

HOSA 105

HOSA



EMERGENCY PREPAREDNESS

MODULE 5: EMERGENCY RESPONSE SKILL DEVELOPMENT

PURPOSE

HOSA and Health Science Education offer a variety of opportunities for students to develop emergency preparedness skills and certification, and to practice what they have learned in HOSA competitive events and in community partnerships.

Through the modules offered in this course, you have seen the variety of opportunities available to future healthcare professionals in different levels of emergency preparedness. The training you offer provides students with an opportunity to network with a variety of healthcare professionals. This type of networking can be helpful to the student when it comes to choosing a career path and gaining a deeper understanding for the career he/she may be planning to pursue.

Participation in school and community emergency preparedness gives students a chance to practice their skills “now” and in the future as contributing members of their communities.

OBJECTIVES

1. Identify HOSA Emergency Preparedness events.
2. Compare HOSA events with classroom instructional outcomes.
3. Teach rescue operation skills in the classroom.
4. Analyze opportunities for emergency response skill development in your health science program.

CONTENT

Beginning in 2008-09, HOSA will offer six (6) events in the Emergency Preparedness Events Category. They are as follows:

CPR/First Aid

This is the oldest of HOSA's emergency preparedness events, and consists of two rounds of competition for a 2-person team. Round One is a written, multiple choice test of knowledge and understanding. The top scoring teams will advance to Round Two for the performance of selected skill procedure(s) identified in a written scenario. The scenario will require the use of critical thinking skills. The performance will be timed and evaluated according to the event guidelines. Skills include:

- Bleeding
- Fracture
- Burns
- Heat Exposure
- Choking: Responsive Infant Becomes Unresponsive
- Obstructed Airway: Conscious Adult Becomes Unconscious
- Adult Team CPR
- Two-Rescuer AED-CPR – Adult

EMT

The EMT event is similar to the CPR/First Aid event but incorporates the more advanced skills of the basic EMT, including:

- Patient Assessment - Trauma
- Patient Assessment - Medical
- Airway, Oxygen and Ventilation Skills
- Immobilization/Splinting
- Bleeding Control/Shock Management
- Cardiac Arrest Management/AED

First Aid/Rescue Breathing

The goal of this event is to provide Health Science students with an opportunity to develop and demonstrate knowledge and skills in basic first aid and rescue breathing in emergency care. The difference between this event and CPR/First Aid is that the Rescue Breathing event is exclusively for students with special needs. Competitors must be classified under the provision of The Individuals with Disabilities Education Act Amendments of 1997 Public Law 105-17 and must have an IEP. The skills are slightly easier than those in CPR/First Aid, but the standards for care are the same.

- Bleeding
- Fracture
- Adult Rescue Breathing
- Infant Rescue Breathing

CERT

Added to the National HOSA Competitive Events program in 2007, this event is designed to provide Health Science students with an opportunity to develop and demonstrate knowledge and skills they will need to respond to their community's immediate needs in the aftermath of a disaster, when emergency services are not immediately available. Like CPR/First Aid, it consists of two rounds of competition for a 2-person team. Round One is a written, multiple choice test of knowledge and understanding. The top scoring teams will advance to Round Two for the performance of selected skill procedure(s) identified in a written scenario. The scenario will require the use of critical thinking skills.

- Treating Life-Threatening Conditions
- Triage
- Head-to-Toe Assessment
- Lifts and Carries

Public Health Emergency Preparedness

This new event has been approved for implementation in 2008-09. The Public Health Emergency Preparedness event involves a presentation by a team of HOSA members on a topic in public health. Topic areas include:

- Bioterrorism, radiation and chemical emergencies
- Mass casualties
- Natural disasters and severe weather
- Recent outbreaks and incidents

Epidemiology

This new event has been approved for implementation in 2008-09. This is an individual, written event that will evaluate the competitor's knowledge of the incidence and distribution of diseases in large populations, and the conditions influencing the spread and severity of disease.

CERT Lifts and Carries

This information is taken from the CERT Training Participant Manual, Unit 5, produced by the CERT Program Office, cert@dhs.gov Complete CERT training materials can be found at https://www.citizencorps.gov/cert/training_downloads.shtm

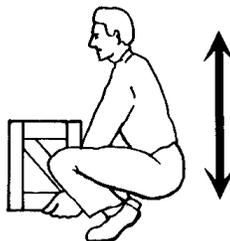
Creating a Safe Environment

There are three goals for all rescue operations:

- To maintain rescuer safety
- To triage in lightly and moderately damaged buildings
- To evacuate victims as quickly as possible from moderately damaged buildings while minimizing additional injury

None of these goals can be achieved without creating as safe an environment as possible before attempting rescue. There are, therefore, certain precautions that rescuers must take to minimize risk.

- Know your limitations. Many volunteers have been injured or killed during rescue operations because they did not pay attention to their own physical and mental limitations. CERT rescuers should take the time to eat, drink fluids, rest, and relax so that they can return with a clear mind and improved energy.
- Follow safety procedures. CERT members should always use the proper safety equipment required for the situation and follow established procedures, including:
 - Working in pairs.
 - Never entering an unstable structure.
 - Lifting by bending the knees, keeping the back straight, and pushing up with the legs.
 - Carrying the load close to the body.
 - Lifting and carrying no more than is reasonable.



Proper Body Position for Lifting

Proper Body Position for Lifting showing the back straight and lifting with the knees.

You may encounter situations in which debris needs to be moved to free victims. In these situations, CERT rescuers should consider leveraging and cribbing to move and stabilize the debris until the rescue is complete.

- Leveraging is accomplished by wedging a lever under the object that needs to be moved, with a stationary object underneath it to act as a fulcrum. When the lever is forced down over the fulcrum, the far end of the lever will lift the object.
- A crib is a wooden framework used for support or strengthening. Box cribbing means arranging pairs of wood pieces alternately to form a stable rectangle.

Leveraging and cribbing are used together by alternately lifting the object and placing cribbing materials underneath the lifted edge to stabilize it. Safety is number 1: "Lift an inch; crib an inch."

Leveraging and cribbing should be gradual—both for stability and to make the job easier. It may also be necessary to use leveraging and cribbing at more than one location (e.g., front and back) to ensure stability.

When you are able to achieve sufficient lift, remove the victim and reverse the leveraging and cribbing procedure to lower the object.

When you must remove debris to locate victims, you should set up a human chain and pass the debris from one person to the next. Set up the chain in a position that will not interfere with rescue operations. Wear leather gloves to protect your hands.

Removing Victims

There are two basic types of removal:

- Self-removal or assist
- Lifts and drags

It is usually best to allow an ambulatory victim to extricate himself or herself. However, sometimes ambulatory victims are not as strong and uninjured as they think that they are. When victims become free from entrapment, they may need assistance to exit the structure.

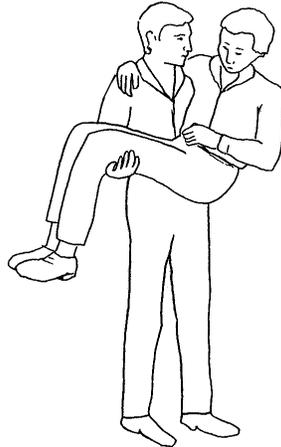
The type of extrication method selected should depend on the:

- General stability of the immediate environment.
- Number of rescuers available.
- Strength and ability of the rescuers.
- Condition of the victim.

If safety and time permit, you should not use lifts and drags to remove victims when closed-head or spinal injury is suspected. In such cases, the spine must be stabilized using a backboard. Doors, tables, and similar materials can be used as improvised backboards. The backboard must be able to carry the person, and proper lifting techniques must be used. When moving victims, rescuers must use teamwork and communication, and keep the victim's spine in a straight line. Remember, rescuer safety and the condition of the building will dictate the approach.

There are several types of lifts and carries. For example, if the rescuer is physically able and the victim is small, he or she may use the one-person arm carry to lift and carry the victim by:

- Reaching around the victim's back and under the knees.
- Lifting the victim while keeping the rescuer's back straight and lifting with the legs.



One-Person Arm Carry

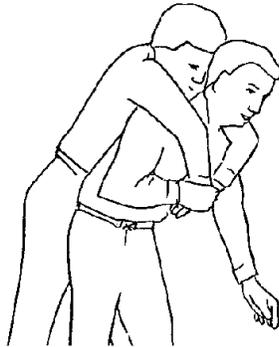
One-Person Arm Carry, which shows the rescuer holding the victim around the victim's back and under the knees.

Note: Consider the size of the victim and the distance he or she needs to be carried before using this carry.

Another way for a single rescuer to lift a victim safely is by using the one-person pack-strap carry. Using this method, the rescuer should follow the steps outlined below:

- Step 1: Stand with his or her back to the victim.
- Step 2: Place the victim's arms over the rescuer's shoulders and grab the hands in front of the rescuer's chest.

- **Step 3:** Hoist the victim by bending forward slightly, until his or her feet just clear the floor.



One-Person Pack-Strap Carry

One-Person Pack-Strap Carry in which the rescuer places the victim's arms over his or her shoulder and grabs the victim's hands over his or her chest, then hoists the victim by bending over slightly.

Victim removal is easier when multiple rescuers are available. With two rescuers, a victim may be removed using a two-person lift.

- **Rescuer 1:** Squat at the victim's head and grasp the victim from behind around the midsection. Reach under the arms and grasp the victim's forearms.
- **Rescuer 2:** Squat between the victim's knees, facing either toward or away from the victim. Grasp the outside of the victim's legs at the knees.
- **Both rescuers:** Rise to a standing position, keeping backs straight and lifting with the legs. Walk the victim to safety.

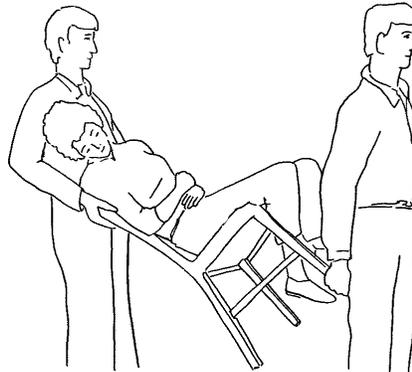


Two-Person Carry

Two-Person Carry in which rescuer 1 squats at the victim's head and grasps the victim from behind at the midsection. Rescuer 2 squats between the victim's knees, grasping the outside of the knees. Both rescuers rise to a standing position.

Two rescuers can also remove a victim by seating him or her on a chair:

- **Rescuer 1**: Facing the back of the chair, grasp the back uprights.
- **Rescuer 2**: Facing away from the victim, reach back and grasp the two front legs of the chair.
- **Both rescuers**: Tilt the chair back, lift, and walk out.



Chair Carry

Chair Carry in which the victim is placed in a chair and tilted backward as rescuers lift the victim. This carry requires two rescuers.

You can use the blanket carry for victims who cannot be removed by other means. The blanket carry requires at least six rescuers to ensure stability for the victim, and one rescuer must be designated the lead person:

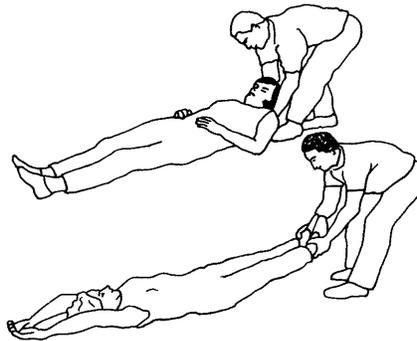
- **Step 1**: Lay a blanket next to the victim.
- **Step 2**: Tuck the blanket under the victim, and roll the victim into the center of the blanket.
- **Step 3**: With three rescuers squatting on each side and grasping a “handle,” the lead person checks the team for even weight distribution and correct lifting position.
- **Step 4**: The lead person calls out, “Ready to lift on the count of three: One, two, three, *lift.*”
- **Step 5**: The team lifts and stands in unison— keeping the victim level—and carries the victim feet first.

The team must also lower the victim together, using the following steps:

- Step 1: The lead person calls out, “Ready to lower on the count of three: One, two, three, *lower*.”
- Step 2: The team lowers the victim in unison, exercising caution to keep the victim level.

A variety of materials—such as blankets—can be used as improvised stretchers.

Rescuers can also drag a victim out of a confined area by grasping either under the arms or by the feet and pulling across the floor. However, unless there is no other way to remove the victim and the victim’s removal is time critical, you should not use this drag when debris may cause additional injury.

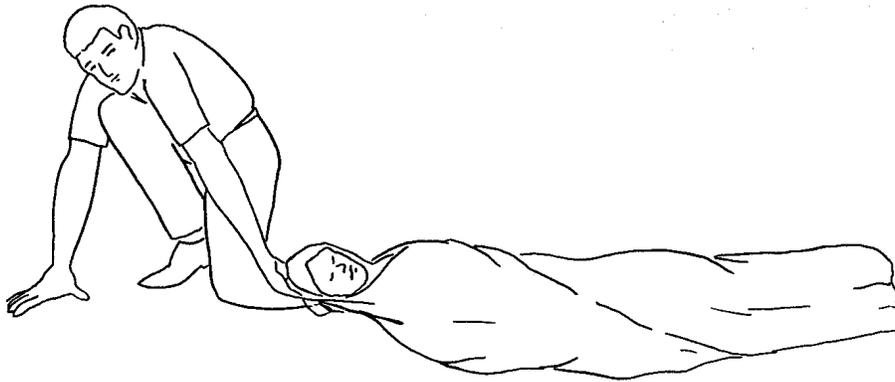


Correct Drag Techniques

Correct Drag Technique, showing the rescuer grasping the victim by either the feet or shoulders and dragging him or her clear of the hazard.

When necessary, one rescuer can use the blanket drag by following these steps:

- Step 1: Wrap the victim in a blanket.
- Step 2: Squat down and grasp an edge of the blanket.
- Step 3: Drag the victim across the floor.



Blanket Drag

Blanket Drag, showing the victim wrapped in a blanket with the rescuer squatting at the victim's head. The rescuer grasps the blanket behind the victim's head and drags him or her clear of the hazard.

Exercise: Removing Victims

Purpose: This exercise will provide you with an opportunity to practice the removal of victims from a collapse situation, using leveraging/cribbing and drags and carries. You will be assigned into groups and assigned to do a room search, locate victims, and remove the victims.

Instructions: Use the following steps to complete this exercise:

1. Enter your assigned "collapse site" room, do a room search, locate the victims and use leveraging and cribbing procedures to free them, and use appropriate lifts and drags to remove the victims from the room (and, if possible, from the building).
 2. Rotate roles so that there are two new victims. Repeat the exercise until everyone has had an opportunity to practice being a rescuer.
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ASSIGNMENTS – MODULE 5

1. Curriculum crosswalk. How well do HOSA events support classroom instruction? Considering up to three (3) courses that you teach, how do the outcomes achieved through event participation align with the instructional objectives in your curriculum?

List your courses at the top of the table in Attachment 5-1 and for each event, identify the objectives in that course that are supported by each event.

2. Teaching a new skill – Lifts and Carries. While CPR certification and basic first aid skills are a part of many Health Science programs, CERT training introduces students to skills not as widely included in the health science curriculum.

Spend a part of a class period teaching lifts and carries to your students. Provide the CERT Lifts and Carries information for your students. Following the instructions in the handout, teach the lifts and allow students to demonstrate them in class.

Note: *Student safety is the MOST important consideration.* Demonstrate carries with a manikin if necessary. Then, have all participants who are physically able pair up and practice the carry themselves. Note: Consider the size of the victim and the distance he or she needs to be carried before practicing any lift or carry. Give permission for participants to opt out of any carry with which they don't feel comfortable. Remind the participants that CERT members' safety is the number one priority.

Use the CERT event rating sheet in Attachment 5-2 to evaluate student performance in lifts and carries.

Date of Lifts and Carries Lesson _____

Number of students _____

Strengths of the lesson _____

Challenges _____

3. HOSA Emergency Event Management (Optional) Serve as an Event Manager or Section Leader in a HOSA Emergency Preparedness event at the Area, Regional, or State level. Write a summary of your experience and include it in your HSOA 105 notebook.

ATTACHMENT 5-1

EMERGENCY PREPAREDNESS CURRICULUM CROSSWALK

How well do HOSA events support classroom instruction? Considering up to three (3) courses that you teach, how do the outcomes achieved through event participation align with the instructional objectives in your curriculum?

List your courses at the top of the table and for each event, identify the objectives in that course that are supported by each event.

COURSES →			
CPR/First Aid			
EMT			
First Aid/Rescue Breathing			
CERT			
Public Health Emergency Preparedness			
Epidemiology			

ATTACHMENT 5-2 CERT – LIFTS AND CARRIES

Team #: _____ Section #: _____

Judge's Signature: _____

Procedure IV: Lifts and Carries	(10 minutes)	Possible	Allocated
<p><i>Judge instructs the smaller team member where to sit to assume the role of victim, and instructs the rescuer to move the victim to safety using the one-person arm carry.</i></p> <p>1. One-Person Arm Carry</p> <p>a. Verbalized to victim "I'm going to carry you to safety."</p> <p>b. Reached around the victim's back and under the knees.</p> <p>c. Lifted the victim while keeping the back straight and lifting with the legs.</p> <p>d. Carried victim to safe area and gently lowered victim to chair/ground, keeping the back straight and using the legs.</p>		<p>1</p> <p>1</p> <p>1</p> <p>1</p>	
<p><i>Judge instructs one team member where to sit to assume the role of victim, and instructs the other team member to move the victim to safety using the one-person pack-strap carry.</i></p> <p>2. One-Person Pack-Strap Carry</p> <p>a. Verbalized to victim "I'm going to carry you to safety."</p> <p>b. Stood with his/her back to the victim.</p> <p>c. Placed the victim's arms over the rescuer's shoulders and grabbed the hands in front of the rescuer's chest.</p> <p>d. Hoisted the victim by bending forward slightly, until his/her feet just cleared the floor.</p> <p>e. Carried victim to safe area and gently lowered victim to chair/ground, keeping the back straight and using the legs.</p>		<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	
<p><i>Judge instructs volunteer victim where to sit and instructs the rescuers to move the victim to safety using the two-person carry.</i></p> <p>3. Two-Person Carry</p> <p>a. Verbalized to victim "We are going to carry you to safety."</p> <p>b. Rescuer 1 squatted at the victim's head and grasped the victim from behind the midsection, then reached under the arms and grasped the victim's forearms.</p> <p>c. Rescuer 2 squatted between the victim's knees, facing either toward or away from the victim, and grasped the outside of the victim's legs at the knees.</p> <p>d. Both rescuers rose to a standing position, keeping backs straight and lifting with legs.</p> <p>e. Carried victim to safe area and gently lowered victim to chair/ground, keeping the back straight and using the legs.</p> <p>f. Rescuers communicated with each other and coordinated their movements throughout the lift.</p>		<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>2</p>	

Items Evaluated	Points Possible	Points Allocated
<p><i>Judge instructs volunteer victim where to sit and instructs the rescuers to move the victim to safety using the chair carry.</i></p> <p>4. Chair Carry</p> <ul style="list-style-type: none"> a. Verbalized to victim "We are going to carry you to safety." b. Rescuer 1 faced the back of the chair and grasped the back uprights. c. Rescuer 2 faced away from the victim, reached back, and grasped the two front legs of the chair. d. Both rescuers tilted the chair back and lifted. e. Carried victim to safe area and gently set the chair down. f. Rescuers communicated with each other and coordinated their movements throughout the lift. 	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>2</p>	
<p><i>Judge instructs the smaller team member where to lie to assume the role of victim, and instructs the rescuer to move the victim to safety using correct drag technique.</i></p> <p>5. Drag Technique</p> <ul style="list-style-type: none"> a. Assessed location and verbalized to the judge that there is no debris that would cause additional injury. b. Verbalized to victim "I'm going to move you to safety." c. Grasped the victim by either the feet or shoulders and dragged him/her clear of the hazard. 	<p>1</p> <p>1</p> <p>1</p>	
<p><i>Judge instructs the other team member where to lie to assume the role of victim, and instructs the rescuer to move the victim to safety using the blanket drag.</i></p> <p>6. Blanket Drag</p> <ul style="list-style-type: none"> a. Assessed location and verbalized to the judge that there is no debris that would cause additional injury. b. Verbalized to victim "I'm going to wrap you in a blanket and move you to safety." c. Wrapped the victim in a blanket. d. Squatted at the victim's head and grasped the blanket behind the victim's head. e. Dragged the victim clear of the hazard. 	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	
<p>7. Rescuer 1 effectively communicated with the victims.</p>	<p>2</p>	
<p>8. Rescuer 2 effectively communicated with the victims.</p>	<p>2</p>	
<p>TOTAL POINTS -- PROCEDURE IV</p>	<p>35</p>	