



**Florida Conference of Seventh-day Adventists**  
**Florida Conference Brigade, Medical Cadet Corps**  
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# Light Search and Rescue Part 2

## Conducting Rescue Operations

The top **priority** of conducting rescue operations is to ensure rescuer safety. Rescues involve three primary functions:

1. Moving objects and debris to **create a safe rescue environment** and to free survivors.
2. **Assessing** survivors, checking for life-threatening conditions such as airway obstruction, severe bleeding, and low body temperature.
3. **Removing** survivors as safely and quickly as possible.

There are also 3 **safety considerations** for all rescue operations:

1. Maintaining rescuer safety.
2. Assessing survivors in lightly and moderately damaged buildings
3. Evacuating survivors as quickly as possible from moderately damaged buildings while minimizing additional injury.

This then brings us to the 3 **precautions to take** to minimize risk:

1. Know your limitations. Take time to drink fluids, eat, relax and rest to keep your body healthy and mind clear.
2. Follow safety procedures. **Use safety equipment.** Work in pairs. Never enter an unstable structure. Lift by bending the knees, pushing with the legs, carrying the weight close to the body. **Stay within your weight lifting capacity.**
3. Remove debris as needed to minimize risk to rescuers and free entrapped survivors.

## Lifting technique

**Proper body positions for lifting for safety.**

- Back straight
- Bend knees
- Keep load close to body
- Push up with legs



## Leveraging and Cribbing

When in a rescue operation, there may be situations in which debris needs to be moved to free survivors. This uses “leveraging” and cribbing” to move and stabilize the debris until the rescue is complete.

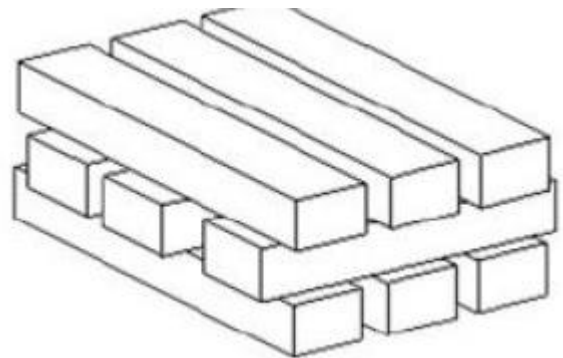
**Leveraging:** This is accomplished by wedging a lever under the object that needs to be moved, with a stationary object underneath it to act as a fulcrum. When the lever is forced down over the fulcrum, the far end of the lever will lift the object. The fulcrum and the pry tool must be perpendicular to the edge of the object being lifted.



**Cribbing:** this is a wooden framework that is used for support or strengthening an object.



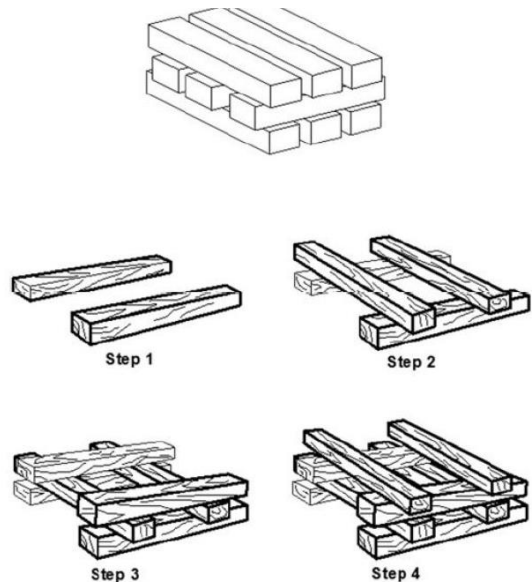
**Box Cribbing:** this means arranging pairs of wood pieces alternately to form a stable rectangle. The more uniform the pieces, the more stable the crib.



## Steps for Box Cribbing

In making a box style of cribbing the goal is to maintain **squares**. The crib will be more stable if the materials used are of similar size.

- Position two pieces of wood parallel to each other on either side of the collapse.
- Place two pieces of wood perpendicularly across the base pieces.
- Add additional layers of wood, with each being perpendicular to the previous level.



Four Steps to Box Building

## Steps for Leveraging and Cribbing

The MCC members use leveraging and cribbing together by lifting and then putting supporting materials under the object **gradually**, keeping stability and safety in mind. Various materials may be used as available.

When lifting heavy objects, multiple members can work in tandem or **multiple points of leverage** and cribbing can be used as needed to maintain stability of the object.

**“Lift an inch; crib an inch.”**

NEVER try to leverage opposite ends at the same time. This makes the object unstable, so leverage one end at a time. Working together will leverage the object up safely.

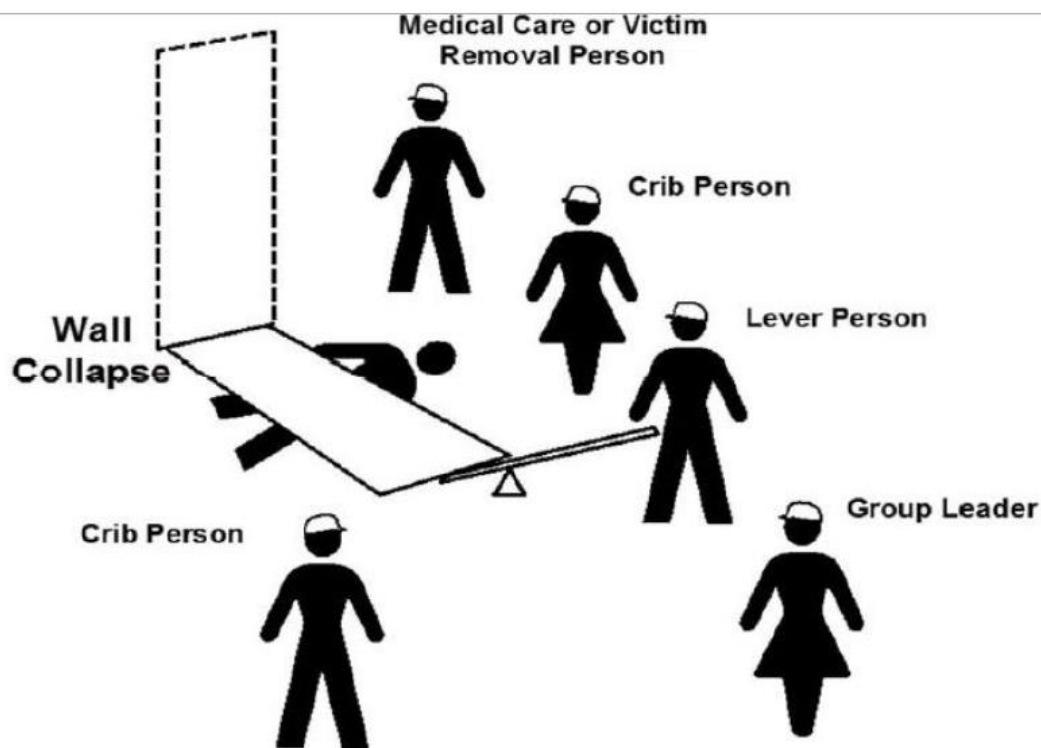
When sufficient lift is obtained, **remove the survivor** and **reverse the leveraging and cribbing to lower** the object. Don't just drop and run as it may cause further instability in a compromised structure.

## Human Chain for debris removal

Another efficient method to use is a human chain to pass debris from one person to the next. Make sure the chain positioning will not interfere with rescue operations. Also, it can help to use knee pads in addition to other protective gear (helmet, gloves, boots, and mask).

## Team Coordination for Leveraging and Cribbing

- Designate a leader
- Gather material for use: lever, fulcrum, blocks, and spacers.
- Use cribbing materials to stabilize the object prior to lifting
- Distribute the cribbing materials to each position before starting.
- Prepare to lift the object, have everyone in position.
- Once the object is supported, remove the lever and fulcrum as needed to remove the survivor.
- After the survivor removed, lift object and remove materials slowly to lower the object down.
- Consider if you need to keep the materials with you as progress through the site.



## Removing Survivors

There are several types of survivor removal: Self-removal, Carries, Lifts and Drags. Of course, using a litter team is helpful.

### Self-removal

An ambulatory survivor may be able to free themselves, LET THEM. But, they may still need help exiting the structure, keep an eye on them, and direct them to where they are to go.

## One Person Carry

If the rescuer is able, use a **One-person Arm Carry**. Having a small survivor helps. Reach around the survivor's back and under the knees. Lift the survivor while keeping your own back straight and using the push of your legs.



## Pack-strap Carry

Another on person carry is by using a **strap**. The survivor needs to stand and place their hands over the rescuer's shoulders, holding their hands together. Then the person can be hoisted by bending forward slightly, until the feet just clear the floor. This is quick for moving a short distance.



## Two-Person Carry

This method is easier than single person carries, but be aware that the upper body is heavier than the lower part, so that the stronger rescuer should be at the survivor's head. Kneel down by the person; fold their arms together across their chest. Reach under the arms and grasp the survivor's left wrist with the rescuer's right hand and vice versa. If the terrain is uneven, the rescuers need to face each other.



### Chair Carry

- Also for two or more rescuers, the chair needs to be sturdy and fixed,
- Position the survivor on the chair with arms folded in front of them.
- Tilt the chair back and then lift together.
- Face each other if going over uneven surfaces.
- Communicate to each other as to directions to move and speed.



### Blanket Carry

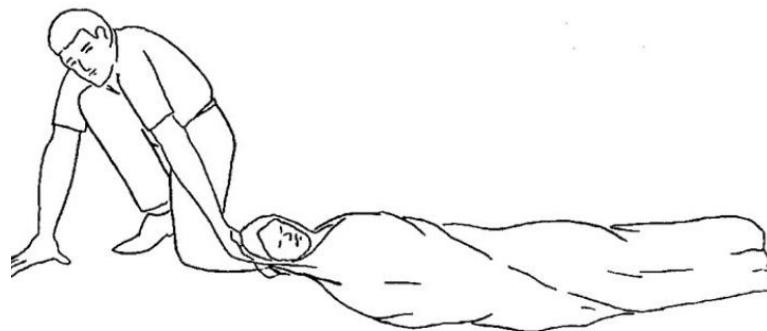
Use this to remove a survivor for whom you cannot remove by other means. This requires four to six rescuers to ensure stability for the survivor.

- Position a blanket next to the survivor, making sure the blanket extends under the head.
- Tuck the blanket under the survivor, assisting to move to the center if needed.
- With 3 rescuers squatting on each side, roll up the edges of the blanket against the survivor to act as handles.
- The lead person calls commands to keep the group moving together. "Ready to lift, Lift. Or can use the "Ready to lift on 3, One, two, **three**.
- Keep the survivor level while walking out.
- Use commands to lower the survivor once at a place of safety.

### Blanket Drag

This can be used for more level ground to quickly move someone. Keep the survivor's head by your hand pulling the blanket to give stability.

- Wrap the survivor in a blanket
- Squat down and grasp an edge of the blanket
- Drag the survivor across the floor.



### Log rolling

Anytime rescuers suspect a neck or back injury, be careful with moving the survivor. If the person is unconscious, assume that they do have an injury to the spine. Use 3 or 4 rescuers along the survivor's body to hold the back and neck straight in line as a person is turned onto their side so that a blanket, board or litter can be placed under the back, then lower them with supporting the head, chest, pelvis, legs, feet.



### Exercises

Practice these exercises using protective gear on the members.

1. Demonstrate the proper lifting and carrying technique for a 20 pound box, or using a case of water bottles.
2. Practice making a lever, using objects as the fulcrum to lift objects.
3. Set up a mock leveraging and cribbing test. Place a door or long object with weights on top over a doll. Set up a rescue team. Let them appoint the leader, crib members, extractor, and lever person. Have them find objects to use for cribbing and leveraging supplied in the testing environment.
4. Set up a human chain for debris removal using cases or boxes, objects of different sizes, shapes and weights.
5. Working in teams of six, demonstrate the different Carrys as applicable. Equipment needed is a chair, long strap, blanket, carpet roll.
  - a. One person carry
  - b. Two person carry
  - c. Two person carry using chair
  - d. Six person blanket carry
  - e. One person blanket drag
  - f. Six person carpet roll carry
6. Working in 3 or 4's, perform log rolls on multiple size people. Be sure to support the head and neck. Use a blanket, litter, or backboard to place under the back to roll the person onto.

# Light Search and Rescue Part 2

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For course certification, the form must be filled out.

Member Name (Print) \_\_\_\_\_ Instructor Name (Print) \_\_\_\_\_


Member Position Number \_\_\_\_\_ Instructor Position Number \_\_\_\_\_


Member FEMA SID \_\_\_\_\_ Instructor FEMA SID \_\_\_\_\_

Date of Instruction \_\_\_\_\_

 Define the three priorities, safety considerations, and precautions of conducting rescue operations.

 Know the correct lifting techniques.

 Define the method for leveraging and cribbing.

 Know and perform the various carrying methods for survivor extraction.

\_\_\_\_\_ Complete the Clinical Exercises.

With a complete sheet of initials, the instructor's signature signifies certification of completion for the Light Search and Rescue Part 2 course.

Instructor Signature \_\_\_\_\_