

PROGRAM ASSESSMENT EXAM (PAE) STUDY EXAM GUIDE

PREFACE

The PAE is designed for the following purposes:

- Indicate the content areas of the core curriculum in which the program is strongest in instruction.
- Indicate the content areas of the core curriculum in which the program requires strengthening in instruction.
- Provide students, as one indicator among several, information as to content areas that require additional review.

The PAE is comprised of 150 multiple choice questions in the various objective areas discussed in this study exam guide. The exam will either be taken by web based testing or written. The program instructor will decide which method the student will be using. The PAE does not have a time limit. During preparation for the exam, this study guide will aid the learner in getting acquainted with the test, learn how to build their study skills and learn which objective areas that require additional study.

READING TECHNIQUES

Scanning

This technique refers to quickly reviewing text to obtain a specific piece of information. Scan areas to find the answers to your question and read those sections carefully. Make any necessary notes, using diagrams if you find them helpful. However, don't read any more than is necessary to answer your questions. It's very easy to get diverted and to waste time.

Skimming or Previewing

Skimming or previewing is looking over the text quickly to get a general idea of the content. Your eyes move quite fast, taking in titles of chapter, their beginnings and ends, and the first sentences of the paragraphs. When skimming you should follow the procedure below, adapting it to your purpose.

- Read the title
- Note the writer's name
- Note the date and place of publication
- Read the first paragraph completely
- Read sub-headings and first sentences of remaining paragraphs

Active Reading

Effective reading is active reading. To turn reading from a passive into an active exercise, always ask questions. Ask yourself what you expect to learn from reading this particular subject. When your mind is searching actively for answers to questions, it becomes fully engaged in learning, rather than trying to soak up information passively. Your reading becomes much simpler when you have framed questions that you expect to answer.

Recall

Train your mind to concentrate and learn as it reads. Research shows that we quickly forget about 80% of what we read. Try to answer your original questions from memory at the end of each section you have read. This active recall will let you know what has been learned and what you are still unsure of. If unsure as to the answer to your question, review the section.

Review

Go back to the original text to check that your answers are the right ones. Review what couldn't be answered or is incorrect. Only look for the relevant information and don't get diverted by reading more than what you are looking for.

NOTE TAKING TECHNIQUES

Why do we take notes? To summarize, highlight important information, to review and utilize as one method of study. There is no right or wrong way to take notes. Don't feel that you have to write down every word to take good notes. In fact you will be so busy with writing down every word that you will miss valuable information. Keep headings and notes short – only write down key words and phrases.

Tips for taking effective notes

- ❖ Establish a method to abbreviate that will allow you to take notes more quickly
- ❖ Leave space or skip lines to allow you to fill in more information later
- ❖ Leave room to incorporate text or lecture material into your notes
- ❖ Use your own words so that you will better understand your notes later
- ❖ Underline key points
- ❖ If the information is repeated several times, make sure to include the information on your notes; the information may be needed for future reference
- ❖ Review your notes as soon as possible so that you can add information that you may have forgotten to write down
- ❖ Review your notes with another person who is also taking notes so that you can share information that was missed
- ❖ Use headings, subheadings and diagrams to help you find topics quicker, i.e. outline format
- ❖ Keep notes brief but full enough for you to be able to use them in the future
- ❖ You may want to rewrite your notes to organize and help you memorize the information
- ❖ Keep your notes organized into separate notebooks for each course

Summarize your notes

A summary is a collation of your notes, recording the main points the writer makes. Making a summary from the notes has two benefits: (1) Allows testing yourself on the understanding of the material that you have been reading or listening to during a lecture; (2) Provides a compact account of the text or lecture for further reference.

Review your notes

The primary reason for taking notes is to aid studying later. Review your notes frequently; this can be extremely useful. It is best to begin reviewing within 24 hours of first taking notes; in doing so your retention rate is greatly increased. The more you use the notes the more you will be able to become familiar with the information and retain for future use. It also allows you to ask questions and find answers in which information is lacking.

Make sure to review your notes before an exam. After reviewing your notes, try to answer questions without looking at your notes. Any questions that you are unable to answer go back to your notes for more information on the subject area.

LISTENING TECHNIQUES

Listening to a lecture for up to an hour or longer can tend to make the listener disengage to the purpose of the lecture. The listener must ask himself/herself what is the purpose of the lecture. Remember, the key is not to hear but to actively listen to the lecturer. The listener needs to remember the benefits of the lectures.

Prepare in advance for the lecture. Whatever the purpose of the lecture, preparation will enable you to efficiently take notes, ask questions, focus on the subject and actively listen.

Key words for the listener to recognize:

- ❖ Repetition words: also, too, in addition, in other words
- ❖ Contrast words: however, but, on the other hand
- ❖ Emphasis words: most importantly, especially
- ❖ Summary words: in brief, in conclusion, to wrap this up
- ❖ Cause and effect words: because, consequently, if...then, therefore

Listen for ideas and concepts, which help to arrange the facts. Eliminate the distractions and focus on the key words; this will enable you to retain the information for a longer period of time. Review your notes as soon after the lecture as possible to add any missed information and organize the notes.

GOOD STUDY HABITS

Set aside time each day to study. This will ensure that you are not cramming for exams and will be better prepared.

Decide what area/subject/content that you need to study

Find a quiet place to study and make sure you have all the materials that you will need.

Study for one hour and then take a fifteen minute break. Stretch, relax, and get a snack so you feel refreshed.

Stop studying when you are no longer being productive.

Study with a friend to quiz each other on materials. But make sure that you study alone first.

For better recall, try to look over material just before going to sleep.

PREPARING FOR EXAMS

Budget your time, making sure that you have sufficient time to study so you are prepared for the exam. If instructors have set aside time for reviews, make sure to plan to attend. At the review make sure to take notes and ask questions.

Find out the format of the test, i.e. multiple choice, essay, true/false or a combination. Find out how many questions will possibly be on the exam. Also if there is a time allotment so you can pace yourself on questions.

Review material a little each day. Reviewing with a group may help to cover areas that you may have overlooked on your own. Review with a friend to quiz you on areas that you are unsure of. Review early enough to be able to ask your instructor for help or information. Test yourself at the end of each page or section to increase retention.

Study the most difficult items when you are alert. Easier items can be left for those times when you feel overwhelmed by the difficult items. Make sure to take breaks so that you can refresh your mind.

Create study checklists. Your checklist should include notes, text assignments, old quizzes, a listing of texts that you will review, and any other items that you will need.

Create flashcards for definitions, instruments, etc. that you have to recall. Flashcards will enable you to test your ability to recall information from scratch.

MULTIPLE CHOICE TEST HINTS

Multiple choice questions usually include a phrase or stem followed by three to five options. Read the directions carefully. Read the question before you look at the answer choices (you may want to cover the options). Try to answer the question before looking at the possible answer, this way the choices given on the exam won't throw you off.

Treat the options as a true/false question. A positive choice is more likely to be true than a negative one. On difficult questions eliminate options that you know are incorrect. Usually the correct answer is the choice with the most information. If two options seem correct, compare them for differences, and then refer to the stem to find the best answer.

Go with your instinct; don't change your first answer unless you are sure of the correction. 90% of the time your first answer is the correct answer unless you misread the question. If the answer choices are numbers, eliminate the lowest and highest number and choose one in the middle range. If two options are opposite of each other, chances are one of them is correct. For questions that include as one of the distractors "All of the above", if you know at least two or more of the options are correct then it is most likely that all of the above is the correct choice.

PROGRAM ASSESSMENT EXAM OBJECTIVES

ANATOMY AND PHYSIOLOGY

Objectives: The learner will:

1. Identify the basic organizational structures of the human body, including body planes, general organization, and terms of reference.
2. Analyze the basic structure of cells and relate cellular components to integrated cell function.
3. Analyze the types of tissue that make up organs and the characteristics of each.
4. Contrast and compare organs of the body.
5. Analyze the different body systems for composition and function.

PATHOPHYSIOLOGY

Objectives: The learner will:

1. Analyze cell pathology in relationship to its response and adaptation to injury.
2. Analyze surgical cancer treatments.
3. Examine hemodynamic disorders, inflammation and infection.
4. Compare and contrast the various surgical pathologies of each body system.

MICROBIOLOGY

Objectives: The learner will:

1. Correlate the impact of microbiology in relationship to the practice of sterile technique and infection control in the operative setting.
2. Identify the name and function of various parts of the compound microscope.
3. Contrast and compare the structure and characteristics of different microorganisms.
4. Analyze the various immune responses that occur in the body as defenses against invasion by pathogens.
5. Relate the infectious process to surgical practice.

PHARMACOLOGY

Objectives: The learner will:

1. Calculate medication conversions and dosages.
2. Apply general terminology to medication use.
3. Prepare and manage medications and solutions.
4. Use medications in the care of the surgical patient.

ANESTHESIA

Objectives: The learner will:

1. Analyze the principles of anesthesia administration.
2. Contrast and compare methods, agents, and techniques of anesthesia administration.
3. Correlate anesthesia monitoring devices with patient homeostasis.
4. Explain anesthesia complications and interventions.

MEDICAL TERMINOLOGY

Objectives: The learner will:

1. Combine prefixes, word roots, and suffixes to create medical terms related to surgery.
2. Construct and combine compound words.
3. Pronounce medical terms related to surgery.
4. Write medical terms using correct spelling.

COMPUTER SKILLS

Objectives: The learner will:

1. Identify the basic components of a computer system.
2. Perform basic word processing.
3. Perform graphics importation.
4. Print/save computer information.
5. Apply computer knowledge to the educational process and safe patient care practices in the OR.

ELECTRICITY

Objectives: The learner will:

1. Define electricity.
2. Identify the terms related to electricity and electrical flow.
3. Identify the basic principle of electrical flow.
4. Identify the types of electrical current.
5. Define the components of an electrical receptacle.
6. Apply electrical knowledge to safe patient care practices in the OR.

PHYSICS

Objectives: The learner will:

1. Define the terms related to physics.
2. Apply the principles of physics to safe patient care practices in the OR.

ROBOTICS

Objectives: The learner will:

1. Discuss the basic concepts related to robotics.
2. Describe the concepts of geometry that are used in the design of surgical robots.
3. Identify the basic components and mechanisms of the robotic system.
4. List the clinical applications of robotics in the OR.
5. Apply the principles of robotics to safe patient care practices in the OR.

BIOPSYCHOSOCIAL NEEDS OF THE PATIENT

Objectives: The learner will:

1. Discuss the basic physical and biological needs required to sustain life.
2. Describe patient and family response to hospitalization and surgical intervention.
3. Compare and contrast various spiritual and cultural needs of the surgical patient.
4. Demonstrate appropriate behavior in response to the needs manifested by the surgical patient.
5. Analyze and describe the potential psychological needs of the surgical patient.
6. List and describe potential sources of anxiety and fear in the surgical patient.
7. Identify and discuss the specific needs of pediatric, geriatric, and immunocompromised surgical patients.

PREOPERATIVE ROUTINES

Objectives: The learner will:

1. Describe and perform the physical preparation and care that the surgical patient may receive prior to the surgical procedure.
2. Evaluate the items on the pre-operative patient checklist.

PATIENT IDENTIFICATION

Objectives: The learner will:

1. State the purposes of proper identification.
2. Demonstrate the identification process for a surgical patient admitted to the surgical suite.

TRANSPORTATION

Objectives: The learner will:

1. Identify the methods of patient transportation.
2. Demonstrate the principles of safe transportation for each of the aforementioned methods.

REVIEW OF THE CHART

Objectives: The learner will:

1. Analyze laboratory reports in relationship to patient diagnosis and intervention.
2. Review the patient chart for completeness.

CONSENT

Objectives: The learner will:

1. Analyze the procedure for obtaining informed surgical consent.
2. Analyze the legal concepts of obtaining informed consent.

TRANSFER

Objectives: The learner will:

1. Discuss methods of patient transfer.
2. Identify equipment utilized for safe transfer of the surgical patient
3. Employ the principles of body mechanics when transferring the surgical patient.

ANESTHESIA CONCEPTS

Objectives: The learner will:

1. Explain the necessity of each component of anesthesia preparation of the surgical patient.

POSITIONING

Objectives: The learner will:

1. Analyze the use, components, and aides utilized to achieve various surgical positions.
2. Detail the sections and functions of the OR table.
3. Perform basic positioning.

URINARY CATHETERIZATION

Objectives: The learner will:

1. List the indications for urinary catheterization.
2. Discuss the basic considerations for urinary catheterization.
3. List the supplies required to perform urinary catheterization.
4. Demonstrate urinary catheterization (simulation may be used).
5. Discuss the principles of monitoring urine output.

SKIN PREPARATION

Objectives: The learner will:

1. Contrast and compare different types of skin preparations.
2. Contrast and compare different chemical agents used for skin preparation
3. Describe the steps and rationales for surgical skin preparation.

ATTIRE

Objectives: The learner will:

1. Recognize appropriate surgical attire.
2. Employ principles involved in donning surgical attire.

CASE SELECTION

Objectives: The learner will:

1. Identify methods used to access the needs for the case.
2. Gather the instruments, supplies, and equipment needed for a surgical procedure.

EQUIPMENT

Objectives: The learner will:

1. Assess the function, assembly, use, and care of equipment in the surgical environment.
2. Describe the application of surgical equipment.

INSTRUMENTATION

Objectives: The learner will:

1. Identify the classifications, names, parts, materials, finishes and uses of basic surgical instrumentation.
2. Understand the relationship between instrument type and usage.
3. Apply knowledge of basic surgical instrumentation to specific surgical procedures.

ROOM PREPARATION

Objectives: The learner will:

1. Describe the function of the physical components of the operative suite.
2. Plan methods of care, handling, and assembly of basic operating room furniture.
3. Identify the use of various supplies and accessory supplies in the operative environment.

ASEPSIS AND STERILE TECHNIQUE

Objectives: The learner will:

1. Define terms related to asepsis.
2. Discuss sources of contamination
3. Apply sterile technique when necessary.

SCRUBBING

Objectives: The learner will:

1. Identify the preliminary preparation for the surgical scrub.
2. Demonstrate the steps of the surgical scrub.
3. Employ sterile technique during the surgical scrub.

GOWNING AND GLOVING

Objectives: The learner will:

1. Employ sterile technique when self gowning and/or gloving and when assisting other team members.

PREPARATION OF THE STERILE FIELD

Objectives: The learner will:

1. Demonstrate initial techniques for preparing instruments and supplies on the sterile field.
2. Drape furniture and equipment needed for the surgical procedure.
3. Apply the three principles of asepsis to the practice of sterile technique.

COUNTS

Objectives: The learner will:

1. Demonstrate the procedures for counting instruments, sponges, needles and other items on the field.
2. Discuss the purposes and legal responsibilities of counts.
3. Employ the techniques, timing and methods of counts.

DRAPING

Objectives: The learner will:

1. Describe various types of draping material used in surgical procedures.
2. Use the appropriate drapes for specific positions and surgical procedures.
3. Demonstrate the general principles of draping the patient, equipment and furniture.

PREOPERATIVE CASE MANAGEMENT

Objectives: The learner will:

1. Demonstrate the initial steps for starting a surgical procedure.
2. Position furniture and equipment to begin the surgical procedure.
3. Place and secure supplies on the sterile field.

HOMEOSTASIS

Objectives: The learner will:

1. Describe the homeostatic parameters monitored in the OR setting
2. Perform basic monitoring of patient homeostatic parameters.

EMERGENCY PROCEDURES

Objectives: The learner will:

1. Perform duties within their scope of practice related to emergencies in the OR setting.
2. Describe the emergency procedures carried out in the OR setting
3. Be CPR certified.

SURGICAL WOUND CLASSIFICATION

Objectives: The learner will:

1. Analyze the classifications of surgical wounds.
2. Distinguish surgical procedures that fit the various categories.

MONITORING THE STERILE FIELD

Objectives: The learner will:

1. Initiate the beginning steps for the intraoperative phase of a surgical procedure.
2. Monitor the sterile field and assess the needs of the surgical team.
3. Provide for the needs of the sterile team members.

DOCUMENTATION

Objectives: The learner will:

1. Evaluate the common sources of documentation utilized in the operating room.
2. Judge the importance and impact of proper documentation.
3. Analyze the recommended practices and legal elements of proper documentation.

SPECIMEN CARE

Objectives: The learner will:

1. Define specimen.
2. Assess methods of obtaining specimens.
3. Describe the handling of tissue specimens.
4. Identify types of containers.
5. Describe the procedure for specimen labeling and transfer to appropriate department.
6. Evaluate the care given to specific types of specimens
7. Discuss areas for specimen storage.

INTRAOPERATIVE CASE MANAGEMENT

Objectives: The learner will:

1. Employ basic routines of case management.
2. Assess specific variations of intraoperative techniques.

ABDOMINAL INCISIONS

Objectives: The learner will:

1. Identify the various tissue layers of the abdominal wall.
2. Describe the creation and usage of surgical incision.

HEMOSTASIS

Objectives: The learner will:

1. Analyze the principles of hemostasis.
2. Differentiate among various methods of hemostasis.
3. Assess special techniques of hemostasis.

EXPOSURE

Objectives: The learner will:

1. Describe principles of exposure.
2. Identify criteria used to select exposure devices.
3. Apply techniques for tissue exposure.

CATHETERS AND DRAINS

Objectives: The learner will:

1. Compare and contrast the types and characteristics of various catheters and drainage devices.
2. Correlate the correct drainage device for each drain.
3. Compare and contrast the conceptual differences between gravity and vacuum drainage.
4. Prepare catheters and drains for intraoperative use.
5. Prepare anchoring devices for drains.
6. Perform urinary catheterization.

TISSUE APPROXIMATION

Objectives: The learner will:

1. Analyze and assess the factors that influence the closure of each wound layer.
2. Compare and contrast suture materials, suture sizing and suture coatings and analyze their significance.
3. Demonstrate proper suture selection, preparation, handling and cutting techniques.
4. Diagram and describe needle points and needle bodies and demonstrate the proper placement, handling, loading and disposal of surgical needles.
5. Evaluate various applications of surgical stapling instruments and demonstrate proper assembly of stapling instrumentation.
6. Compare and contrast reusable and disposable surgical stapling instruments, and analyze the advantages and disadvantages of utilizing surgical staplers.
7. Compare and contrast biological adhesives and synthetic adhesives.
8. Analyze and evaluate various tissue repair and replacement materials, and assess the advantages and disadvantages of utilizing repair and replacement materials.
9. Interpret the specific applications of synthetic mesh, synthetic tissue replacement materials, and biological wound cover materials.
10. Compare and contrast the utilization of tissue transplants and xenograft biomaterials.

SURGICAL DRESSINGS

Objectives: The learner will:

1. Evaluate the purposes of surgical dressings.
2. Analyze their importance to postoperative wound care.
3. Compare and contrast the most commonly used types of surgical and specialty dressings.
4. Acknowledge the importance of proper surgical dressing application techniques.
5. Apply proper principles of sterile technique and demonstrate the application of commonly used types of surgical and specialty dressings.

WOUND HEALING

Objectives: The learner will:

1. Compare and contrast intentional, unintentional, and incidental/chronic wounds.
2. Analyze the mechanisms of wound healing, the inflammatory process, and the healing process.
3. Evaluate the classifications of surgical wounds, analyze factors that influence healing, and devise a plan to prevent postoperative wound infections.
4. Demonstrate basic wound care concepts and apply the principles of asepsis to the practice of sterile technique.

DEATH AND DYING

Objectives: The learner will:

1. Evaluate attitudes, beliefs and classifications regarding death and dying.
2. Compare and contrast responses to the process of death and various coping strategies and mechanisms.
3. Debate quality of life vs. quantity of life.
4. Trace the steps that are implemented when a patient death occurs in the operating room.

DISCHARGE PLANNING

Objectives: The learner will:

1. Assess the standards and policies to promote patient satisfaction in the perioperative setting.
2. Apply the various assessment methods to optimize quality patient care to promote safe discharge from the facility.
3. Develop a plan to educate patients regarding the anticipated recovery process.
4. Determine ways to proficiently manage patients to minimize costs to the patient, medical facility, and third party payers.

HEALTH AND WELLNESS

Objectives: The learner will:

1. List and define the five components of physical health (cardiopulmonary, muscular strength, muscular endurance, flexibility, and body composition).
2. Discuss and describe food sources of energy and the metabolic processes involved, and relate both of these to wellness and disease.
3. Differentiate internal and external sources of stress, and the affect of stress on various body systems.
4. Compare and contrast alternative healing methodologies, including mental health and spiritual attunement.

PACU

Objectives: The learner will:

1. Analyze the immediate postoperative care of the surgical patient.
2. Describe potential postoperative discomforts and complications.
3. List necessary equipment in the postanesthesia care unit (PACU).

DECONTAMINATION/DISINFECTION

Objectives: The learner will:

1. Perform decontamination of the OR environment and equipment.
2. Analyze the factors and variables of disinfecting agents.
3. Contrast and compare disinfecting agents.

REPROCESSING

Objectives: The learner will:

1. Define terms related to the terminal sterilization/disinfection process.
2. Identify the methods of processing items during terminal sterilization and/or disinfection.
3. Identify the concepts of microbial barriers.
4. Contrast and compare the materials used for creating microbial barriers.
5. List the methods for sealing microbial barriers.
6. List the process for preparing items for sterilization.
7. Define terms related to the sterilization process.
8. Identify variables related to the sterilization process and the materials to be processed.
9. Compare and contrast methods of sterilization.
10. Identify process monitoring devices and methods.

STERILE STORAGE AND DISTRIBUTION

Objectives: The learner will:

1. Identify systems used for sterile storage.
2. Apply principles of sterile storage to handling of sterile supplies.
3. Compare and contrast shelf life and event related sterility.
4. Assess distribution systems used by sterile processing departments.
5. Demonstrate proper technique in storing, handling, and distributing sterile supplies.
6. Demonstrate awareness of improper handling and use of sterile supplies.

POSTOPERATIVE CASE MANAGEMENT

Objectives: The learner will:

1. Perform postoperative case management duties in an organized and timely manner.
2. Apply standard precautions to the performance of postoperative case management activities.

INFORMATION MANAGEMENT

Objectives: The learner will:

1. Recognize when information is needed.
2. Locate and evaluate information using the latest technology available.
3. Apply the information effectively in a variety of formats – including written, verbal, and electronic.

PROFESSIONAL CREDENTIALING

Objectives: The learner will:

1. Assess the various functions of professional credentialing and relate their significance to the profession of surgical technology.
2. Compare and contrast certification, registration and licensure.
3. Assess the personal and professional importance of becoming certified.
4. Compare and contrast the various methods of professional development.
5. Formulate a plan for professional development.

PROFESSIONAL ORGANIZATIONS

Objectives: The learner will:

1. Compare and contrast professional organizations and credentialing related to the profession.

GROUP DYNAMICS

Objectives: The learner will:

1. Relate total quality management (TQM) concepts to the operating room environment.
2. Explain the function of work groups.
3. Compare and contrast each stage of group formation.
4. Classify the common types/sources of conflict in the workplace.
5. Distinguish between assertive and aggressive behavior.
6. Acknowledge the importance of cooperative behavior by group members.
7. Develop awareness of different cultural perspective.

LEADERSHIP

Objectives: The learner will:

1. Classify types of body language.
2. Demonstrate effective speaking skills.
3. Demonstrate effective listening skills.
4. Compare and contrast leadership styles.
5. Recognize the importance of leaders.
6. Evaluate theories of motivation.
7. Apply steps of problem solving process for a given situation.

TEAMWORK

Objectives: The learner will:

1. Compare and contrast the concept of team management.
2. Work towards common team goals.

AFFECTIVE BEHAVIORS

Objectives: The learner will:

1. Describe each behavior as it relates to the role of the surgical team member.
2. Analyze activities that reflect positive examples of each behavior.
3. Integrate the behaviors into professional practice.

CRITICAL THINKING

Objectives: The learner will:

1. Organize information with a procedural/individual patient focus.
2. Perform analysis based on data and knowledge.
3. Implement activities based on patient/procedural/surgeon knowledge.
4. Integrate information and knowledge for application to each patient situation.

EMPLOYABILITY SKILLS

Objectives: The learner will:

1. Assess current trends and employment opportunities for the surgical technologist.
2. Develop a plan of action to secure employment in the health care field.
3. Evaluate personal employability qualities and develop an employment strategy that includes positive characteristics.
4. Develop a professional resume.
5. Compare and contrast various types of employment/application correspondence.
6. Analyze various interview strategies.

ETHICAL AND MORAL ISSUES

Objectives: The learner will:

1. Analyze the American Hospital Association's (AHA) Patient's Bill of Rights.
2. Develop an increased sensitivity to the influence of ethics in professional practice.
3. Analyze the role of morality during ethical decision making.
4. Cite examples of ethical situations and problems in the health professions.
5. Analyze the key elements related to developing a surgical conscience.
6. Apply principles of problem solving in ethical decision making.

LEGAL ISSUES

Objectives: The learner will:

1. Analyze major concepts inherent in professional practice law.
2. Interpret the legal responsibilities of the surgical technologist and other surgical team members.
3. Compare and contrast major criminal and civil liabilities and the consequences for these acts.
4. Assess the resources that aid the surgical technologist in interpreting and following professional standards of conduct.

RISK MANAGEMENT AND LIABILITY

Objectives: The learner will:

1. Evaluate the role of the risk management department in the health care facility.
2. Assess errors that may occur in the operating room and devise a plan for investigation, correction and notification.
3. Interpret prevention, correction, and documentation techniques that may positively impact risk management issues.
4. Compare and contrast professional liability insurance policies.

HOSPITAL ORGANIZATION AND MANAGEMENT

Objectives: The learner will:

1. Compare and contrast the roles of team members in the operating room.
2. Acknowledge the proper chain of command in the operating room.
3. Compare and contrast hospital departments that relate to direct and indirect patient care in the surgical suite.

PHYSICAL ENVIRONMENT

Objectives: The learner will:

1. Discuss the location of the surgical suite within the health care facility and describe basic floor plan designs.
2. Identify the rationale behind the principles of the surgical suite layout.
3. Explain and describe the location and floor plan of a basic surgical suite.
4. Explain and identify the environmental systems and environmental controls within the operative environment.
5. State the proper ranges for temperature and humidity controls.
6. Describe the various components of the operating room ventilation system.

7. Identify and describe the principles of environmental safety controls and guidelines.
8. Discuss and describe potential hazards to the patient in the operative environment.

SCOPE OF PRACTICE

Objectives: The learner will:

1. Contrast and compare the various roles in the surgical technology profession.
2. Demonstrate responsible and accountable behavior within the role and competencies of the surgical technologist.

PRACTICE EXAMINATION

- 1. The distal and proximal ends of long bones are called**
 - A. Diaphysis
 - B. Epiphyses
 - C. Periosteum
 - D. Osteocytes
- 2. The gland located on the front and sides of the trachea below the larynx is the**
 - A. Pituitary
 - B. Thyroid
 - C. Thymus
 - D. Pineal
- 3. The beats per minute for the resting heart rate of an adult is**
 - A. 60-80
 - B. 90-110
 - C. 120-140
 - D. 150-170
- 4. Graft material used to cover the stapes during a radical mastoidectomy is the**
 - A. Temporalis fascia
 - B. Pars tensa
 - C. Temporal bone
 - D. Vestibular membrane
- 5. The rate at which work is done is called**
 - A. Conservation
 - B. Kinetic energy
 - C. Power
 - D. Potential energy
- 6. Which of the following terms refers to severe hypertension in the pregnant female?**
 - A. Placenta previa
 - B. Dystocia
 - C. Prolapse of umbilical cord
 - D. Eclampsia
- 7. Which of the following suture would be the best choice for repair of a liver laceration?**
 - A. 2-0 polypropylene (Prolene®)
 - B. 2-0 polyglactin (Vicryl®)
 - C. 2-0 chromic
 - D. 2-0 polyester (Ethibond®)

8. **The surgical instrument used to enlarge the maxillary sinus opening during a Caldwell-Luc procedure is a/an**
- A. Lambotte osteotome
 - B. Antrum trocar/rasp
 - C. Coakley curette
 - D. Kerrision rongeur
9. **The speed of computer processors is measured in**
- A. Gigabyte
 - B. Kilo
 - C. Megabyte
 - D. Gigahertz
10. **The type of electrical current that moves in a one-way, single direction is**
- A. Alternating
 - B. Ampere
 - C. Direct
 - D. Voltage
11. **Which of the following instruments is used to hold the mouth open during a tonsillectomy?**
- A. Jennings
 - B. Wieder
 - C. LaForce
 - D. Fisher
12. **What joint is formed by the articulation of the mandible with the glenoid fossa of the temporal bone?**
- A. Articular tubercle
 - B. Temporomandibular joint
 - C. Mental foramen
 - D. Ramus
13. **The term for male breast enlargement is**
- A. Gynecomastia
 - B. Hypertrophic breasts
 - C. Mammoplasty
 - D. Mammography
14. **A muscle commonly used for flap reconstruction in reconstruction mammoplasty is the**
- A. Deltoid
 - B. Pectoralis major
 - C. Transverse rectus
 - D. Trapezius
15. **Cranial nerve II is the**
- A. Trochlear
 - B. Oculomotor
 - C. Olfactory
 - D. Optic

- 16. Which muscle is the tunica albuginea sutured to during an orchiopexy?**
- A. Detrusor
 - B. Psoas
 - C. Rectus abdominus
 - D. Dartos
- 17. Which item is used to retract the spermatic cord during an open herniorrhaphy?**
- A. Silk ties
 - B. Vessel loops
 - C. Penrose drain
 - D. Robinson drain
- 18. The energy that an object has due to its position or condition is called**
- A. Potential
 - B. Kinetic
 - C. Conservation
 - D. Velocity
- 19. Which of the following can be used to point and click to input commands in the computer?**
- A. Arrow keys
 - B. Tab key
 - C. Mouse
 - D. F3 key
- 20. The surgical instrument used to dissect prostate tissue during a TURP is a/an**
- A. Urethrotome
 - B. Resectoscope
 - C. Cystoscope
 - D. Lithotrite
- 21. During peripheral vascular procedures papaverine is administered to**
- A. Dilate peripheral blood vessels
 - B. Constrict peripheral blood vessels
 - C. Increase blood flow to the heart
 - D. Control intraoperative bleeding
- 22. Which of the following items is implanted to prevent the cement from leaking into the medullary canal during a total hip arthroplasty?**
- A. Femoral prosthesis
 - B. Cement restrictor
 - C. Femoral rasp
 - D. Non-radiopaque sponge
- 23. The term used to describe the flow of electrical energy is**
- A. Current
 - B. Voltage
 - C. Circuit
 - D. Amperes

- 24. The force that causes an object to fall due to gravity is called**
A. Equilibrium
B. Weight
C. Friction
D. Mass
- 25. Atelectasis refers to a/an**
A. Petit mal seizure
B. Lung neoplasm
C. Collapsed lung
D. Angina pectoris
- 26. Which surgical instrument is used to remove plaque from the carotid artery?**
A. Takahashi rongeur
B. Penfield dissector
C. #15 knife blade
D. Potts-Smith scissors
- 27. Which self-retaining retractor is used to hold brain spoons in place during a craniotomy?**
A. Leyla-Yasargil
B. Mason-Judd
C. Wexler
D. Gelpi
- 28. The small intestine begins at the**
A. Stomach
B. Ileocecal valve
C. Hepatic artery
D. Pylorus
- 29. The artery that supplies blood to the thyroid gland is the**
A. External carotid
B. Internal carotid
C. Axillary
D. Vertebral
- 30. The artery that supplies blood to the breast is the**
A. Brachial
B. Subclavian
C. Internal mammary
D. Superior phrenic
- 31. The middle tunic of the eye includes the**
A. Retina
B. Choroid
C. Sclera
D. Globe

- 32. The only bone of the body that does not articulate with another bone is the**
- A. Parietal
 - B. Temporal
 - C. Hyoid
 - D. Ulna
- 33. The heel bone of the foot is called the**
- A. Metatarsal
 - B. Tarsal
 - C. Phalanges
 - D. Calcaneus
- 34. True ribs articulate anteriorly with the**
- A. Sternum
 - B. Scapula
 - C. Pectoral girdle
 - D. Thoracic vertebrae
- 35. Which type of joint permits movement in only one plane?**
- A. Saddle
 - B. Condylloid
 - C. Gliding
 - D. Hinge
- 36. In the presence of infection the absorption rate of surgical gut is**
- A. Decreased
 - B. Terminated
 - C. Increased
 - D. Not affected
- 37. The needle point used to suture the liver is**
- A. Blunt
 - B. Cutting
 - C. Spatula
 - D. Tapered
- 38. Which type of surgery often requires the use of packing?**
- A. Rectal
 - B. Chest
 - C. Neck
 - D. Knee
- 39. The body's first line of defense against the invasion of pathogens is**
- A. Immune response
 - B. Cellular response
 - C. Unbroken skin
 - D. Phagocytosis

- 40. Which microscope is used to view viruses?**
- A. Light
 - B. Electron
 - C. Darkfield
 - D. Ultraviolet
- 41. Agar is a**
- A. Growth media for microorganisms
 - B. Pathogen
 - C. Contrast solution
 - D. Plastic dish used for growing microorganisms
- 42. Which of the following is a prokaryote?**
- A. Molds
 - B. Protozoa
 - C. Bacteria
 - D. Plants
- 43. Which of the following is a eukaryote?**
- A. Viruses
 - B. Fungi
 - C. Cyanobacteria
 - D. Bacteria
- 44. The division of a cell into two separate cells is called**
- A. Fusion
 - B. Pleomorphism
 - C. Separatism
 - D. Binary fission
- 45. The study of form and structure of bacteria is called**
- A. Zoology
 - B. Microbiology
 - C. Morphology
 - D. Mycology
- 46. Bacterial cells that are spherically-shaped are called**
- A. Cocci
 - B. Pleomorphic
 - C. Spirochetes
 - D. Bacilli
- 47. The Gram stain differentiates between**
- A. Viruses
 - B. Bacteria
 - C. Protozoa
 - D. Plants

48. **All viruses are:**
- A. Pathogenic
 - B. Gram-positive
 - C. Saprophytic
 - D. Nonpathogenic
49. **Heparin is administered to**
- A. Break down blood clots
 - B. Prevent formation of new blood clots
 - C. Inhibit Vitamin K synthesis
 - D. Decrease platelet aggregation
50. **A radiopaque contrast media used in surgery is**
- A. Cefazolin
 - B. Lugol's solution
 - C. Hypaque meglumine
 - D. Acetic acid
51. **Childbirth labor may be induced by**
- A. Diazoxide (Hyperstat IV®)
 - B. Ergonovine (Ergotrate®)
 - C. Magnesium sulfate
 - D. Oxytocin (Pitocin®)
52. **Which of the following is an inhalation agent?**
- A. Ketamin hydrochloride (Ketalar®)
 - B. Propofol (Diprivan®)
 - C. Methohexital sodium (Brevital®)
 - D. Halothane (Fluothane®)
53. **The phase of general anesthesia after cessation of the anesthetic agent is called**
- A. Excitement
 - B. Induction
 - C. Emergence
 - D. Maintenance
54. **Epinephrine causes**
- A. Vasoconstriction
 - B. Vasodilation
 - C. Bradycardia
 - D. Bronchospasm
55. **A dissociative drug that produces a short-term, trance-like state is**
- A. Fentanyl citrate (Sublimaze®)
 - B. Ketamine hydrochloride (Ketalar®)
 - C. Succinylcholine (Anectine®)
 - D. Thiopental sodium (Pentathol Sodium®)

56. **Which of the following is a laboratory test that is used to estimate the percentage of each type of leukocytes within a blood sample?**
- A. Platelet
 - B. Differential
 - C. Thrombin
 - D. Hematocrit
57. **Which of the following types of hernias occurs within Hesselbach's Triangle?**
- A. Indirect
 - B. Direct
 - C. Sliding
 - D. Femoral
58. **A carpal tunnel release relieves the compression of which nerve?**
- A. Brachial
 - B. Radial
 - C. Ulnar
 - D. Median
59. **The suffix -rrhea means**
- A. Flow, discharge
 - B. Breathing
 - C. To pour
 - D. Birth, labor
60. **The suffix -trophy means**
- A. Wasting away
 - B. Development, nourishment
 - C. Lack of strength
 - D. Fibrous connective tissue
61. **The suffix -pexy means**
- A. Fixation, to put in place
 - B. Eat, swallow
 - C. Attraction for
 - D. Rule, order
62. **Surgical puncture of a joint space with a needle for synovial fluid drainage is a/an**
- A. Arthrography
 - B. Arthroplasty
 - C. Arthrocentesis
 - D. Arthroscopy
63. **Which of the following body structures is involved when applying cricoid pressure?**
- A. Trachea
 - B. Pharynx
 - C. Larynx
 - D. Hyoid bone

- 64. Which structure of the brain signals the body to increase heat production?**
- A. Hypothalamus
 - B. Pons
 - C. Cerebrum
 - D. Cerebellum
- 65. Which portion of the surgical gown is considered sterile?**
- A. Waist to mid-chest; 2 inches above the elbows
 - B. Mid-thigh to mid-chest line; 2 inches above the elbows
 - C. Hips to mid-chest line; 2 inches below the elbows
 - D. Knees to mid-chest line; 2 inches below the elbows
- 66. What is the number of nonsterile members needed to assist in transferring an immobile patient?**
- A. 1
 - B. 2
 - C. 3
 - D. 4
- 67. The term dyspnea means**
- A. Shortness of breath
 - B. Normal breathing
 - C. Irregular rate of breathing
 - D. Fast deep breaths
- 68. Syncope is a sudden loss of**
- A. Blood pressure
 - B. Consciousness
 - C. Vision
 - D. Hearing
- 69. The purpose of a myelography is to**
- A. Locate tumors of the breast
 - B. Evaluate the spine
 - C. Provide two-dimensional images of the heart
 - D. Assess the cause of peripheral vascular disease
- 70. Ultrasonography should NOT be used to examine the**
- A. Heart
 - B. Abdominopelvic cavity
 - C. Lungs
 - D. Carotid artery stenosis
- 71. The colon is responsible for the absorption of water and**
- A. Electrolytes
 - B. Carbon dioxide
 - C. Minerals
 - D. Vitamin K

72. Which of the following organs has the single largest mass of lymphatic tissue?
- A. Pancreas
 - B. Kidney
 - C. Spleen
 - D. Liver
73. The surgical removal of the stomach is a/an
- A. Cholecystectomy
 - B. Appendectomy
 - C. Gastrectomy
 - D. Hemorrhoidectomy
74. Which muscle rotates the eye upward and away from the midline?
- A. Inferior oblique
 - B. Superior oblique
 - C. Inferior rectus
 - D. Superior rectus
75. Which instrument is used to freeze the sclera over the area of detachment?
- A. Laser
 - B. Cryo
 - C. Diathermy
 - D. I/A device
76. Which of the following is an instrument used for viewing the external auditory canal?
- A. Stethoscope
 - B. Otoscope
 - C. Endoscopy
 - D. Cystoscopy
77. What type of anesthesia is contraindicated during reconstructive ear surgery?
- A. Enflurane (Ethrane®)
 - B. Thiopental sodium (Pentothal Sodium®)
 - C. Ketamin hydrochloride (Ketalar®)
 - D. Nitrous oxide
78. What bacterial agent is commonly responsible for epiglottitis?
- A. *Haemophilus influenzae*
 - B. *Candida albicans*
 - C. *Pseudomonas aeruginosa*
 - D. *Serratia marcescens*
79. What three bones fuse together to create the pelvis?
- A. Ilium, ischium, pubis
 - B. Trapezium, capitate, hamate
 - C. Calcaneus, navicular, cuboid
 - D. Patella, humerus, pectoral

- 80. The purpose of bone wax is to**
- A. Prevent infection
 - B. Aid in hemostasis
 - C. Aid in the healing process of bone
 - D. Prevent bones from splintering
- 81. Which of the following joints is fused during a triple arthrodesis?**
- A. Cuneiform
 - B. Metacarpal phalangeal
 - C. Acromioclavicular
 - D. Calcaneocuboid
- 82. To retract the brachialis muscle during an open reduction-internal fixation of the humerus the elbow is**
- A. Flexed
 - B. Extended
 - C. Rotated
 - D. Abducted
- 83. The upper chambers of the heart are called the**
- A. Ventricles
 - B. Atria
 - C. Myocardium
 - D. Pericardium
- 84. An electrocardiogram is a/an**
- A. X-ray of the heart structures
 - B. Electrical recording of heart activity
 - C. Recording of blood volume present in an extremity
 - D. X-ray of the abdomen
- 85. The inner lining of the heart is called the**
- A. Epicardium
 - B. Myocardium
 - C. Endocardium
 - D. Pericardium
- 86. Which of the following positions is used for an upper lobectomy?**
- A. Supine
 - B. Jackknife
 - C. Prone
 - D. Modified lateral
- 87. Which brain structure is located between the midbrain and the cerebrum?**
- A. Mesencephalon
 - B. Cerebellum
 - C. Medulla oblongata
 - D. Diencephalon

- 88. Materials that inhibit the flow of electrons are called**
- A. Insulators
 - B. Atoms
 - C. Conductors
 - D. Neurons
- 89. Current is measured in**
- A. Volts
 - B. Resistance
 - C. Amperes
 - D. Circuits
- 90. What is a property of matter that resists change in motion?**
- A. Mass
 - B. Velocity
 - C. Range
 - D. Inertia
- 91. The active and inactive electrode of bipolar electrosurgery is the**
- A. Forceps
 - B. Dispersive electrode
 - C. Electrosurgical pencil
 - D. Generator
- 92. Which of the following is the most common type of motion?**
- A. Simple harmonic
 - B. Equilibrium
 - C. Momentum
 - D. Projectile
- 93. Which of the following is the term for the gain or loss of electrons?**
- A. Density
 - B. Ionization
 - C. Free electrons
 - D. Conduction
- 94. The portion of the curve above the straight line in a diagram of a sound wave represents the**
- A. Wavelength
 - B. Rarefaction
 - C. Amplitude
 - D. Hertz
- 95. What kind of energy do lasers emit?**
- A. Liquid
 - B. Light energy
 - C. Solid state
 - D. Semiconductor

96. Which of the following types of laser has the most powerful output?
A. Liquid
B. Carbon dioxide
C. Solid state
D. Semiconductor
97. Which of the following terms refers to a robots ability to differentiate between two objects?
A. Binaural hearing
B. Stereo vision
C. Resolution
D. Sensitivity
98. A robotic arm with Cartesian geometry refers to what kind of movement?
A. Plane polar coordinate
B. Articulated geometry
C. Degrees of Freedom
D. X, Y, and Z axes
99. Where should the robotic arm be positioned on the OR table for a laparoscopic cholecystectomy?
A. Patient's left side; mid abdomen
B. Patient's right side; mid-thigh
C. Patient's left side; mid-thigh
D. Patient's right side; mid abdomen
100. Which of the following anatomical landmarks is used to line up the endoscope for a laparoscopic cholecystectomy using a robotic arm?
A. Xiphoid process
B. Mid-chest line
C. Iliac crest
D. Umbilicus
101. The name of this retractor is the



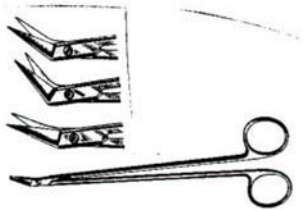
- A. Green thyroid
B. Senn
C. Hohmann
D. Cushing

102. The name of this osteotome is a/an



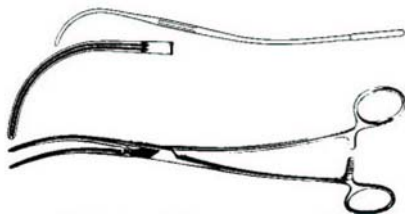
- A. Hibbs
- B. Hoke
- C. Lambotte
- D. Smith-Petersen

103. The name of this scissor is a/an



- A. Iris
- B. Potts-Smith
- C. Jorgenson
- D. Cottle

104. Which of the following instrument sets is this instrument located?



- A. Genitourinary
- B. Neurosurgical
- C. Orthopedic
- D. Cardiovascular

105. The name of this forceps is a/an



- A. DeBakey
- B. Adson
- C. Bonney
- D. Gerald

106. Which of the following instrument sets is this instrument located?



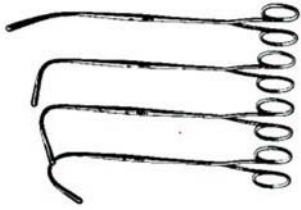
- A. Neurosurgical
- B. Plastic
- C. Tracheal
- D. Orthopedic

107. Which of the following instrument sets is this instrument located?



- A. Gall Bladder
- B. Plastic
- C. Ob-Gyn
- D. Genitourinary

108. The name of this instrument is a/an



- A. Guyon vessel clamp
- B. Randall kidney stone forcep
- C. Herrick kidney pedicle clamp
- D. Wertheim pedicle clamp

109. The name of this retractor is a/an



- A. Harrington
- B. Finochietto
- C. Davidson
- D. Allison

110. The name of this instrument is a/an



- A. Hurd Dissector & Pillar Retractor
- B. Castroviejo Needle Holder
- C. Spratt Curette
- D. Desmarres Alar Retractor

ANSWER SHEET

1. B
2. B
3. A
4. A
5. C
6. D
7. C
8. D
9. D
10. C
11. A
12. B
13. A
14. C
15. D
16. D
17. C
18. A
19. C
20. B
21. A
22. B
23. A
24. B
25. C
26. B
27. A
28. D
29. A
30. C
31. B
32. C
33. D
34. A
35. D
36. C
37. A
38. A
39. C
40. B
41. A
42. C
43. B
44. D
45. C
46. A
47. B
48. A
49. B

- 50. C
- 51. D
- 52. D
- 53. C
- 54. A
- 55. B
- 56. B
- 57. B
- 58. D
- 59. A
- 60. B
- 61. A
- 62. C
- 63. A
- 64. A
- 65. A
- 66. D
- 67. A
- 68. B
- 69. B
- 70. C
- 71. A
- 72. C
- 73. C
- 74. A
- 75. B
- 76. B
- 77. D
- 78. A
- 79. A
- 80. B
- 81. D
- 82. A
- 83. B
- 84. B
- 85. C
- 86. D
- 87. D
- 88. A
- 89. C
- 90. D
- 91. A
- 92. A
- 93. B
- 94. C
- 95. B
- 96. C
- 97. C
- 98. D
- 99. B

- 100. D
- 101. A
- 102. C
- 103. B
- 104. D
- 105. A
- 106. D
- 107. C
- 108. B
- 109. D
- 110. A

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