GEORGIA | PEACH STATE PATHWAYS

Career, Technical, & Agricultural Education

HEALTHCARE SCIENCE

COURSE: 25.562 Concepts of Emergency Medicine

UNIT: 17.1 Lifting and Moving

INTRODUCTION

Annotation:

In this unit the student will learn about the principles of good body mechanics. They will gain an understanding of how to safely lift and move a patient. As well as learn about special devices that can be used to assist in lifting and moving. This unit involves a significant amount of hands on skills.

Grade(s):

	9th
	10th
X	11th
X	12th

Time:

Six 50 minute periods

Author:

Mark Elsey, BS, NREMT-P

Additional Author(s):

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: Please list the standard and elements covered.

HS-CEM-6:

Students will use necessary EMS equipment and will demonstrate the proper implementation of lifting and moving patients.

- **a.** Demonstrate proper safety applications with correct body mechanics when transferring or packaging patients or objects, utilizing various emergency medical transfer devices.
- **b.** Differentiate and demonstrate emergency moves and non-emergency moves that may be utilized by the Emergency Medical Services Provider.
- **c.** Summarize the First Responder's role in packaging and carrying patients as identified by local jurisdiction and how it differs from the Emergency Medical Technician's.

GPS Academic Standards:

ELA11C1: 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.

MM3P4: Students will make connections among mathematical ideas and to other disciplines.

MM3P5: Students will represent mathematics in multiple ways.

National / Local Standards / Industry / ISTE:

See module at:

www.nhsta.gov/people/injury/ems/pub/frnsc.doc

Lesson 1-5

Lifting and Moving Patients

UNDERSTANDINGS & GOALS

Enduring Understandings:

- Lifting and moving a patient is a very important part of patient care for the EMS provider.
- It is vital to the provider's and the patient's safety that proper body mechanics is practiced.
- Emergency situations may require that providers use a variety of lifting and moving techniques.

.Essential Questions:

- How can EMS providers safely lift and move patients in various emergency situations?
- Why is teamwork and proper lifting techniques important when moving a victim?
- How can power equipment be developed to assist moving patients in the pre-hospital arena?
- How can proper ergonomics assist with lifting and moving of patients?

Knowledge from this Unit: Factual information.

What students should know:

- Principles of good body mechanics
- How to assess and determine what lifting and moving techniques to use for a First Responder
- Principles of moving patients
- Emergency and non-emergency moves that may be used by a First Responder
- How to perform moving and lifting techniques safely and correctly for a First Responder
- Types of equipment that can be used by a First Responder in moving and lifting patients.

Skills from this Unit: Performance.

What students should be able to do:

- Demonstrate proper safety applications with correct body mechanics when transferring or packaging patients or objects, utilizing various emergency medical transfer devices.
- Differentiate and demonstrate emergency moves and non-emergency moves that may be utilized by the First Responder.
- Summarize the First Responder's role in packaging and carrying patients as identified by local jurisdiction.
- Summarize and support the skills needed to provide various forms of emergency care to infants and children suffering from medical illnesses or traumatic injuries.

ASSESSMENT(S)

Assessment Method Type: Select one or more of the following. Please consider the type(s) of differentiated instruction you will be using in the classroom.

____ Pre-test
X Objective assessment - multiple-choice, true- false, etc.
_X_ Quizzes/Tests
_X_ Unit test
X Group project
X 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
X Subjective assessment/Informal observations
__ Essay tests
_x_ Observe students working with partners
_x_ Observe students role playing
X Peer-assessment
__ Peer editing & commentary of products/projects/presentations using rubrics
__ Peer editing and/or critiquing
X Dialogue and Discussion
__ Student/teacher conferences
__ Partner and small group discussions
_x_ Whole group discussions
__ Interaction with/feedback from community members/speakers and business partners
X Constructed Responses
__ Chart good reading/writing/listening/speaking habits
_x_ Application of skills to real-life situations/scenarios
____ Post-test

Assessment(s) Title:

- Lifting power point
- Research project on lifting and moving techniques
- Vocabulary contract
- Spinal Immobilization rubric from http://www.nremt.org/nremt/downloads/spinalimmobilizationsupine.pdf

Assessment(s) Description/Directions:

- Students will create a Power Point presentation on proper lifting techniques and improper lifting techniques assessed by the project rubric on www.teachnology.com or individual teacher made rubric.

- As a group, students complete a written report and research presentation on lifting and moving techniques. Recommended to divide students into four groups. Utilize an individualized, teacher made rubric or both the team work and project rubric at www.teachnology.com.
- Learners will complete the workbook pages related to this unit. Workbook pages will be graded on a 100 point scale.
- Students complete a written exam on a scale of 0-100 to assess understanding of lifting and moving.
- Students will complete the Chapter Key Terms (Definitions) using a vocabulary contract. Vocabulary Contract will be graded on a 100 point scale.
- Students will be practically evaluated on lifting techniques.

Attachments for Assessment(s):

LEARNING EXPERIENCES

Instructional planning: Include lessons, activities and other learning experiences in this section with a brief description of the activities to ensure student acquisition of the knowledge and skills addressed in the standards. Complete the sequence of instruction for each lesson/task in the unit.

Sequence of Instruction

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

HS-CEM-6. Students will use necessary EMS equipment and will demonstrate the proper implementation of lifting and moving patients.

2. Review Essential Questions.

- How can EMS providers safely lift and move patients in various emergency situations?
- Why is teamwork and proper lifting techniques important when moving a victim?
- How can power equipment be developed to assist moving patients in the pre-hospital arena?
- How can proper ergonomics assist with lifting and moving of patients?

3. Identify and review the unit vocabulary.

Body mechanics	Non-urgent move	Power Grip
Emergency move	Recovery position	Urgent move

4. Interest Approach

Many EMS personnel are injured every year because they attempt to lift patients improperly.

LESSON ONE

Lecture to the class about the:

- PRINCIPLES OF MOVING PATIENTS

A. What is the role of First Responder?

1. Whenever possible, you should not move patient.
2. Keeping your patient at rest is best course of action.

B. When do you move a patient?

1. Only if there is an immediate danger to patient or others if not moved
2. In order to prevent further injury
3. To assist other EMS responders to lift and move patient

- BODY MECHANICS AND LIFTING TECHNIQUES

** At this point show the interactive DVD, Operation Safe- EMS. This DVD covers lifting, body mechanics and offers a quiz at the end for the students to refer to.

After the DVD reemphasize these points and answer any questions from the students.

A. Body mechanics

1. Proper use of your body to facilitate lifting and moving
2. Lift with partner whose strength and height are similar to yours.
3. Communicate with partner and patient throughout move.

B. Follow these rules to prevent injury

1. Position your feet properly.
2. Use your legs not back to lift. Keep back straight and bend knees.
3. Never twist or attempt to make any moves other than lift.
4. When lifting with one hand, do not compensate.
6. When carrying patient on stairs, use a stair chair.

**Remind the students to wear older clothes tomorrow, that they don't mind getting dirty.

LESSON TWO

The next two days are used to help the student learn how to move people.

- MOVING AND POSITIONING PATIENTS

Lecture and demonstrate the following moves to the students.

A. Emergency moves

1. There are times when an emergency move is necessary.
   a. There is immediate danger to patient if not moved.
   b. Lifesaving care cannot be given because of patient's location or position.
   c. You are unable to gain access to other patients who need lifesaving care.
2. Emergency moves provide little protection to patient.
3. Greatest danger is possibility of making a spinal injury worse.
4. Extreme care must be taken to move the body in one

- Types of emergency moves

a. One-rescuer drags

1) Clothes drag
2) Incline drag
3) Shoulder drag
4) Foot drag
5) Firefighter's drag
6) Blanket drag

One-rescuer moves

1) One-rescuer assist
2) Cradle carry
3) Pack strap carry
4) Firefighter's carry
5) Piggy back carry

Two-rescuer moves

1) Two-rescuer assist
2) Firefighter's carry with assist

Have students demonstrate these emergency moves in the classroom or larger area of the school, weather permitting, take the students outside.

**Remind the students to wear older clothes tomorrow, that they don't mind getting dirty.

LESSON THREE

Lecture and demonstrate the following moves to the students.

- Non-emergency Moves
  1. Used when there is no immediate threat to life.
     a. Patient should be conscious.
     b. Initial assessment should be completed.
     c. Pulse and breathing rates and character should be stable and within normal ranges.
     d. There should be no uncontrolled external bleeding or any indications of internal bleeding.
     e. There must be absolutely no signs of neck or spinal injury.
     f. All possible fractures and extremity injuries must be immobilized or splinted.

  2. A non-emergency move could be justified when
     a. Factors at scene cause patient decline
     b. You must reach other patients
     c. Care requires moving patient
     d. Patient insists on being moved

  3. Types of non-emergency moves
     a. Direct ground lift
     b. Extremity lift

Have students demonstrate a non-emergency move.

**Remind the students to wear older clothes tomorrow, that they don't mind getting dirty.

LESSON FOUR

The next two days will be used to cover familiarizing the student with the following types of EMS equipment. Allow the student to practice hands on techniques.

- EQUIPMENT FAMILIARITY
  A. Become familiar with various packaging and loading devices.
  B. Types of packaging and loading devices
     1. Wheeled ambulance stretcher
     2. Portable stretcher

3. Stair chair
4. Scoop (orthopedic) stretcher
5. Spine boards
    a. Long
    b. Short
6. Vest-type extrication device
7. Basket stretcher
8. Flexible stretcher

C. Cervical spine immobilization collar
1. Use correct type
2. Use correct size
3. Applying to a seated patient
4. Applying to a supine patient

**Remind the students to wear older clothes tomorrow, that they don't mind getting dirty.

LESSON FIVE

Divide students into 7 groups of 4. As a team, ask them to practice using the equipment provided.

Have students demonstrate the use of equipment utilized to move patients in the out-of-hospital arena. Have various devices in the classroom, from **LESSON FOUR**, so students can become more familiar with them and how they work.

Explain that even though the First Responder usually doesn't have these devices available, they may well be asked to assist other EMS providers when they arrive with this equipment.

LESSON SIX

Ask students to clear their desks and use a pen or pencil.
Administer the Unit's written assessment, approximately 8 multiple choice, and 2 short answers.
Grade and return.

Prepare students for GPS CEM-7

Attachments for Learning Experiences:

Notes & Reflections: May include notes to the teacher, pre-requisite knowledge & skills, suggestions, etc.

The students will enjoy doing this unit, throw in some scenarios and use different parts of the school. My students loved to go outside and practice at the stadium or even from someone's car or truck.

Remediation Sheets or "Ticket out the Door"

The remediation sheet should be completed after every class to identify individual students or groups of students having difficulty demonstrating the cognitive, affective or psychomotor objectives of the lesson. The instructor should provide appropriate remediation to the individual or group before the next class. Instructors should assist students to achieve success in the program.
These sheets should be copied and placed at the end of each lesson.

First Responder Remediation Sheet

Date	Student
Area of Difficulty	
Action Plan	
Completed	

CULMINATING PERFORMANCE TASK (Optional)

Culminating Unit Performance Task Title:

Culminating Unit Performance Task Description/Directions/Differentiated Instruction:

Attachments for Culminating Performance Task: Please list.

UNIT RESOURCES

Web Resources:

EMS-Related Organizations
The organizations listed below offer resources for specific EMS interests and information. Some organizations offer training opportunities through local branches. To obtain membership, dues, and participation information, write to the organization(s) most closely associated with your interests.
This is only a sampling of EMS-related organizations. EMS journals and other EMS professionals may provide information on additional organizations.

American Red Cross (ARC)
National Disaster Response
Contact your local Red Cross chapter

American Trauma Society (ATS)
Membership Department
8903 Presidential Parkway, Suite 512
Upper Marlboro, MD 20772-2656

FARMEDIC National Training Center
ATTN: Dave Oliver
Alfred State College
Alfred, NY 14802

Florida EMS Clearinghouse
2002 Old St. Augustine Road, Building D
Tallahassee, FL 32301

International Association of Dive Rescue Specialists (IADRS)
P.O. Box 5259
San Clemente, CA 92674-5259

International Critical Incident Stress Foundation, Inc.
ATTN: Team Information
5018 Dorsey Hall Drive, Suite 104
Ellicott City, MD 21042

National Association For Search And Rescue
4500 Southgate Place, Suite 100
Chantilly, VA 22021

National Association of Emergency Medical Technicians (NAEMT)
102 West Leake Street
Clinton, MS 39056

National Association of EMS Physicians (NAEMSP)
230 McKee Place, Suite 500
Pittsburgh, PA 15213

National Flight Paramedic's Association
35 South Raymond Avenue, Suite 205
Pasadena, CA 91105

National Registry of Emergency Medical Technicians (NREMT)
ATTN: First Responder Department
6610 Busch Boulevard
Columbus, OH 43229

Air Medical Physician Association
(AMPA) Ms. Pat Petersen, Executive Director
383 F St. Salt Lake City, UT 84103
website: www.ampa.org.

Association of Air Medical Services (AAMS)
Ms. Dawn Mancuso, Executive Director
110 North Royal St., Suite 307
Alexandria, VA 22314
703 836 8732; fax 703 836 8920
e-mail: dmancuso@aams.org website: www.aams.org.

National EMS Pilots Association (NEMPSA)
Ms. Dawn Mancuso, Executive Director
110 North Royal St., Suite 307
Alexandria, VA 22314
703 836 8732; fax 703 836 8920
e-mail: dmancuso@aams.org
website: www.nemspa.org.

A**ir & Surface Transport Nurses Association**
(ASTNA) Ms. Karen Wojdyla, Executive Director 9101 E. Kenyon Ave., Suite 3000
Denver, CO 80237
303-770-2220; fax 303-770-1812
e-mail: info@gwami.com
website: www.astna.org.

National Flight Paramedics Association
(NFPA) Ms. Pat Petersen, Executive Director 383 F St. Salt Lake City, UT 84103
801 381 NFPA; fax 801 321 1668
website: www.nfpa.rotor.com.

http://health.state.ga.us/programs/ems/offices
www.mosbyjems.com
www.dhs.gov
www.nhtsa.dot.gov
www.lungusa.org
www.innerbody.com
www.spinalcord.org
www.emsmagazine.com
www.childbirth.org
www.amhrt.org
www.techrescue.org
www.jems.com

www.nremt.org
www.osha.gov
www.cdc.gov

Attachment(s):

- From Ferno,Inc.; www.ferno.com, the operation Safe-EMS Interactive DVD, free upon request.

Candidate evaluation forms from www.nremt.org

Materials & Equipment:

AV Equipment: Use various audiovisual materials relating to lifting and moving techniques. The continuous design and development of new audiovisual materials relating to EMS requires careful review to determine which best meet the needs of the program. Materials should be edited to ensure the objectives of the curriculum are met.

PowerPoint to accompany the GPS CEM-6

EMS Equipment:
7 KED's (Body splint)
7 Cervical collars
7 Backboards (short & long)
14 neckrolls
2 Stairchairs
2 Scoop Stretchers
28 Straps
2 Wheeled ambulance stretcher

Additional Materials: Portable stretcher, basket stretcher

What 21st Century Technology was used in this unit:

X	Slide Show Software		Graphing Software		Audio File(s)
	Interactive Whiteboard		Calculator		Graphic Organizer
	Student Response System		Desktop Publishing		Image File(s)
	Web Design Software		Blog	X	Video
	Animation Software		Wiki		Electronic Game or Puzzle Maker
	Email	X	Website		