



HEALTHCARE SCIENCE

COURSE: 25.564 Emergency and Disaster Preparedness

UNIT: 14.1 Basic Treatment for Fractures and Sprains



INTRODUCTION

Annotation:

This unit will give basic guidelines for the level training according to CERT standards. Topics covered under this lesson plan are fractures, sprains, strains, and dislocation. The procedure for splinting and immobilizing an injury are also covered in this unit.

Grade(s):

<input type="checkbox"/>	9 th
<input checked="" type="checkbox"/>	10 th
<input checked="" type="checkbox"/>	11 th
<input checked="" type="checkbox"/>	12 th

Time: Five 50 minute class periods

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Students with Disabilities:

For students with disabilities, the instructor should refer to the student's IEP to be sure that the accommodations specified are being provided. Instructors should also familiarize themselves with the provisions of Behavior Intervention Plans that may be part of a student's IEP. Frequent consultation with a student's special education instructor will be beneficial in providing appropriate differentiation.



FOCUS STANDARDS

GPS Focus Standards:

HS-EDP-6. Students will demonstrate the ability to identify and treat injuries of victims in a disaster or emergency situation.

- f. Apply splints to suspected fractures and sprains and employ basic treatments for other wounds.

GPS Academic Standards:

SAP1. Students will analyze anatomical structures in relationship to their physiology functions.

SAP2. Students will analyze the interdependence of the integumentary, skeletal, and muscular systems as these relate to the protection, support and movement of the body.

ELA10C. The student demonstrates understanding and control of the rules of the English language, realizing that usage involves the appropriate application of conventions and grammar in both written and spoken formats.

National / Local Standards / Industry / ISTE:

CTAE-FS- 4 Problem Solving and Critical Thinking: Learners define and solve problems, and use problem-solving and improvement methods and tools.

CTAE-FS-5 Information Technology Applications: Learners use multiple information technology devices to access, organize process, transmit, and communicate information.

CTAE-FS-6 Systems: Learners understand a variety of organization structures and functions.

CTAE-FS-7 Safety, Health and Environment: Learners employ safety, health and environmental management systems in corporations and comprehend their importance to organizational performance and regulatory compliance.

CTAE FS- 8 Leadership and Teamwork: Learners apply leadership and teamwork skills in collaborating with others to accomplish organizational goals and objectives.



UNDERSTANDINGS & GOALS

Enduring Understandings:

Many calls for EMS services may involve muscle or bone injuries. It is important for the rescuers to understand how to assess and provide prehospital care in an efficient and safe manner. Communicating with victims in a calm manner will help the rescuer in gaining the cooperation of victims. The rescuer should understand the nature of bone and muscle injuries and how to do no further harm in providing care.

Essential Questions:

- How should bone and muscle injuries be assessed?
- How should care be provided to victims with bone and muscle injuries?
- What safety precautions should be followed in caring for victims with bone or joint injuries?

Knowledge from this Unit:

- Recall the steps for basic treatment of fractures.
- Define different types of fractures.
- Recall the steps for basic treatment of a dislocation.
- Recall the steps for basic treatment of a sprain.
- Recall the steps for basic treatment of strain.
- Recognize the guidelines to apply a splint.
- Recognize items that may be used as a splint until advanced medical help is present.

Skills from this Unit:

- Demonstrate proper care for a victim with a fracture.
- Demonstrate proper care for a victim with a dislocation.
- Demonstrate proper care for a victim with a sprain.
- Demonstrate proper care for a victim with a strain.
- Demonstrate techniques used to immobilize an extremity and or a joint.



ASSESSMENT(S)

Assessment Method Type:

- ☒ Pre-test
- ☒ Objective assessment - multiple-choice, true- false, etc.
 - ☐ Quizzes/Tests
 - ☐ Unit test
- ☒ Group project
- ☐ Individual project
- ☐ Self-assessment - May include practice quizzes, games, simulations, checklists, etc.
 - ☐ Self-check rubrics
 - ☐ Self-check during writing/planning process
 - ☐ Journal reflections on concepts, personal experiences and impact on one's life
 - ☐ Reflect on evaluations of work from teachers, business partners, and competition judges
 - ☐ Academic prompts
 - ☐ Practice quizzes/tests
- ☐ Subjective assessment/Informal observations
 - ☐ Essay tests
 - ☐ Observe students working with partners
 - ☐ Observe students role playing
- ☒ Peer-assessment
 - ☒ Peer editing & commentary of products/projects/presentations using rubrics
 - ☐ Peer editing and/or critiquing
- ☒ Dialogue and Discussion
 - ☐ Student/teacher conferences
 - ☐ Partner and small group discussions
 - ☐ Whole group discussions
 - ☒ Interaction with/feedback from community members/speakers and business partners
- ☒ Constructed Responses
 - ☐ Chart good reading/writing/listening/speaking habits
 - ☒ Application of skills to real-life situations/scenarios
- ☒ Post-test

Assessment(s) Title:

CERT Fracture and Sprains Test

Assessment(s) Description/Directions:

This test is a fill in the blank and short answer. The test is taken from the Cert fracture, dislocation, sprains, and strains guideline.

Attachments for Assessment(s):

CERT Fracture and Sprains Test



LEARNING EXPERIENCES

Sequence of Instruction

1. Identify the Standards. Standards should be posted in the classroom for each lesson.

HS-EDP-6. Students will demonstrate the ability to identify and treat injuries of victims in a disaster or emergency situation.

2. Review Essential Questions.

- How should bone and muscle injuries be assessed?
- How should care be provided to victims with bone and muscle injuries?
- What safety precautions should be followed in caring for victims with bone or joint injuries?

3. Identify and review the unit vocabulary.

- Open Fracture
- Closed Fracture
- Displaced Fracture
- Non Displaced Fracture
- Anatomical Splint
- Immobilize
- Dislocation
- Sprain
- Strain

4. Assessment Activity.

- Instruct the students to write down each of the vocabulary in this unit and write what they think is the definitions for each. Compare answers. This can be used as a pre-test.
- Review the CERT manual information from Unit 4 -1 Part 2 the corresponding pages with this unit are 4-39 to 4-48. If a projector is available, the teacher can go to the website and students may follow along and take notes. <http://www.citizencorps.gov/cert/downloads/training/PM-CERT-Unit4Rev4.doc> . There is a power point that follows along with the manual that can be used in place of the word document. Inform the students when the test over this unit will be and write the date on the board. Have students take notes.
- Have the student draw each type of fracture. Post these in the room.

- Distribute the fracture worksheet.
- Review answers.
- Demonstrate the care of a fracture.
- Have the students practice. The teacher should walk around the area and observe the students with feedback.
- Demonstrate the technique used to splint a fracture, sprain and dislocation.
- Have students practice this procedure. The Teacher should walk around the area and observe the students with feedback.
- Review for the test
- Distribute the test

Attachments for Learning Experiences:

CERT Unit 4: Disaster Medical Operations – Part 2 (IG-CERT 4unit4 – this is the name of the attachment as it was saved from the website). Pages that correspond with this unit are **4-39 to 4-48**. This portion of the manual covers other topics used also with other lesson plans. The teacher can pull out the information that pertains to the topic of burns, wounds. This is where the information comes from for the test. The teacher may create a note taking worksheet from the test if they desire to do so.

Notes & Reflections:

There is a power point that follows along with the manual that can be used in place of the word document from the instructor’s manual. This lesson can be altered to accommodate the needs of the classroom.



CULMINATING PERFORMANCE TASK (Optional)

Culminating Unit Performance Task Title: Activity Sheet for Splinting

Culminating Unit Performance Task Description/Directions/Differentiated Instruction:

This activity is written as a guide for the teacher to instruct the class for splinting. The teacher may choose to make an individual guide for the students to follow by cutting and pasting.

Attachments for Culminating Performance Task:

Activity Sheet for Splinting



UNIT RESOURCES

Web Resources:

<http://www.citizencorps.gov/cert/downloads/training/PM-CERT-Unit4Rev4.doc>

This is the site where the outline material was retrieved

Attachment(s):

- Worksheet for fracture can be used as optional note taking and/or have students answer each question

Materials & Equipment:

- Gauze Pads
- Roller Bandage
- Magazines
- Blankets
- Pillows
- Cardboard
- Triangular bandage
- Computer
- LCD projector

What 21st Century Technology was used in this unit:

<input checked="" type="checkbox"/>	Slide Show Software
<input type="checkbox"/>	Interactive Whiteboard
<input type="checkbox"/>	Student Response System
<input type="checkbox"/>	Web Design Software
<input type="checkbox"/>	Animation Software
<input type="checkbox"/>	Email

<input type="checkbox"/>	Graphing Software
<input type="checkbox"/>	Calculator
<input type="checkbox"/>	Desktop Publishing
<input type="checkbox"/>	Blog
<input type="checkbox"/>	Wiki
<input checked="" type="checkbox"/>	Website

<input type="checkbox"/>	Audio File(s)
<input type="checkbox"/>	Graphic Organizer
<input type="checkbox"/>	Image File(s)
<input type="checkbox"/>	Video
<input type="checkbox"/>	Electronic Game or Puzzle Maker