Western Technical College

10512128 Surgical Tech Fundamentals 2

Course Outcome Summary

Course Information

<table>
<thead>
<tr>
<th>Description</th>
<th>Focuses on enhancing surgical technology skills while functioning as a sterile team member. Lab is included.</th>
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<tbody>
<tr>
<td>Career</td>
<td>Health Science</td>
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<tr>
<td>Cluster</td>
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<tr>
<td>Instructional Level</td>
<td>Associate Degree Courses</td>
</tr>
<tr>
<td>Total Credits</td>
<td>4</td>
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<tr>
<td>Total Hours</td>
<td>108</td>
</tr>
</tbody>
</table>

Textbooks


Success Abilities

1. Live Responsibly: Develop Resilience
2. Live Responsibly: Embrace Sustainability
3. Live Responsibly: Foster Accountability
4. Refine Professionalism: Act Ethically
5. Refine Professionalism: Improve Critical Thinking
6. Refine Professionalism: Participate Collaboratively
7. Refine Professionalism: Practice Effective Communication

Program Outcomes

1. Apply healthcare and technological science principles to the perioperative environment
2. Maintain principles of sterile technique in the surgical environment
3. Provide a safe, efficient, and supportive environment for the patient
4. Prepare the patient, operating room, and surgical team for the preoperative phase
5. Perform intraoperative case management in the scrub role
6. Perform postoperative case management

Course Competencies

1. **Classify surgical wounds**

   **Assessment Strategies**
   1. in an oral, written, demonstrative and/or graphic response
   1.2. by answering questions that require you to apply knowledge about this competency (Your instructor may require several written exams as part of this course. You will be notified in advance.)

   **Criteria**

   You will know you are successful when
   1.1. you identify the classification of surgical wounds
   1.2. you specify the surgical procedures related to each type of wound
   1.3. you identify the classification of wounds according to their degree of microbial contamination
   1.4. you include classification examples of surgical procedures that fall into each category

   **Learning Objectives**
   1.a. Analyze the classifications of surgical wounds.
   1.b. Distinguish surgical procedures that fit the various categories.

2. **Compare and contrast wound closure materials**

   **Assessment Strategies**
   2.1. in an oral, written, demonstrative and/or graphic response
   2.2. by answering questions that require you to apply knowledge about this competency (Your instructor may require several written exams as part of this course. You will be notified in advance.)

   **Criteria**

   You will know you are successful when
   2.1. you identify various surgical stapling devices
   2.2. you identify meshes and fabrics
   2.3. you identify biological and synthetic adhesive materials
   2.4. you identify suture materials and their significance
   2.5. you identify the utilization of tissue transplants and xenograft biomaterials.
   2.6. you analyze and assess the factors that influence the closure of each wound layer
   2.7. you compare and contrast suture materials, suture sizing, and suture coatings
   2.8. you demonstrate proper suture selection, preparation, handling and cutting techniques
   2.9. you describe needle points and needle bodies and demonstrate proper placement, handling, loading and disposal of surgical needles
   2.10. you evaluate various applications of surgical stapling devices
   2.11. you demonstrate proper assembly of stapling devices
   2.12. you analyze the advantages and disadvantages of utilizing surgical stapling devices
   2.13. you compare and contrast tissue adhesives
   2.14. you compare and contrast mesh

   **Learning Objectives**
   2.a. Compare tissue replacement materials.
   2.b. Analyze and assess the factors that influence the closure of each wound layer.
   2.c. Compare and contrast suture materials, suture sizing and suture coatings and analyze their significance.
   2.d. Demonstrate proper suture selection, preparation, handling and cutting techniques.
   2.e. Diagram and describe needle points and needle bodies and demonstrate the proper placement, handling, loading and disposal of surgical needles.
2.f. Classify various applications of the surgical stapling instruments and demonstrate proper assembly of stapling instrumentation.
2.g. Compare and contrast reusable and disposable surgical stapling instruments and analyze the advantages and disadvantages of utilizing surgical staplers.
2.h. Compare and contrast biological adhesives and synthetic adhesives.
2.i. Describe the advantages, disadvantages and application of repair, replacement, and mesh materials.

3. **Identify stages of wound healing**

**Assessment Strategies**

3.1. in an oral, written, demonstrative and/or graphic response
3.2. by answering questions that require you to apply knowledge about this competency (Your instructor may require several written exams as part of this course. You will be notified in advance.)

**Criteria**

*Your performance will be successful when:*

3.1. you identify intentional, unintentional, and incidental/chronic wounds
3.2. you identify the mechanisms of surgical wounds, the inflammatory process, and the healing process
3.3. you analyze factors that influence wound healing
3.4. you demonstrate basic wound care concepts and apply the principles of asepsis and sterile technique

**Learning Objectives**

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

4. **Differentiate among types of surgical equipment**

**Assessment Strategies**

4.1. by answering questions that require you to apply knowledge about this competency (Your instructor may require several written exams as part of this course. You will be notified in advance.)
4.2. in an oral, written, demonstrative and/or graphic response

**Criteria**

*You will know you are successful when*

4.1. you differentiate the functions of various equipment.
4.2. you differentiate the care of various equipment.
4.3. you differentiate the assembly of various equipment.
4.4. you describe various equipment including (but not limited to) robotic equipment, lasers, and ESU).
4.5. you list necessary equipment in the post anesthesia care unit (PACU).

**Learning Objectives**

4.a. Classify the function, assembly, use and care of equipment in the surgical environment.
4.b. Describe the application of the surgical equipment.
4.c. Identify the basic components of equipment used in robotics, ESU, and lasers.
4.d. Describe the robotic, ESU, and laser terms as related to surgery.
4.e. Describe the surgical applications of robotics, ESU, and laser use.
4.f. Describe the movements of the robotic system manipulators.
4.g. Apply the principles of patient safety to various types of surgical equipment.

5. **Analyze principles of hemostasis**

**Assessment Strategies**

5.1. in an oral, written, demonstrative and/or graphic response
5.2. by answering questions that require you to apply knowledge about this competency (Your instructor may require several written exams as part of this course. You will be notified in advance.)

**Criteria**

*You will know you are successful when*
5.1. you assemble necessary equipment
5.2. you prepare electrosurgical unit for use
5.3. you place grounding pad
5.4. you identify mechanical methods
5.5. you identify chemical methods
5.6. you identify thermal methods
5.7. you discuss mechanisms of hemostasis
5.8. you identify common disorders of hemostasis

Learning Objectives
5.a. Analyze the principles of hemostasis.
5.b. Differentiate among various methods of hemostasis.
5.c. Identify special techniques of hemostasis.
5.d. Demonstrate surgical technologists' role in hemostasis

6. Perform assistant circulator role in the perioperative phase

Assessment Strategies
6.1. by applying the principles and skills in a role-play
6.2. in an oral, written, demonstrative or graphic response
6.3. by answering questions that require you to apply knowledge about this competency [Your instructor may require several written exams as a part of this course. You will be notified in advance.]

Criteria

Performance will be successful when:
6.1. INTRAOPERATIVE
6.2. you monitor OR traffic
6.3. you anticipate needs of sterile team
6.4. you perform counts
6.5. you provide specimen care
6.6. you perform intraoperative documentation
6.7. you monitor the sterile field
6.8. POSTOPERATIVE
6.9. you provide and secure dressings and drains
6.10. you assist transferring patient from OR table to stretcher
6.11. you document
6.12. you assist with break down of OR
6.13. you analyze the immediate postoperative care of the surgical patient

Learning Objectives
6.b. Analyze the immediate postoperative care of the surgical patient.
6.c. Perform postoperative assistant circulator duties.
6.d. Perform decontamination of the OR environment and equipment.

7. Demonstrate care and handling of dressing materials

Assessment Strategies
7.1. in an oral, written, demonstrative and/or graphic response
7.2. by answering questions that require you to apply knowledge about this competency [Your instructor may require several written exams as a part of this course. You will be notified in advance.]

Criteria

You will know you are successful when
7.1. you maintain principles of sterile technique while applying dressings to the surgical wound
7.2. you request dressings be opened at appropriate time
7.3. you prepare dressings materials as needed
7.4. you cleanse and dry the skin prior dressing application
7.5. you apply the dressing as directed
7.6. you secure the dressing
7.7. you identify appropriate dressing materials for various surgical wounds
Learning Objectives
7.a. Compare and contrast types of surgical and specialty dressings.
7.b. Identify various types of dressings used on the surgical patient.
7.c. Discuss different types of adhesive materials.
7.d. Differentiate between dressings and sponges.
7.e. Evaluate the purposes of surgical dressings.
7.f. Analyze the importance of postoperative wound care.
7.g. Describe the importance of proper surgical dressing application techniques.
7.h. Apply proper principles of sterile technique and demonstrate the application of commonly used types of surgical and specialty dressings.

8. Prepare catheters and drains for use

Assessment Strategies
8.1. in an oral, written, demonstrative and/or graphic response
8.2. by answering questions that require you to apply knowledge about this competency [Your instructor may require several written exams as a part of this course. You will be notified in advance.]

Criteria
You will know you are successful when
8.1. you maintain principles of sterile technique while handling catheters/drains
8.2. you identify types of catheters and drains for use in surgical procedures
8.3. you differentiate between types and uses of catheters and drains
8.4. you prepare catheters/drains for specific use

Learning Objectives
8.a. Compare and contrast the types and characteristics of various catheters and drainage devices.
8.b. Correlate the correct drainage device for each drain.
8.c. Compare and contrast the conceptual differences between gravity and vacuum drainage.
8.d. Prepare catheters and drains for intraoperative use.
8.e. Prepare anchoring devices for drains.

9. Perform specimen care and handling

Assessment Strategies
9.1. in an oral, written, demonstrative and/or graphic response
9.2. by answering questions that require you to apply knowledge about this competency [Your instructor may require several written exams as a part of this course. You will be notified in advance.]

Criteria
You will know you are successful when
9.1. you demonstrate handling techniques of different specimens
9.2. you pass the specimen to a nonsterile person
9.3. you identify and record the type of specimen
9.4. you follow safety protocols
9.5. you identify specimen type that may be collected
9.6. you identify types of specimen containers
9.7. you assess methods utilized in specimen identification and test[s]

Learning Objectives
9.b. Discuss methods of obtaining specimens.
9.c. Describe the handling and preservation for specific types of specimens.
9.d. Discuss the types of specimen containers.
9.e. Describe the procedure for specimen labeling and transfer to appropriate departments.
9.f. Discuss areas for specimen storage.

10. Perform intraoperative case management in the scrub role

Assessment Strategies
10.1. in an oral, written, demonstrative and/or graphic response
10.2. by answering questions that require you to apply knowledge about this competency [Your instructor may
require several written exams as a part of this course. You will be notified in advance.]

Criteria

You will know you are successful when

10.1. you pass instruments following requests or hand signals to the surgeon
10.2. you pass needed supplies and items as requested
10.3. you keep the patient area and mayo stand neat
10.4. you return instruments not in use by the surgeon to the appropriate location
10.5. you request supplies as needed
10.6. you label all solutions/medications appropriately before use
10.7. you handle specimen appropriately
10.8. you prepare closure materials at appropriate times
10.9. you initiate counts
10.10. you recognize contamination and take appropriate action
10.11. you request dressings at the end of the procedure
10.12. you clear the field of instruments, equipment, sharps and supplies at end of procedure
10.13. you move mayo stand away from patient
10.14. you perform in a timely manner
10.15. you utilize principles of exposure

Learning Objectives

10.a. Employ basic routines of case management.
10.b. Assess specific variations of intraoperative technique.
10.c. Apply skin incision and procedural concepts.
10.d. Apply techniques for tissue exposure.

11. Perform postoperative case management in the scrub role

Assessment Strategies

11.1. in an oral, written, demonstrative and/or graphic response
11.2. by answering questions that require you to apply knowledge about this competency [Your instructor may require several written exams as a part of this course. You will be notified in advance.]

Criteria

You will know you are successful when

11.1. you gather reusable supplies and equipment following facility policy
11.2. you dispose of sharps, linen and waste following facility policy
11.3. you return used instruments according to facility policy
11.4. you remove soiled surgical attire appropriately
11.5. you return items to proper storage area
11.6. you apply principles of disinfection while processing the OR for another procedure
11.7. you consistently practice standard precautions
11.8. you assist with patient transfer

Learning Objectives

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

12. Drape the patient, equipment, and furniture for surgical procedures

Assessment Strategies

12.1. in an oral, written, demonstrative and/or graphic response
12.2. by answering questions that require you to apply knowledge about this competency [Your instructor may require several written exams as a part of this course. You will be notified in advance.]

Criteria

You will know you are successful when

12.1. you apply sterile technique in draping the mayo stand and/or ancillary tables
12.2. you pass drapes in accordance with surgeon preference
12.3. you assemble drapes in order of use
12.4. you pass instrumentation utilized to secure draping as needed
12.5. you determine the placement of the drapes needed for special equipment [i.e. c-arm drape]
12.6. you maintain sterility of the drape while draping
12.7. you recognize contamination and take corrective actions

Learning Objectives
12.a. Differentiate among various types of drapes.
12.b. Describe various types of draping material used in surgical procedures.
12.c. Select the appropriate drapes for specific positions and surgical procedures.
12.d. Demonstrate the aseptic principles of draping the patient, equipment and furniture.

13. Examine emergency situations that may arise in the surgical setting

Assessment Strategies
13.1. in an oral, written, demonstrative and/or graphic response
13.2. by answering questions that require you to apply knowledge about this competency [Your instructor may require several written exams as a part of this course. You will be notified in advance.]

Criteria
Your performance will be successful when:
13.1. you perform duties within the scope of practice related to emergencies in the OR setting
13.2. you describe emergency procedures carried out in the OR setting
13.3. you determine the role of the Surgical Technologist during malignant hyperthermia
13.4. you determine the role of the Surgical Technologist during cardiac arrest/CPR
13.5. you determine the role of the Surgical Technologist during hemolytic reaction
13.6. you determine the role of the Surgical Technologist during anaphylactic reaction
13.7. you determine the role of the Surgical Technologist during hemorrhage
13.8. you determine the role of the Surgical Technologist during fluid and hemodynamic disorders

Learning Objectives
13.a. Perform duties related to emergencies in the OR setting.
13.b. Describe the emergency procedures carried out in the OR setting.
13.c. Obtain CPR certification.

14. Demonstrate the assembly, care, and utilization of surgical equipment

Assessment Strategies
14.1. in an oral, written, demonstrative and/or graphic response
14.2. by answering questions that require you to apply knowledge about this competency (Your instructor may require several written exams as part of this course. You will be notified in advance.)

Criteria
You will know you are successful when
14.1. you explain the function of accessory equipment
14.2. you demonstrate the assembly of equipment
14.3. you demonstrate the care of equipment

Learning Objectives
14.a. Assess the function, assembly, use and care of equipment in the surgical environment.
14.b. Describe the application of surgical equipment.
14.c. Describe various types of accessory equipment.
14.d. Describe types of specialty equipment.

15. Perform initial steps for starting a surgical procedure

Assessment Strategies
15.1. in an oral, written, demonstrative and/or graphic response
15.2. by answering questions that require you to apply knowledge about this competency [Your instructor may require several written exams as a part of this course. You will be notified in advance.]

Criteria
You will know you are successful when
15.1. you bring the mayo stand to the sterile field
15.2. you position sterile draped furniture for efficient use
15.3. you place light handles
15.4. you secure cords and tubing to the sterile field
15.5. you place mayo stand over patient appropriately for the procedure
15.6. you place appropriate sponges on patient
15.7. you hand appropriate instruments to surgeon as requested

Learning Objectives
15.a. Perform perioperative monitoring of the sterile field principles.
15.b. Perform time and motion economy principles.