examples of surgical procedures that fall into each category

Module 3-C: Objective 7—Match classes of surgical (operative) wounds with their correct descriptions; Assignment Sheet 1—Classify surgical and traumatic wounds

HEMOSTASIS

I. Principles

- A. Blood clotting mechanisms
- B. Blood components
- C. Monitoring blood loss

Module 5-D: Objective 30—Complete statements concerning hemostasis and blood replacement

II. Methods of hemostasis

A. Mechanical

- 1. Hemostatic instruments
- 2. Ligatures
- 3. Pressure
- 4. Bone wax
- 5. Clip
- 6. Tourniquet
- 7. Sponges
- 8. Pledgets

Module 5-D: Objective 30—Complete statements concerning hemostasis and blood replacement

B. Chemical

- 1. Absorbable gelatin
- 2. Collagen
- 3. Oxidized cellulose
- 4. Silver nitrate
- 5. Epinephrine
- 6. Thrombin

Module 4-D: Objective 11—Complete statements concerning the characteristics of hemostatic agents; Module 5-D: Objective 30—Complete statements concerning hemostasis and blood replacement

C. Thermal

- 1. Electrosurgical unit
- 2. Harmonic scalpel
- 3. Argon beam coagulator
- 4. Laser

Module 5-D: Objective 30—Complete statements concerning hemostasis and blood replacement; Module 3-E: Objective 22—Describe how optical fiber is used in endoscopic surgeries

III. Techniques

A. Hypothermia

Module 5-D: Objective 15—Match other anesthetic techniques occasionally used with their correct descriptions

B. Hypotension

Module 5-D: Objective 24—Complete statements concerning hemolytic reactions

WOUND HEALING

I. Wound Healing A. Historical background	
B. Definitions 1. Adhesions 2. Dehiscence 3. Dead space 4. Debridement 5. Granuloma 6. Collagen 7. Evisceration 8. Hemostasis 9. Scar 10. Necrosis 11. Trauma 12. Hematoma 13. Keloid 14. Edema 15. Seroma 16. Exudates 17. Granulation tissue	Module 3-C: Objective 3—Distinguish among types of wound healing Module 3-C: Objective 9—Describe factors that present possible complications to the wound-healing process; Objective 10—Complete statements concerning the effects of operative technique on wound healing Module 3-C: Objective 10—Complete statements concerning the effects of operative technique on wound healing Module 3-C: Objective 3—Distinguish among types of wound healing Module 3-C: Objective 4—Complete statements concerning the phases of first intention wound healing Module 3-C: Objective 11—Complete statements concerning the effects of operative technique on wound healing Module 3-C: Objective 10—Complete statements concerning the effects of operative technique on wound healing Module 3-C: Objective 3—Distinguish among types of wound healing Module 3-C: Objective 10—Complete statements concerning the effects of operative technique on wound healing Module 3-C: Objective 3—Distinguish among types of wound healing Module 3-C: Objective 9—Describe factors that present possible complications to the wound-healing process Module 3-C: Objective 3—Distinguish among types of wound healing Module 3-C: Objective 8—Select factors affecting the wound healing process Module 3-C: Objective 4—Complete statements concerning the phases of first intention wound healing Module 3-C: Objective 3—Distinguish among types of wound healing

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<p>B. Definitions (cont.)</p> <ul style="list-style-type: none"> 18. Contracture 19. Gangrene 20. Serosanguinous 	<p>Module 3-C: Objective 12—Complete statements concerning characteristics of wound disruption</p>
<p>C. Structure and function of the skin</p>	
<p>D. Types of wounds</p> <ul style="list-style-type: none"> 1. Intentional <ul style="list-style-type: none"> a. Surgical site incision/excision b. Chemical wounds c. Occlusion banding 2. Unintentional wounds <ul style="list-style-type: none"> a. Traumatic injuries b. Closed wounds c. Open wounds d. Simple wounds e. Clean wounds f. Complicated wounds g. Delayed full-thickness injury h. Contaminated wounds 3. Incidental and chronic wounds <ul style="list-style-type: none"> a. Pressure sores b. Ulcers 	<p>Module 3-C: Objective 2—Distinguish among the basic types of wounds; Assignment Sheet 1—Classify surgical and traumatic wounds</p> <p>Module 3-C: Objective 2—Distinguish among the basic types of wounds</p> <p>Module 3-C: Objective 5—Match classes of traumatic wounds to their correct descriptions; Objective 6—Identify types of traumatic wounds; Assignment Sheet 1—Classify surgical and traumatic wounds; Assignment Sheet 2—Determine types of traumatic wounds</p> <p>Module 3-C: Objective 2—Distinguish among the basic types of wounds</p>
<p>E. Mechanism of wound healing</p> <ul style="list-style-type: none"> 1. First intention/primary union 2. Second intention/granulation 3. Third intention/delayed primary closure 	<p>Module 3-C: Objective 3—Distinguish among types of wound healing</p>
<p>F. Inflammatory process</p> <ul style="list-style-type: none"> 1. Pain 2. Heat 3. Swelling 4. Redness 	<p>Module 2-C: Objective 15—List the symptoms of acute inflammatory response</p>
<p>G. Healing process</p> <ul style="list-style-type: none"> 1. Fibrinogen 2. Fibroblasts 3. Collagen 4. Network of fibers 5. Scar tissue 	<p>Module 3-C: Objective 4—Complete statements concerning the phases of first intention wound healing</p>
<p>H. Stages of wound healing</p> <ul style="list-style-type: none"> 1. Lag phase/inflammatory response phase 2. Proliferation phase 3. Maturation or differentiation phase 	<p>Module 3-C: Objective 4—Complete statements concerning the phases of first intention wound healing</p>

<p>I. Factors influencing healing</p> <ol style="list-style-type: none"> 1. Physical condition <ol style="list-style-type: none"> a. General health <ol style="list-style-type: none"> (1) Smoking (2) Circulatory status (3) Age (4) Nutritional status (5) Obesity (6) Inflammatory and immune responses b. Related disease processes <ol style="list-style-type: none"> (1) Hematology (2) Fluid and electrolyte balance (3) Immunosuppression (4) Drug therapy (5) Radiation (6) Acute/chronic disease process (7) Co-morbidity 2. Surgical technique <ol style="list-style-type: none"> a. Sterile technique b. Tissue handling c. Methods of hemostasis d. Wound security e. Tissue approximation 	<p>Module 3-C: Objective 8—Select factors affecting the wound healing process; Assignment Sheet 3—Distinguish between positive and negative effects on wound healing</p> <p>Module 3-C: Objective 10—Complete statements concerning the effects of operative technique on wound healing</p>
<p>J. Complications</p> <ol style="list-style-type: none"> 1. Hematoma/seroma 2. Infection 3. Wound disruption <ol style="list-style-type: none"> a. Dehiscence b. Herniation c. Evisceration 4. Hemorrhage 5. Sinus tract formation 6. Fistula 7. Scar/surgical cicatrix/keloid 8. Adhesion 9. Suture complications 	<p>Module 3-C: Objective 9—Describe factors that present possible complications to the wound-healing process</p>

INFORMATION MANAGEMENT

<p>I. Information sources</p> <ol style="list-style-type: none"> A. Library resource center B. World Wide Web C. Databases D. Periodicals E. Books F. CD-ROMs G. Videos H. DVDs I. Manufacturer/industry educational resources 	<p>Module 1-A: Assignment Sheet 3—Research professional health care associations and their magazines/journals</p>
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ETHICAL AND MORAL ISSUES	
<p>I. AHA Patient’s Bill of Rights</p> <p>A. Tenets</p> <ol style="list-style-type: none"> 1. The patient is a consumer 2. Hospital services are purchased to meet health needs 	<p>Module 3-A: Objective 12—Select true statements concerning the Patient’s Bill of Rights; Student Supplement 2—The Patient’s Bill of Rights</p>
<p>B. Bill of Rights</p> <ol style="list-style-type: none"> 1. Receive considerate and respectful care 2. Obtain from physician complete information concerning diagnosis, treatment, and prognosis in easily understood terms 3. Receive from physician information necessary to give informed consent prior to procedure or treatment, including risks, length of incapacitation, and medical alternatives available 4. Refuse treatment as allowed by law and be informed of the medical consequences of his/her action 5. Receive every consideration of privacy concerning his/her medical program 6. Expect that all communications and records are treated as confidential 7. Expect that the hospital make a reasonable response to his/her request for services or to be transferred to another medical facility after being informed of the need for the transfer 8. Obtain any information of the relationship of his/her hospital to other institutions insofar as his/her care is concerned 9. Be advised if the hospital proposes to engage in or perform human experimentation affecting his/her care or treatment, having the right to refuse to participate in such research projects 10. Expect reasonable continuity of care, know availability of appointment times and physicians, and be informed by the physician or his/her delegate of continuing health care requirements following discharge 11. Examine and receive an explanation of his/her bill regardless of source of payment 12. Know what hospital rules and regulations apply to his/her conduct 	

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<p>II. Elements of ethical decision making</p> <ul style="list-style-type: none"> A. Personal values B. Ethical principles C. Accountability D. Responsibility E. Religious and cultural beliefs F. Morality G. Moral dilemmas H. Corporate integrity I. Ethical decision-making (problem-solving) 	<p>Module 3-A: Objective 8—List ways of making ethical decisions as a surgical technologist</p>
<p>III. Surgical conscience</p> <p>A. Concepts</p> <ul style="list-style-type: none"> 1. Professional honesty 2. Personal moral integrity 3. Confidentiality 4. Nondiscriminatory treatment of all patients 5. Commitment to cost containment 6. Principles of asepsis/sterile technique 	<p>Module 3-A: Objective 6—Discuss surgical conscience</p>
<p>B. Barriers</p> <ul style="list-style-type: none"> 1. Stress 2. Peer apathy 3. Other 	<p>Module 1-A: Student Supplement 1—Student lifestyle considerations; Module 2-A: Objective 4—List causes of stress in the operating room, the impact of stress on the body, and methods of coping with stress; Objective 5—Select true statements concerning psychosocial stress in the patient and within the surgical team</p>
<p>IV. Ethical conflicts in clinical practice</p> <ul style="list-style-type: none"> A. Patient’s Bill of Rights B. Right-to-die <ul style="list-style-type: none"> 1. Assisted suicide 2. End-of-life decisions C. Organ donation and transplantation D. HIV/AIDS E. Genetic engineering F. Human experimentation G. Abortion and reproductive technology H. Good Samaritan Law I. Gender reassignment J. Refusal of treatment 	<p>Module 3-A: Assignment Sheet 1—Evaluate legal cases involving surgery; Assignment Sheet 2—Evaluate ethical issues involving medicine</p>

LEGAL ISSUES

<p>I. Legal terminology</p> <p>A. Law</p> <ul style="list-style-type: none"> 1. Statutory 2. Common 	<p>Module 3-A: Objective 2—Match common areas of legal responsibility in surgery affecting the surgical technologist to their correct definitions</p>
<p>B. Liability</p> <ul style="list-style-type: none"> 1. Corporate 2. Personal 	<p>Module 3-A: Objective 2—Match common areas of legal responsibility in surgery affecting the surgical technologist to their correct definitions</p>

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<p>C. Torts</p> <ol style="list-style-type: none"> 1. Define 2. Intentional <ol style="list-style-type: none"> a. Civil assault b. Civil battery c. False imprisonment d. Defamation e. Invasion of privacy 3. Unintentional <ol style="list-style-type: none"> a. Negligence <ol style="list-style-type: none"> (1) Standard/duty of care (2) Dereliction/failure to meet the standard of care (3) Foreseeability of harm existed (4) Omission or commission of an act (5) Actual damages occurred 	<p>Module 3-A: Objective 2—Match common areas of legal responsibility in surgery affecting the surgical technologist to their correct definitions</p> <p>Module 3-A: Objective 4—Define criteria used to establish negligence in court cases involving the surgical team</p>
<p>D. Malpractice</p> <ol style="list-style-type: none"> 1. Deposition 2. Plaintiff 3. Defendant 4. Subpoena 5. Jury 6. Perjury 7. Trial 	<p>Module 3-A: Objective 1—Discuss accountability for personal actions and obligations</p>
<p>II. Legal doctrines</p> <ol style="list-style-type: none"> A. Doctrine of Personal Liability B. Doctrine of Respondeat Superior C. Doctrine of Borrowed Servant D. Doctrine of Res Ipsa Loquitur E. Doctrine of Foreseeability F. Informed Consent <ol style="list-style-type: none"> 1. “Patient’s right to know” 2. Preparation of informed consents 3. Verification of informed consents 4. Legality of informed consents G. Traditional principles <ol style="list-style-type: none"> 1. Aeger Primo 2. Primum Non Nocere 	<p>Module 3-A: Objective 2—Match common areas of legal responsibility in surgery affecting the surgical technologist to their correct definitions</p>
<p>III. Legal risks and responsibilities on the job</p> <ol style="list-style-type: none"> A. Hospital policies B. Legal risks related to reduced staffing C. Witnessing and signing documents D. Legal responsibility for patient safety E. Legal risks related to medications F. Documentation G. Event/incident reports H. Employee rights <ol style="list-style-type: none"> I. Risk management J. Advance directives 	<p>Module 3-A: Objective 1—Discuss accountability for personal actions and obligations; Objective 3—List operating room incidents that could result in litigation</p>

<p>IV. Professional standards of conduct</p> <ul style="list-style-type: none"> A. Federal law B. Federal agencies C. State law and regulations D. Hospital policy E. Legal precedent F. Professional agencies G. AST Code of Ethics H. AST Recommended Standards of Practice <ul style="list-style-type: none"> I. Core curriculums for surgical technology and surgical assisting J. Private agencies 	<p>Module 3-A: Objective 10—List items in the surgical technologist’s code of ethics; Objective 11—Complete statements concerning standards of professional practice; Student Supplement 1—The Association of Surgical Technologists (AST) and accrediting agencies for surgical technology</p>
<p>V. Credentialing</p> <ul style="list-style-type: none"> A. Registration B. Certification C. Licensure D. Accreditation 	<p>Module 3-A: Objective 5—Match terms related to credentialing to their correct definitions</p>
<p>VI. Operating room incidents/sentinel events</p> <ul style="list-style-type: none"> A. Harm secondary to use of defective equipment/instruments B. Exceeding authority or accepted functions; violation of hospital policy C. Loss or damage to patient’s property D. Abandonment of a patient E. Patient misidentification F. Lack of informed consent G. Documentation errors H. Harm secondary to major break in sterile technique <ul style="list-style-type: none"> I. Improper identification or loss of specimen J. Burns secondary to improper use of electrosurgical device K. Incorrect drugs or incorrect administration L. Injury related to incorrect positioning or padding M. Falls resulting in patient injury N. Retained foreign bodies secondary to incorrect instrument/sponge counts O. Incorrect procedure performed P. Failure to observe critical events and take appropriate action Q. Invasion of privacy R. Assault and battery S. Defamation T. Breach of confidentiality 	<p>Module 3-A: Objective 3—List operating room incidents that could result in litigation</p>

Crosswalk to AST Core Curriculum

PROFESSIONAL CREDENTIALING	
<p>I. Credentialing</p> <p>A. Functions</p> <ol style="list-style-type: none"> 1. Establishes professional and national performance standards 2. Provides accountability 3. Recognition of the profession 4. Mode of occupational regulation 5. Establishes initial and continuing competence 6. Protects and promotes the public's health 	<p>Module 3-A: Objective 5—Match terms related to credentialing to their correct definitions</p>
<p>II. Certification</p> <p>A. Qualifiers</p> <ol style="list-style-type: none"> 1. Voluntary 2. Benefits and limitations <ol style="list-style-type: none"> a. Strengthens profession b. Assures standards of competency and practice c. Links candidacy for certification to graduation from accredited program d. Should be required as a condition of employment 	<p>Module 3-A: Objective 5—Match terms related to credentialing to their correct definitions</p>
<p>III. Registration</p> <p>A. Required by a state agency</p> <p>B. Mandatory—enforcement by state agency</p> <p>C. May be enforced with or without requiring minimum standards or testing</p> <p>D. Benefits and limitations</p> <ol style="list-style-type: none"> 1. Restricts unqualified practitioners 2. Limits scope of practice 3. Establishes minimum standards 	<p>Module 3-A: Objective 5—Match terms related to credentialing to their correct definitions</p>
<p>IV. Licensure</p> <p>A. Most restrictive form of occupational regulation</p> <p>B. Controlled by the state government</p> <p>C. Requires standards of practice, education, minimum competency, and inspection/enforcement</p> <p>D. Benefits and limitations</p> <ol style="list-style-type: none"> 1. Standards of practice 2. Education requirements 3. Minimum competency 4. Civil/criminal penalties 	<p>Module 3-A: Objective 5—Match terms related to credentialing to their correct definitions</p>
<p>V. Continuing education</p> <p>A. Purpose</p> <ol style="list-style-type: none"> 1. Maintain currency 2. Expand knowledge base 3. Learn about technology advancements 	<p>Module 1-A: Teacher Supplement 2—Becoming a Certified Surgical Technologist (CST)</p>

<p>V. Continuing education (cont.) B. Types</p> <ol style="list-style-type: none"> 1. Hospital in-service 2. National conference/specialty forums 3. State and local workshops 4. Academic courses 5. Journals/home study 6. Industry specific 	<p>Module 1-A: Teacher Supplement 2—Becoming a Certified Surgical Technologist (CST)</p>
<p>PROFESSIONAL ORGANIZATIONS</p>	
<p>I. Professional organizations and credentialing</p> <p>A. Commission on Accreditation of Allied Health Education Programs (CAAHEP)</p> <p>B. Accreditation Review committee on Education in Surgical Technology</p> <p>C. Association of Surgical Technologists (AST)</p> <ol style="list-style-type: none"> 1. Historical background 2. Goals 3. Purpose 4. Membership composition 5. Committees 6. Meetings 7. Annual national conference 8. Workshops and forums 9. Professional liability insurance <p>D. Credentialing organization</p>	<p>Module 3-A: Student Supplement 1—The Association of Surgical Technologists (AST) and accrediting agencies for surgical technology</p>
<p>E. Related professional organizations</p> <ol style="list-style-type: none"> 1. Joint Commission on Accreditation of Healthcare Organizations (JCAHO) 2. American College of Surgeons (ACS) 3. Association of periOperative Registered Nurses (AORN) 4. Association for the Advancement of Medical Instrumentation (AAMI) 5. National Institute of Occupational Safety and Health (NIOSH) 6. Occupational Safety and Health Administration (OSHA) 7. American National Standards Institute (ANSI) 8. American Hospital Association (AHA) 9. American Medical Association (AMA) 10. Center for Disease Control (CDC) 11. Food and Drug Administration (FDA) 12. National Fire Protection Association (NFPA) 13. World Health Organization (WHO) 	<p>Module 1-A: Assignment Sheet 4—Research organizations that provide health care support</p>

Crosswalk to AST Core Curriculum

<p>II. Healthcare agencies</p> <p>A. Health insurance</p> <ol style="list-style-type: none"> 1. Medicare 2. Medicaid 3. Private 4. Health maintenance organizations (HMOs) 5. Preferred provider organizations (PPOs) <p>B. Prospective payment systems</p> <ol style="list-style-type: none"> 1. Diagnosis-related groups (DRGs) 2. Other methods 3. Impact <p>C. Governmental organizations</p> <ol style="list-style-type: none"> 1. HCFA 2. OSHA 3. CDC 4. Other <p>D. Private volunteer agencies</p>	<p>Module 1-A: Teacher Supplement 1—Health care organizations and funding</p>
<p>III. Professionalism</p> <ol style="list-style-type: none"> A. Membership in the Association of Surgical Technologists (AST) B. Certification C. Continuing education D. Community service E. Role model F. Ethical behavior 	<p>Module 1-A: Teacher Supplement 2—Becoming a Certified Surgical Technologist (CST)</p>
<p>LEADERSHIP</p>	
<p>I. Communication</p> <p>A. Body language</p>	<p>Module 2-A: Student Supplement 2—Body language</p>
<p>B. Barriers to effective communication</p> <ol style="list-style-type: none"> 1. Prejudice 2. Emotion 3. Lack of knowledge 4. Personality 5. Perception 	<p>Module 2-A: Objective 15—Match blocks to therapeutic communication to their correct examples.</p>
<p>C. Basic communication skills</p> <ol style="list-style-type: none"> 1. Parts of communication <ol style="list-style-type: none"> a. Sending the message b. Listening c. Interpreting 2. Types of communication <ol style="list-style-type: none"> a. Verbal <ol style="list-style-type: none"> (1) Concepts (2) Components b. Nonverbal <ol style="list-style-type: none"> (1) Concepts (2) Components 	<p>Module 2-A: Objective 9—List essential components of effective communication</p> <p>Module 2-A: Objective 7—Match means of communication to their correct descriptions; Student Supplement 2—Body language</p>

<p>C. Basic communication skills (cont.)</p> <ul style="list-style-type: none"> 3. Effective communication techniques 4. Ineffective communication techniques 5. Block to effective communication 	<p>Module 2-A: Objective 10—List effective listening skills utilizing components of communication; Objective 11—Describe effective speaking skills; Assignment Sheet 3—Apply effective communication skills in given situations</p> <p>Module 2-A: Assignment Sheet 3—Apply effective communication skills in given situations</p> <p>Module 2-A: Objective 15—Match blocks to therapeutic communication to their correct examples</p>
<p>II. Leadership</p> <ul style="list-style-type: none"> A. Leadership skills B. Types <ul style="list-style-type: none"> 1. Formal leaders <ul style="list-style-type: none"> a. Team leaders b. Supervisors 2. Informal leaders C. Leadership styles <ul style="list-style-type: none"> 1. Autocratic 2. Bureaucratic 3. Democratic 4. Laissez-faire 5. Transformational D. Motivation <ul style="list-style-type: none"> 1. Principles 2. Theories <ul style="list-style-type: none"> a. Maslow’s Hierarchy of Needs Theory E. Precepting and training <ul style="list-style-type: none"> 1. Principles 2. Problem resolution 	<p>Module 2-A: Objective 3—Arrange in order Maslow’s hierarchy of human needs</p>

AFFECTIVE BEHAVIORS

<p>I. Professional behaviors</p> <ul style="list-style-type: none"> A. Surgical conscience B. Autonomy C. Critical thinking D. Prioritization E. Discrimination F. Motivation G. Commitment H. Flexibility I. Adaptability J. Self-direction K. Internalization L. Work ethic M. Anticipation 	<p>Module 1-A: Student Supplement 2—Desirable traits and special demands of the surgical technologist</p>
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Crosswalk to AST Core Curriculum

EMPLOYABILITY SKILLS	
<p>I. Employment in the healthcare field</p> <ul style="list-style-type: none"> A. Career information B. Current employment trends and opportunities C. Employment facilities and institutions D. Transition from student to employee 	<p>Module 1-A: Student Supplement 4—How to get a job and keep it</p>
<p>II. Employability qualities</p> <ul style="list-style-type: none"> A. Strong work ethic B. Ambition C. Communication skills (verbal and written) D. Motivation/initiative E. Honesty/integrity F. Dedication G. Flexibility/adaptability H. Conflict resolution <ul style="list-style-type: none"> I. Attendance and punctuality J. Personal appearance K. Commitment L. Dependability M. Competencies/skills N. Interpersonal skills O. Conscientiousness P. Understanding of policies/procedures Q. Team mentality R. Accountability S. Willingness to serve on committees T. Commitment to continuing education U. Spirit of cooperation V. Moral and legal obligations 	<p>Module 1-A: Student Supplement 4—How to get a job and keep it</p>
<p>III. Résumé preparation</p> <p>A. Elements</p> <ul style="list-style-type: none"> 1. Purpose 2. Presentation style 3. List qualifications 4. Organized and neat 5. Correct spelling, grammar, etc. 6. Typed 7. Length 8. Electronic versus paper <p>B. Content</p> <ul style="list-style-type: none"> 1. Identification (name/address) 2. Career objective 3. Education 4. Work experience 5. Outside activities and interests 6. Achievements/honors 7. References available 	<p>Module 1-A: Student Supplement 4—How to get a job and keep it</p>

<p>IV. Application correspondence</p> <p>A. Cover letter</p> <ol style="list-style-type: none"> 1. Position desired 2. Education and experience summary 3. Suggested contact and availability <p>B. Professional reference letter</p> <ol style="list-style-type: none"> 1. Permission 2. Factual information <p>C. Thank you letter/appreciation</p> <ol style="list-style-type: none"> 1. Expresses appreciation for the interview 2. Reemphasizes strongest qualifications 3. Reiterates interest in the position <p>D. Acceptance letter</p> <ol style="list-style-type: none"> 1. Acceptance of the position 2. Confirms starting date and time <p>E. Letter of refusal</p> <ol style="list-style-type: none"> 1. Refuse a position 2. Thanks individuals involved in interview process 	<p>Module 1-A: Student Supplement 4—How to get a job and keep it</p>
<p>V. Employment application form</p> <ol style="list-style-type: none"> A. Read employment application form first B. Neat C. Accurate D. Follow instructions E. Dates of education and work experience F. Reference information available 	<p>Module 1-A: Student Supplement 4—How to get a job and keep it</p>
<p>VI. Interview strategies</p> <ol style="list-style-type: none"> A. Prepare prior to interview <ol style="list-style-type: none"> 1. Consult career books 2. Seek out experts 3. Gather information about the position and organization 4. Prepare questions 5. Rehearse B. Appropriate attire C. Be punctual D. Be prepared E. Introduce yourself F. Demonstrate confidence G. Project a positive image H. Make only positive or neutral comments I. Close the interview on a positive note J. Thank individuals involved in interview process 	<p>Module 1-A: Student Supplement 4—How to get a job and keep it</p>
<p>VII. Resignation</p> <ol style="list-style-type: none"> A. Notice <ol style="list-style-type: none"> 1. Written 2. Verbal B. Exit interview 	

Crosswalk to AST Core Curriculum

RISK MANAGEMENT AND LIABILITY	
<p>I. Risk management objectives</p> <ul style="list-style-type: none"> A. Minimize risks to patients and hospital employees B. Avoid or control financial loss C. Identify actual or potential causes of patient and employee accidents D. Implement programs, policies, and procedures to eliminate or reduce occurrences E. Efforts of hospital to collect and utilize data to decrease harm to patients and staff or damage to property 	
<p>II. Errors in the operating room</p> <ul style="list-style-type: none"> A. Physician error B. Failure of equipment or medical device (Safe Medical Devices Act) C. Errors made by surgical team members 	
<p>III. Administrative practice</p> <ul style="list-style-type: none"> A. Written policies and procedures B. Regulations, laws, recommendations enforced C. Monitoring devices used in hazardous areas as recommended by regulatory agencies D. Employee health services E. Protective attire and safety equipment (standard precautions) 	<p>Module 2-B: Objective 26—Complete statements concerning Standard Precautions</p>
<p>IV. Prevention practices</p> <ul style="list-style-type: none"> A. Routine preventative maintenance for all equipment B. Professional development/continuing education programs for employees C. Employees must wear personal protective equipment, as appropriate (standard precautions) D. Employees must know the location and use of emergency equipment E. Employees must follow hospital policies and procedures F. Continuity of patient care and safety 	<p>Module 1-B: Objective 24—Select true statements concerning basic equipment safety; Assignment Sheet 6—Apply safety principles to the school and workplace</p>
<p>V. Interventions</p> <ul style="list-style-type: none"> A. Unsafe conditions reported immediately B. Faulty or malfunctioning equipment or device should be removed from service immediately C. Any patient or employee injury should be reported and medical attention sought as soon as possible D. Proper documentation of incident 	<p>Module 1-B: Objective 3—List general steps/guidelines for reporting defective equipment; Assignment Sheet 6—Apply safety principles to the school and workplace; Module 2-B: Teacher Supplement 4—Emergency management</p>

Introduction to Surgical Technology

<p>VI. Documentation</p> <ul style="list-style-type: none"> A. Incident Report/Sentinel Event Report B. Occupational risks communicated to employees C. Witnesses D. Document facts not opinions 	<p>Module 1-B: Assignment Sheet 2—Complete an accident report form; Module 2-B: Teacher Supplement 1—OSHA workplace violence checklist; Teacher Supplement 2—Sample OSHA violence incident report form</p>
<p>VII. Insurance</p> <ul style="list-style-type: none"> A. Hospital insurance coverage (liability) B. Malpractice insurance (professional liability) C. Amount of coverage/cost of coverage D. Extent of insurance coverage provision 	<p>Module 1-A: Teacher Supplement 1—Health care organizations and funding</p>

HOSPITAL ORGANIZATION AND MANAGEMENT

<p>I. Team members</p> <ul style="list-style-type: none"> A. Surgical Technologist B. Registered Nurse C. Surgeon <ul style="list-style-type: none"> 1. Medical Doctor (MD) 2. Doctor of Osteopathy (DO) 3. Doctor of Dental Science/Doctor of Dental Medicine (DDS/DMD) 4. Podiatrist (DPM) D. Assistants <ul style="list-style-type: none"> 1. Residents/interns/medical students 2. Surgical Assistant (SA) 3. Surgical Technologist (ST) 4. Registered Nurse First Assistant (RNFA) 5. Physician Assistant (PA) E. Anesthesia provider <ul style="list-style-type: none"> 1. Anesthesiologist (MD/DO) 2. Nurse Anesthetist (CRNA) F. Support personnel <ul style="list-style-type: none"> 1. Anesthesia Technologist 2. Aides/orderly 3. Secretary 4. Equipment technicians <ul style="list-style-type: none"> a. X-ray/fluoroscopy b. EEG 	<p>Module 1-A: Objective 8—List the members of the surgical team; Objective 10—Match surgical team members to their functions; Assignment Sheet 2—Distinguish among duties of the surgical team members</p>
<p>II. Roles in the operating room</p> <ul style="list-style-type: none"> A. Surgical technologist in the scrub role B. Circulator C. Surgeon D. Assistant E. Anesthesia provider F. Support personnel 	<p>Module 1-A: Objective 8—List the members of the surgical team; Objective 9—Distinguish between sterile and unsterile surgical team members; Objective 10—Match surgical team members to their functions; Assignment Sheet 2—Distinguish among duties of the surgical team members</p>
<p>III. Chain of command</p> <ul style="list-style-type: none"> A. Area/shift manager B. Department manager C. Perioperative services director D. Vice president E. President/CEO F. Board of Directors/trustees 	<p>Module 1-A: Objective 5—Describe a typical hospital organizational chart; Objective 6—Describe a typical hospital organizational structure for surgical services</p>

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<p>IV. Related hospital departments</p> <p>A. Direct patient care</p> <ol style="list-style-type: none"> 1. Nursing care units 2. Diagnostic imaging 3. Blood bank 4. Pathology 5. Clinical laboratories 6. Pharmacy 	<p>Module 1-A: Objective 7—List hospital departments on which the surgical suite depends to give continuity of patient care</p>
<p>B. Indirect patient care</p> <ol style="list-style-type: none"> 1. Housekeeping 2. Maintenance 3. Central supply 4. Food and nutritional services 5. Biomedical engineering 	<p>Module 1-A: Objective 7—List hospital departments on which the surgical suite depends to give continuity of patient care</p>
<p>SCOPE OF PRACTICE</p>	
<p>I. Description of the profession</p> <p>A. Definition</p>	<p>Module 1-A: Objective 13—Define and state the purpose of a job description for a surgical technologist</p>
<p>B. Components of the job description</p> <ol style="list-style-type: none"> 1. Job title 2. Entry criteria 3. Nature of the position <ol style="list-style-type: none"> a. Able to stand, bend, stoop, and/or sit for long periods of time in one location with minimum/no breaks b. Able to lift a minimum of 20 pounds c. Able to refrain from nourishment or restroom breaks for periods up to 6 hours d. Demonstrate sufficient visual ability enough to load a fine (10–0) suture onto needles and needleholders with/without corrective lenses and while wearing safety glasses e. Demonstrate sufficient peripheral vision to anticipate and function while in the sterile surgical environment f. Hear and understand muffled communication without visualization of the communicator’s mouth/lips and within 20 feet g. Hear activation/warning signals on equipment h. Able to detect odors sufficient to maintain environmental safety and patient needs i. Manipulate instruments, supplies and equipment with speed, dexterity, and good eye-hand coordination j. Ambulate/move around without assistive devices k. Able to assist with and/or lift, move, position, and manipulate the patient who is unconscious with or without assistive devices 	<p>Module 1-A: Student Supplement 2—Desirable traits and special demands of the surgical technologist</p>

<p>B. Components of the job description (cont.)</p> <ul style="list-style-type: none"> i. Communicate & understand fluent English both verbally and in writing m. To be free of reportable communicable diseases & chemical abuse n. Able to demonstrate immunity (natural or artificial) to Rubella, Rubeola, Tuberculosis, and Hepatitis B, or be vaccinated against these diseases, or willing to sign a waiver of release of liability regarding these diseases o. Possess short- & long-term memory sufficient to perform tasks such as, but not limited to, mentally tracking surgical supplies and performing anticipation skills intraoperatively p. Able to make appropriate judgment decisions q. Demonstrate the use of positive coping skills under stress r. Demonstrate calm and effective responses, especially in emergency situations s. Exhibit positive interpersonal skills during patient, staff, and faculty interactions <ul style="list-style-type: none"> 4. Duties 5. Accountability 6. Supervision 	<p>Module 1-A: Student Supplement 2—Desirable traits and special demands of the surgical technologist</p>
<p>II. Roles and competencies</p> <ul style="list-style-type: none"> A. Career development B. Requirements <ul style="list-style-type: none"> 1. Responsibilities of the surgical technologist in the scrub role <ul style="list-style-type: none"> a. Preoperative <ul style="list-style-type: none"> (1) Don operating room attire and personal protective equipment (2) Prepare the OR (3) Gather/check necessary instrumentation, equipment and supplies (4) Create and maintain the sterile field (5) Perform surgical scrub (6) Don sterile gown and gloves (7) Organize the sterile field for use (8) Counts necessary items with circulator (9) Assist team members during entry of the sterile field (10) Expose the operative site with sterile drapes 	<p>Module 1-A: Objective 14—Select job responsibilities and functions of the scrub role; Assignment Sheet 2—Distinguish among duties of the surgical team members</p>

Crosswalk to AST Core Curriculum

<p>B. Requirements (cont.)</p> <p>b. Intraoperative</p> <ol style="list-style-type: none">(1) Maintains highest standard of sterile technique during the procedure(2) Maintains the sterile field(3) Pass instrumentation, equipment & supplies to the surgeon & surgical assistant as needed(4) Assess & predict (anticipate) the needs of the patient & surgeon and provide the necessary items in order of need(5) Medication preparation and handling(6) Count necessary items(7) Specimen care(8) Assists with other intraoperative tasks(9) Prepares and applies sterile dressings <p>c. Postoperative</p> <ol style="list-style-type: none">(1) Assists surgical team with patient care, when needed(2) Prepares instruments for terminal sterilization(3) Assists other members of the team with terminal cleaning of the surgical suite <p>2. Responsibilities of the surgical technologist in the circulating role</p> <p>a. Preoperative</p> <ol style="list-style-type: none">(1) Obtains appropriate sterile and nonsterile items needed for the surgical procedure(2) Opens sterile instruments, supplies, and equipment(3) Checks patient's chart, identifies patient, verifies surgery to be performed with consent form(4) Transfers patient to operating room table(5) Provide comfort and safety measures(6) Provide verbal and tactile reassurance to the patient(7) Assists anesthesia personnel(8) Positions the patient, using appropriate equipment and safety measures(9) Applies electrosurgical grounding pads, tourniquets, and monitors on the patient, using appropriate safety measures(10) Performs preoperative skin preparation(11) Performs counts	<p>Module 1-A: Objective 14—Select job responsibilities and functions of the scrub role; Assignment Sheet 2—Distinguish among duties of the surgical team members</p> <p>Module 1-A: Objective 15—Select job responsibilities and functions of the circulator; Assignment Sheet 2—Distinguish among duties of the surgical team members</p>
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<p>B. Requirements (cont.)</p> <p>2. Responsibilities of the surgical technologist in the circulating role (cont.)</p> <p>b. Intraoperative</p> <ol style="list-style-type: none"> (1) Positions and operates equipment needed for the procedure (2) Anticipates additional supplies needed during the procedure (3) Facilitates communication between sterile and nonsterile areas (4) Records accurate documentation throughout the procedure (5) Cares for specimens (6) Secures dressings after incision closure <p>c. Postoperative</p> <ol style="list-style-type: none"> (1) Helps transport patient to recovery room (2) Assists in terminal cleaning of the surgical suite (3) Prepares for the next patient 	<p>Module 1-A: Objective 15—Select job responsibilities and functions of the circulator; Assignment Sheet 2—Distinguish among duties of the surgical team members</p>
<p>C. Related career opportunities</p> <ol style="list-style-type: none"> 1. Central sterile manager 2. Educator 3. Surgical assistant 4. Materials manager 5. Medical salesperson 6. Organ and tissue procurement/preservation technician 7. Physician/surgeon’s assistant 8. Research assistant 9. Veterinary assistant 10. Labor and delivery staff 11. Office manager 12. Surgery scheduler 13. Anesthesia technologist 14. Self-employed 15. Other 	<p>Module 1-A: Objective 11—List areas of employment for the surgical technologist</p>