

9 Moving the Downed Firefighter: Carries and Drags

Learning Objectives

Upon completion of this chapter, you should be able to:

- identify basic equipment that the RIT may need to move a downed firefighter.
- exhibit the procedures required to move a downed firefighter using the extremity carry, cradle carry, and blanket carry.
- discuss and demonstrate the use of an SCBA harness conversion when applying it to a downed firefighter.
- show the procedures required to move a downed firefighter using the lift-and-lead drag, the push-and-pull drag, the tool drag, and the blanket drag.
- give details on the difference of webbing and rescue loops for moving a downed firefighter.
- exhibit the procedures required to move a downed firefighter up a staircase using the multiple rescuer staircase lift, the stair raise with a tool technique, the handcuff knot, rescue loops, and a mechanical advantage system.
- demonstrate the procedures required to move a downed firefighter down a staircase.

CASE STUDY

“On July 29, 1992 I was assigned to Station 2 driving Engine 602 for the Oak Park Fire Department. There were two other members of the department assigned to 602 that day. Ambulance 612 was also stationed there with two paramedics.

“Around 2300 hrs we got the report of a structure fire at 542 N. Humphrey. Upon arrival we found smoke coming from the basement of the structure. We laid a 1 3/4 preconnect and the other four members of the crew took it into the basement to locate and extinguish the fire, while I gained a water supply.

“From what I have been told the crew entered the side door of the house to try and locate the fire. They went down a few stairs and turned right to go through the basement and try to find the way to the rear of the basement. When they had made it to a small room, they realized that they had gone all the way across the basement. Things were getting hotter down there and they had not found the seat of the fire.

“The lieutenant told them to head back to the door they came in so they could try to get a better location of the fire. At this point, the lieutenant passed out and the man in front of him felt him fall on his ankles; he then tried to drag him to get him out of the basement, but could not and was running low on air. He had to leave the basement. I am not sure how far he got with lieutenant, but he had to leave the basement when he ran out of air. When that man got out the shift commander was informed that the lieutenant was not with them. At this time everybody else became aware of the problem.

“Many members of the shift tried to get back in to help get the lieutenant out of the basement. We believe that while trying to drag him up the stairs from the basement that some of his equipment (possibly the regulator on his SCBA) caught on the leading edge of the stairs. We could not get him up the 3 or 4 stairs leading from the basement until someone climbed over him and picked up his legs.

“When we went in later and looked the small room was a bathroom on the north side of the basement. From the best that we could figure out some of the lieutenant’s equipment snagged on something in the basement, which separated him from his air supply. He crawled for a few feet before passing out. At this time a lot of the fire suppression was halted except in the area that they were trying to rescue the lieutenant from. Sometime during the operation a PPV (positive pressure ventilation) fan was placed into operation along with a couple more lines.

“Four other firefighters were injured (burns and smoke inhalation). Help was given to us from four neighboring departments. The lieutenant was pronounced dead at a local hospital at around 11:50 P.M. A short time later the shift was informed that we had lost him.”

—Case study courtesy of Dennis K. Weidler, Firefighter (Ret.), Oak Park Fire Department, Oak Park, Illinois. Special thanks to Dennis Weidler for sharing his account with us.

Introduction

The process of rescuing a downed firefighter can become extensive and may involve multiple decisions and choices related to techniques that will be necessary in extraction. Often, these operations will take place under severe fireground conditions. These conditions can include the inability to stand up due to high heat, limited or zero visibility, and working in restricted or confined areas. The conditions present as well as the

weight of the downed firefighter will dictate the methods utilized in moving the downed firefighter. A 180-lb firefighter may weigh well over 300 lbs with turnout gear, SCBA and water from firefighting operations absorbed into the gear. Many of the difficulties experienced in moving the downed firefighter result from the extra weight of the gear. Limited “grab points,” bulkiness, and entanglement points are just a few problems that may be encountered. Moving a downed firefighter is a definite challenge.

Rescue Plan

It is important that the RIT has a rescue plan in place when it locates the downed firefighter and that each member of the RIT understands what that plan is. Communication among the RIT members is a necessity but should be kept in simple and understandable terms. Too much communication will cause confusion, waste time, use up valuable air supply, and slow the rescue process. Communication must also allow the rescuers to be synchronized in their efforts. For example, a firefighter pulling up on one side of the downed firefighter before the rescuer on the other side is ready will result in the downed firefighter not being moved and a wasted effort. Simple terms such as “Ready—Go” or “Set—Lift” should be used. A pause after the first command will give the other rescuer an opportunity to stop the operation if he is not in position or to acknowledge it and proceed. The words, “Stop” or “Ready” should be used for this acknowledgement. Remember, wasted efforts result in wasted time—make certain that members understand each other!



Safety

Make certain that proper lifting techniques are practiced to avoid injury to rescuers.

Drastic and unconventional measures may need to be taken to remove the downed firefighter. Safety and the imagination are the only limiting factors when removing a downed firefighter in an expedient manner. The key to all of the methods discussed for moving a downed firefighter is technique. Rescuer brute strength is a great asset but is not required. Rescuers must make certain that they keep their backs straight and use their leg muscles to move the downed firefighter to avoid injury to themselves (**Figure 9-1**).

Some suggested equipment that may help the RIT in moving a downed firefighter is as follows:

- rope bag containing 50 to 70 feet of rope with two carabiners



FIGURE 9-1

Rescuers must make certain that they keep their backs straight and use their leg muscles to move the downed firefighter to avoid injury to themselves.

- 20-ft. length of webbing with a water knot pretied into the webbing to provide a large loop
- daisy chained webbing consisting of five loops or a MAST product
- Halligan bar/axe/short pike poles or closet hook
- attic ladder
- stokes basket/rescue litter
- pretied Prussik loops (approximately 3 ft long)

This basic equipment should be available to the RIT. Some of the listed equipment for RIT members can and should be personal equipment

that is in their possession no matter what their role is on the fireground. The idea is to be prepared and to try to utilize the quickest and most efficient maneuvers in a given situation.

Carries

Carrying a downed firefighter will be easier than dragging if conditions will permit. Carrying the downed firefighter will allow obstacles and debris located at the floor level to be navigated successfully without slowing down the removal process. Again, conditions will dictate if this is even possible.

Extremity Carry

The **extremity carry** is a basic carry that can be performed by two rescuers. It will require the rescuers to utilize their leg muscles to lift and move the downed member.

To perform the extremity carry (Skill 9-1):

1. Locate and assess the downed firefighter, placing him on his back.

2. One rescuer will locate themselves at the head (Rescuer 1) of the downed firefighter while the second rescuer will be located at the feet (Rescuer 2).
3. The downed firefighter will be brought into a seated position with his knees bent. If unconscious, it will be necessary for Rescuer 2 to pull the downed firefighter up by the straps of his SCBA (**Skill 9-1A**).
4. Rescuer 1 will wrap his arms around the downed firefighter, grasping the downed firefighter's wrists (**Skill 9-1B**).
5. Rescuer 2 will position herself between the legs of the downed firefighter, grasping the legs underneath the knees (**Skill 9-1C**).
6. Both rescuers will utilize their legs to stand up while lifting the downed firefighter (**Skill 9-1D**).
7. Once the downed firefighter is lifted, the rescuers can proceed to a safe area. If more personnel are available, they can be used to lead the rescuers to safety.

SKILL 9-1

To Perform the Extremity Carry



A The downed firefighter will be brought into a seated position with his knees bent. If unconscious, it will be necessary for Rescuer 2 to pull the downed firefighter up by the straps of his SCBA.



B Rescuer 1 will wrap his arms around the downed firefighter, grasping the downed firefighter's wrists.

(continued)

SKILL 9-1 (CONTINUED)**To Perform the Extremity Carry**

C Rescuer 2 will position herself between the legs of the downed firefighter, grasping the legs underneath the knees.



D Both rescuers will utilize their legs to stand up while lifting the downed firefighter.

Cradle Carry

Another option that is available for two rescuers is the **cradle carry**. Just as in the extremity carry, conditions must allow the rescuers the ability to stand.

To perform the cradle carry (Skill 9-2):

1. Locate and assess the downed firefighter, placing the downed firefighter on back.
2. Two rescuers will position themselves to each side of the downed firefighter.

SKILL 9-2**To Perform the Cradle Carry**

A The downed firefighter's arms are placed behind the heads of the rescuers as the rescuers grasp each other's arms behind the downed firefighter's SCBA.



B Each rescuer places their free hand beneath the downed firefighter's knees while grasping the hand of the rescuer on the opposite side.

(continued)

SKILL 9-2 (CONTINUED)

To Perform the Cradle Carry



C Both rescuers will utilize their legs to stand up while lifting the downed firefighter.

3. The downed firefighter is brought into a seated position with knees bent.
4. The downed firefighter's arms are placed behind the heads of the rescuers as the rescuers grasp each other's arms behind the downed firefighter's SCBA (**Skill 9-2A**).
5. Each rescuer places their free hand beneath the downed firefighter's knees while grasping the hand of the rescuer on the opposite side (**Skill 9-2B**).
6. Both rescuers will utilize their legs to stand up while lifting the downed firefighter (**Skill 9-2C**).
7. Once the downed firefighter is lifted, the rescuers can proceed to a safe area. If more personnel are available, they can be used to lead the rescuers to safety.

Blanket Carry

The use of a small salvage tarp will be required to utilize the **blanket carry** technique. Advantages of the blanket carry are that it provides a means for the rescuer to be able to hold onto the downed firefighter and can be used in tight or confined spaces. Some manufacturers have even produced specialty blankets that provide carrying handles as well as heat protection.

To perform the blanket carry (Skill 9-3):

1. Locate and assess the downed firefighter, placing him on his back.
2. Two rescuers will position themselves to each side of the downed firefighter.
3. The blanket or tarp is placed to one side of the downed firefighter opposite the side that the downed firefighter will initially be rolled toward.
4. The downed firefighter is rolled to one side by rescuer 1 while rescuer 2 gathers the blanket or tarp beneath the downed firefighter (**Skill 9-3A**).
5. The downed firefighter will then be rolled back toward rescuer 2, who will take control while rescuer 1 pulls the blanket or tarp from beneath the downed firefighter (**Skill 9-3B**).
6. Rescuer 1 will gather and take hold of the material on each side of the head (or handles if equipped) while rescuer 2 does the same at the feet of the downed firefighter.
7. The downed firefighter is then lifted and carried over obstacles and debris (**Skill 9-3C**).



FIGURE 9-2

Rescue litter.

SKILL 9-3**To Perform the Blanket Carry**

A The downed firefighter is rolled to one side by rescuer 1 while rescuer 2 gathers the blanket or tarp beneath the downed firefighter.



B The downed firefighter will then be rolled back toward rescuer 2, who will take control while rescuer 1 pulls the blanket or tarp from beneath the downed firefighter.



C The downed firefighter is then lifted and able to be carried over obstacles and debris.

Other Alternative Carry Methods

There are numerous possibilities for carrying a downed firefighter utilizing equipment such as a rescue litter, backboard, or attic ladder. These are difficult to use in situations requiring maneuvering within tight or confined spaces. Of the three listed, the rescue litter provides the most secure measure for removal because its raised sides prevent the downed firefighter from rolling off (**Figure 9-2**).

A rescue litter is not designed to hold a firefighter wearing an SCBA. When placing the downed firefighter with SCBA into a rescue litter, the RIT can position the victim in several different ways, depending on time available as well as the surrounding conditions that are present. Removing the victim's SCBA completely is very time consuming and should be avoided unless it is absolutely necessary. A simple solution is to loosen or disconnect the waist belt and loosen the shoulder straps of the SCBA harness in order

to shift the pack to one side of the victim. This will enable the downed firefighter to be placed into the rescue litter on the left or right side depending on to which side the pack has been shifted (**Figure 9-3**). The RIT can also consider the use of a backboard with this type of packaging if time and conditions permit.

The rescue litter is placed behind the downed firefighter with the rescuers rolling the victim into the litter while maintaining the SCBA and securing it to the top of the downed firefighter's body using the litter straps or webbing (**Figure 9-4**). It is not necessary or realistic to take



FIGURE 9-3

The downed firefighter's SCBA will need to be shifted to the side to allow placement in the rescue litter.



FIGURE 9-4

The rescue litter is placed behind the downed firefighter with the rescuers rolling the victim into the litter.

time to strap the victim into the basket by lacing webbing in and through the rails and bars of the litter as you would normally do for a high-angle rescue. Connecting clips, straps, or minimal webbing to accomplish the task of keeping the downed firefighter in the litter is all that is required.

Dragging Downed Firefighters

Dragging a downed firefighter may be necessary when conditions dictate that rescuers remain low or when manpower is limited. Certain types of drags will require the rescuers to stand while others will allow the downed firefighter to be moved from the crawling position. Dragging a downed firefighter from the upright position will be easier than dragging from a crawl. Using leg muscles and principles of physics will make the task of dragging a downed firefighter more manageable.

The most predominant challenge when dragging a downed firefighter is attaining a solid grip on the victim. Turnout gear is especially difficult to grasp when wet. Some manufacturers of turnout gear are now outfitting their gear with handles sewn into the gear that can be easily pulled out for the purpose of rescue (**Figure 9-5**).

The SCBA can provide a place to hold onto the downed firefighter while moving him. When moving a downed firefighter a harness can become a necessity, especially in cases where firefighters must be moved up or down stairs or above/below grade. The back harness on the SCBA can be converted very easily into a body harness when time does not permit or an approved harness is not readily available. This technique of converting the SCBA into a harness, called **harness conversion**, will also prevent the SCBA from “riding up” or coming off of a downed firefighter who is being dragged.

To perform an SCBA harness conversion (Skill 9-4):

1. Unbuckle and elongate waist strap of the downed firefighter's SCBA harness.
2. Lift one leg of the downed firefighter, putting the waist strap on that side behind or underneath the raised leg and running the strap through the crotch. The shoulder straps of the



FIGURE 9-5

Some manufacturers of turnout gear are now outfitting their gear with handles sewn into the gear that can be easily pulled out for the purpose of rescue.

SCBA may have to be loosened to facilitate this step with larger-framed firefighters (**Skill 9-4A**).

3. Buckle the repositioned waist strap and tighten if possible.
4. Tighten and secure shoulder straps with half-hitch knots to prevent the harness from slipping (**Skill 9-4B**).
5. If removing the firefighter with rope, be sure to secure the rope or carabiner to the back frame assembly of the SCBA.

Not all SCBA harnesses will be able to be configured in this manner due to their design. Some manufacturer's units will not have waist



Note

No manufacturer will endorse this use of their product. Use this only as a last resort escape or life-saving technique.

SKILL 9-4

To Perform an SCBA Harness Conversion



A Lift one leg of the downed firefighter, putting the waist strap on that side behind or underneath the raised leg and running the strap through the crotch.



B Tighten and secure the shoulder straps with half-hitch knots to prevent the harness from slipping.

and shoulder straps that are long enough to be re-buckled when performing the harness conversion. In these cases, it is recommended to just tighten down the shoulder straps and go.

A Multiple Application Service Tool (MAST) is another quick and useful piece of equipment that can be utilized for helping to move a downed firefighter. The MAST is five large loops connected together in a daisy chain. These loops can be placed over a downed firefighter's turnout gear. The loops of the manufactured MAST are color-coded to designate which loop is placed where. The center loop of the MAST is the most important because it will provide the handle for lifting or pulling (**Figure 9-6**). If inside an environment where visibility is limited, the center loop can be easily located by counting the loops. The MAST is very quick and easy to apply.



FIGURE 9-6

A MAST is a helpful piece of equipment for moving a downed firefighter.

It is the ultimate responsibility of the RIT to determine which method or equipment that will be used for dragging a downed firefighter to safety.

Side-by-Side Drag

The side-by-side drag is very basic and consists of two firefighters moving the downed firefighter by utilizing the shoulder straps of the downed firefighter's SCBA.

To perform the side-by-side drag:

1. Locate and assess the downed firefighter, placing him on his back.
2. The rescuers will locate themselves at the head of the downed firefighter on opposite sides.
3. Each rescuer will grasp a separate shoulder strap.
4. On command, the rescuers will sweep with the free hand forward while driving forward with their legs to move the downed firefighter (**Figure 9-7**).



FIGURE 9-7

Two firefighters perform the side-by-side drag.

SKILL 9-5**To Perform the Lift-and-Lead Drag**

A Rescuer 1 will wrap his arms around the downed firefighter, grasping the downed firefighter's wrists.



C Once the downed firefighter is lifted, rescuer 2 will place a hand on rescuer 1 to guide him around obstacles to safety.



B The rescuer will utilize his legs to stand up while lifting the downed firefighter.

Lift-and-Lead Drag

The **lift-and-lead drag** is a basic drag that utilizes one firefighter to drag the downed member while a second rescuer provides safety by leading the way out. Conditions must allow the rescuers to stand up to use this method.

To perform the lift-and-lead drag (Skill 9-5):

1. Locate and assess the downed firefighter, placing him on his back.
2. The rescuer will locate himself at the head (rescuer 1) of the downed firefighter.
3. Rescuer 1 will wrap his arms around the downed firefighter, grasping the downed firefighter's wrists (**Skill 9-5A**).
4. The rescuer will utilize his legs to stand up while lifting the downed firefighter (**Skill 9-5B**).
5. Once the downed firefighter is lifted, rescuer 2 will place a hand on rescuer 1 to guide him around obstacles to safety (**Skill 9-5C**).

Push-and-Pull Drag

The **push-and-pull drag** requires two rescuers. It is performed in the manner by which it is referred—one rescuer will be pulling with their upper body while the other will utilize their legs to push the downed firefighter. It allows the rescuers and downed firefighter to remain low and work in narrow spaces.

To perform the push-and-pull drag (Skill 9-6):

1. Locate and assess the downed firefighter, placing him on his back.
2. One rescuer will locate themselves at the head (rescuer 1) of the downed firefighter, taking hold of the downed firefighter's SCBA shoulder strap.
3. Rescuer 2 will locate himself inside the legs of the downed firefighter, lifting one of the downed firefighter's legs over his shoulder. The rescuer's head should be positioned high into the groin area with the shoulder driving into the buttocks of the downed firefighter. Correct positioning of rescuer 2 is essential for this drag to be effective (**Skill 9-6A**).
4. On command, rescuer 1 should pull the downed firefighter while rescuer 2 uses his legs to push simultaneously (**Skill 9-6B**).

Another alternative to this method that may be considered is placing rescuer 2 to the outside of the downed firefighter's legs with the downed firefighter's leg over the rescuer's inside shoulder. This may help in keeping the downed firefighter's free leg from getting in the way of the rescuers during movement.

Tool Drag

Two rescuers dragging a downed firefighter by pulling on the SCBA straps may be difficult due to the rescuers being too close to one another. A **tool drag** enables rescuers to be spaced apart while allowing a secure place to grip the downed firefighter. A tool such as a Halligan bar or closet hook works best for the tool drag. However, the tool must not be so big that it prevents extraction through tight spaces, narrow hallways, and staircases.

To perform the tool drag (Skill 9-7):

1. Locate and assess the downed firefighter, placing him on his back.
2. The rescuers will locate themselves at the head of the downed firefighter and place the downed firefighter in a seated position.
3. The tool is inserted through the shoulder straps of the SCBA, providing a handle for both rescuers to hold onto (**Skill 9-7A**). Make certain that the pick end of any tool is rotated away and facing down toward the floor to avoid injury in case the rescuer slips or falls.



Safety

Make certain that the pick end of any tool is rotated away and facing down towards the floor to avoid injury in case the rescuer slips or falls.

4. On command, the rescuers will drag the downed firefighter to safety (**Skill 9-7B**).

Blanket Drag

The use of a small salvage tarp or specialty blanket will be required to carry out the **blanket drag**. Similar to the blanket carry, advantages of the blanket drag are that it provides a means for the rescuer to be able to hold onto the downed firefighter and can be used in tight or confined spaces.

To perform the blanket drag (Skill 9-8):

1. Locate and assess the downed firefighter, placing him on his back.
2. The blanket or tarp is placed to one side of the downed firefighter, opposite the side that the downed firefighter will initially be rolled toward.
3. The downed firefighter is rolled to one side while gathering the blanket or tarp beneath the downed firefighter (**Skill 9-8A**).
4. The downed firefighter will then be rolled back. The blanket or tarp is then pulled from beneath the downed firefighter (**Skill 9-8B**).

SKILL 9-6**To Perform the Push-and-Pull Drag**

A Rescuer 2 will locate himself inside the legs of the downed firefighter, lifting one of the downed firefighter's legs over his shoulder. The rescuer's head should be positioned high into the groin area with the shoulder driving into the buttocks of the downed firefighter.



B On command, rescuer 1 should pull the downed firefighter while rescuer 2 uses his legs to push simultaneously.

SKILL 9-7**To Perform the Tool Drag**

A The tool is inserted through the shoulder straps of the SCBA, providing a handle for both rescuers to hold onto. Make certain that the pick end of any tool is rotated away and facing down toward the floor to avoid injury in case the rescuer slips or falls.



B The rescuers will drag the downed firefighter to safety by using the tool as a handle.

SKILLS 9-8

To Perform the Blanket Drag



A The downed firefighter is rolled to one side while gathering the blanket or tarp beneath the downed firefighter.



B The downed firefighter will then be rolled back. The blanket or tarp is then pulled from beneath the downed firefighter.



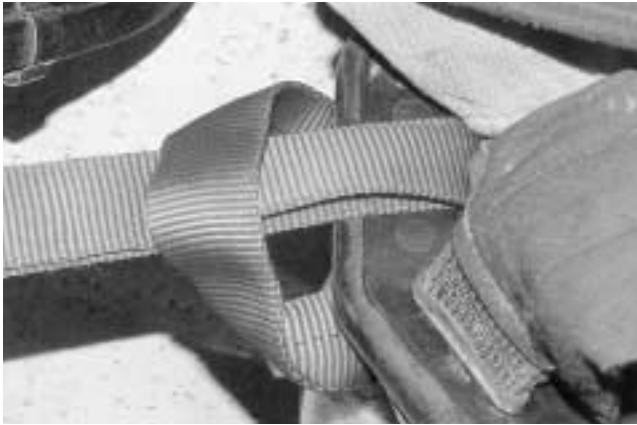
C The downed firefighter's torso is then lifted off the floor, enabling him to be dragged.

5. The rescuer will gather and take hold of material on each side of the head (or handles if equipped).
6. The downed firefighter's torso is then lifted off the floor, enabling him to be dragged (**Skill 9-8C**).

Webbing and Drags

Webbing is a versatile piece of equipment for the RIT. It can be used in establishing anchor points,

tying rescue harnesses, performing emergency escape maneuvers, setting up search tethers, and can also be used to create handles and slings to assist in removing a downed firefighter. A 10- to 15-foot piece of looped webbing secured in a **girth hitch** to a downed firefighter's SCBA harness can provide a sling to pull the firefighter as a horse would pull a cart (**Figures 9-8A and 9-8B**). Whenever webbing is used as a sling, it is important to keep in mind that the longer the distance from the downed firefighter to the rescuer,



A



B

FIGURE 9-8

(A) Girth hitch. (B) A 10- to 15-foot piece of looped webbing secured in a girth hitch to a downed firefighter's SCBA harness can provide a sling to pull the firefighter as a horse would pull a cart.

the more difficult controlling and dragging the downed firefighter will be. Webbing tied into a harness or formed into a girth hitch around the chest is a very effective option when an SCBA is not present or able to be used on the downed firefighter for any reason (**Figure 9-9**).

Webbing as well as rope can be used to tie a handcuff knot on the downed firefighter for dragging. When used in this manner, the downed firefighter's arms are raised above the head, lowering his profile and thus allowing him to fit

through a tight opening such as wall studs or obstacles in a collapse area (**Figure 9-10**). Again, when using the handcuff knot, make certain that it is cinched down on the forearms of the downed firefighter—injuries to the wrist can occur if secured improperly.

Rescue Loops

An 8-mm Prussik cord tied into loops utilizing the double fisherman's knot can be very useful in

**FIGURE 9-9**

Webbing tied into a harness or formed into a girth hitch around the chest is a very effective option when an SCBA is not present or able to be used on the downed firefighter for any reason.

**FIGURE 9-10**

Webbing as well as rope can be used to tie a handcuff knot on the downed firefighter for dragging.



FIGURE 9-11

Placing rescue loops into a girth hitch on the extremities of the downed firefighter provides points that enable multiple rescuers to move a downed firefighter above obstacles and debris.

helping to move the downed firefighter. **Rescue loops** are only limited in use by the imagination. The Phoenix Fire Department began experimenting with the concept of utilizing these loops to establish handles and grab points to move downed firefighters. Placing the loops into a girth hitch on the extremities of the downed firefighter provides points that enable multiple rescuers to move a downed firefighter above obstacles and debris (**Figure 9-11**). The loops can also be used to form a sling for dragging the downed firefighter, as is done with webbing.

Staircases

Moving a downed firefighter up or down a set of stairs can be one of the most challenging scenarios presented to a RIT on the fireground. The strongest rescuers will be unable to move a downed firefighter up or down stairs unless proper technique is used. Teamwork and clear communication will be required to move a downed member up or down a flight of stairs. The cylinder valve of the SCBA is the most common piece of equipment that can cause difficulties when moving a downed firefighter up or down stairs. Consider what difficulties can arise when moving on staircases and make the necessary adjustments to overcome them.

Multiple Rescuer Staircase Lift

To move a downed firefighter up a staircase using the multiple rescuer staircase lift (Skill 9-9):

1. Locate and assess the downed firefighter, placing him on his back.
2. Convert the SCBA into a body harness if possible. If the SCBA harness is unusable for any reason, a looped piece of webbing can be wrapped under the downed firefighter's arms to provide a lifting point.
3. Drag the downed firefighter to the base of the staircase, positioning him facing away from the stairs on the third tread. A rescuer may have to lift the downed firefighter to accomplish this (**Skill 9-9A**).
4. Rescuer 1 will be positioned behind the downed firefighter on the stairs. This rescuer will lift the downed firefighter from the straps of the SCBA. The downed firefighter should be pulled straight up to clear the SCBA cylinder valve from being caught on the stairs.
5. Rescuer 2 will be positioned at the feet to the inside of the downed firefighter's legs with his face high into the groin area; the downed firefighter's legs will need to be positioned over the rescuer's shoulders. Do not let the downed firefighter's legs slip off the shoulders (**Skill 9-9B**).
6. Rescuer 1, who is located at the head of the downed firefighter, will give the command for the extraction. They should be kept in simple terms such as, "Ready?—Go!" with a pause in between to give the other rescuer the opportunity to stop the procedure if not ready.
7. On command, rescuer 1 will pull the downed firefighter up while rescuer 2 will push. Moving the downed firefighter will be difficult and it will be necessary to stop every few steps. Just remember that if conditions in the lower level were bad, the staircase will be even more formidable—move quickly but in a controlled manner (**Skill 9-9C**).

If the staircase is wide enough and a third rescuer is available, he can be positioned at the

SKILL 9-9**To Move a Downed Firefighter up a Staircase Using the Multiple Rescuer Staircase Lift**

A Drag the downed firefighter to the base of the staircase, positioning him facing away from the stairs on the third tread.



B Rescuer 2 will be positioned at the feet to the inside of the downed firefighter's legs with his face high into the groin area; the downed firefighter's legs will need to be positioned over the rescuer's shoulders.



C On command, rescuer 1 will pull the downed firefighter up while rescuer 2 will push.

head with rescuer 1. Each rescuer at the head will then have the ability to each grab a shoulder strap of the downed firefighter's SCBA harness.

Stair Raise with a Tool

If the width of the staircase will allow, a tool can be used as a handle for two firefighters to lift and

carry the downed firefighter using the **stair raise with a tool technique**.

To perform the stair raise with a tool (Skill 9-10):

1. Locate and assess the downed firefighter, placing him on his back.
2. Drag the downed firefighter to the base of the staircase, positioning him facing away from the stairs.

SKILL 9-10

To Perform the Stair Raise with a Tool



A The tool is inserted through the shoulder straps of the SCBA, providing a handle for both rescuers to hold onto.



B On command, the rescuers will pull the downed firefighter up above the stair treads with the downed firefighter's lower extremities dragging behind.

3. The rescuers will locate themselves at the head of the downed firefighter and place the downed firefighter in a seated position.
4. The tool is inserted through the shoulder straps of the SCBA, providing a handle for both rescuers to hold onto (**Skill 9-10A**). Make certain that the pick end of any tool is rotated away and facing down toward the floor to avoid injury in case the rescuer slips or falls.

5. On command, the rescuers will pull the downed firefighter up above the stair treads with the downed firefighter's lower extremities dragging behind. It is important to make certain that the downed firefighter is lifted high enough to have the SCBA cylinder valve clear the stair tread (**Skill 9-10B**).

If a third rescuer is available, he can control the lower extremities by being positioned at the feet to the inside of the downed firefighter's legs with his face high into the groin area and with the downed firefighter's legs positioned over the rescuer's shoulders. He will drive the downed firefighter up, helping to clear the stair treads (**Figure 9-12**).



Safety

Make certain that the pick end of any tool is rotated away and facing down towards the floor to avoid injury in case the rescuer slips or falls.

Stair Raise Using the Handcuff Knot

The handcuff knot can be utilized in moving a downed firefighter up stairs. It is especially useful when the staircase is narrow.



FIGURE 9-12

If a third rescuer is available, he can control the lower extremities by being positioned at the feet to the inside of the downed firefighter's legs with his face high into the groin area and with the downed firefighter's legs positioned over the rescuer's shoulders. He will drive the downed firefighter up, helping to clear the stair treads.

To perform the stair raise with the handcuff knot (Skill 9-11):

1. Locate and assess the downed firefighter, placing him on his back.
2. Drag the downed firefighter to the base of the staircase, positioning him facing away from the stairs.
3. Rescuer 1 will locate himself at the head of the downed firefighter and place the handcuff knot on the forearms of the downed firefighter. He will then pay out the rope or webbing until they are

located at the landing or top of the staircase (**Skill 9-11A**). Keep in mind that conditions can be horrific at the landing or top of the staircase as heat and products of combustion will be present if the fire in the lower level has not been controlled.

4. Rescuer 2 will be positioned at the feet to the inside of the downed firefighter's legs with his face high into the groin area; the downed firefighter's legs will need to be positioned over the rescuer's shoulders. The downed firefighter should be rotated slightly to one side to allow the SCBA to slide up the stairs.
5. Rescuer 1 will call out the command and take up slack in the rope or webbing, pulling the downed firefighter up the stairs.
6. Rescuer 2 will use his legs to drive the downed firefighter up the stairs, making certain that the cylinder valve of the SCBA clears the stair treads (**Skill 9-11B**).

Using Rescue Loops to Carry a Downed Firefighter up Stairs

Rescue loops are another option to assist the RIT in moving a downed firefighter up a staircase. A minimum of two firefighters will be needed to use rescue loops.

To use rescue loops to help move a firefighter up a staircase (Skill 9-12):

1. Locate and assess the downed firefighter, placing him on his back.
2. Drag the downed firefighter to the base of the staircase, positioning him facing away from the stairs in a seated position.
3. Rescuer 1 will take position behind the downed firefighter and will grasp both shoulder straps of the downed firefighter's SCBA.
4. Rescuer 2 will take a rescue loop and place it in a girth hitch on the downed firefighter's leg as high up in the groin area as possible (**Skill 9-12A**).

SKILL 9-11

To Perform the Stair Raise with the Handcuff Knot



A Rescuer 1 will locate himself at the head of the downed firefighter and place the handcuff knot on the forearms of the downed firefighter. He will then pay out the rope or webbing until they are located at the landing or top of the staircase.



B Rescuer 2 will be positioned at the feet to the inside of the downed firefighter's legs with his face high into the groin area; the downed firefighter's legs will need to be positioned over the rescuer's shoulders.

5. This will be repeated for the second leg also.
6. Rescuer 2 will position himself inside the downed firefighter's legs, grasping a rescue loop in each hand.
7. On command, rescuer 1 will pull straight up on the SCBA shoulder straps while rescuer 2 will pull straight up on the rescue loops. At this point, the SCBA of the downed firefighter should be up high enough to clear the stair treads easily (**Skill 9-12B**).

The rescuers should be able to navigate the stairs quite easily with proper execution of this

maneuver. If needed, they can stop periodically to regroup or get a better hold. Just remember, once committed to going up the staircase, it must be performed quickly—the staircase is a ventilation outlet for any conditions on the lower level!

Using 2-to-1 Mechanical Advantage with a Rescue Litter

A rescue litter assisted with a mechanical advantage system can be used to slide a downed firefighter up a staircase as opposed to carrying. This can be beneficial when removing firefighters with neck or spinal injuries. It will require

SKILL 9-12**To Use Rescue Loops to Help Move a Firefighter up a Staircase**

A Rescuer 2 will take a rescue loop and place it in a girth hitch on the downed firefighter's leg as high up in the groin area as possible. This will be repeated for the second leg.



B On command, rescuer 1 will pull straight up on the SCBA shoulder straps while rescuer 2 will pull straight up on the rescue loops. At this point, the SCBA of the downed firefighter should be up high enough to clear the stair treads easily.

more time than other methods but should not be discounted if conditions will allow its use.

To raise a downed firefighter up a staircase using a rescue litter and simple 2-to-1 mechanical advantage (Skill 9-13):

1. Secure the downed firefighter into the rescue litter. The litter should go up the stairs headfirst (**Skill 9-13A**).
2. Attach the 2-to-1 mechanical advantage system to an adequate anchor at the top of the stairs and the head of the rescue litter (see Chapter 6 for detailed information; **Skill 9-13B**).
3. Rescuer 1 will be positioned at the foot of the rescue litter to help guide the litter up as it is raised (**Skill 9-13C**).
4. Rescuers 2 and 3 will utilize the haul line to slide the rescue litter up the staircase (**Skill 9-13D**).

Moving a Disabled Firefighter Down a Flight of Stairs

Moving the downed firefighter down a flight of stairs is not as difficult as going up because grav-

ity will assist to a degree, but it is still not an easy task by any means. The most important thing to consider when going down stairs with a downed firefighter is to prevent the downed member from sustaining additional injuries to the head and neck.

The simplest way of removing a downed firefighter from an upper floor using a flight of stairs is to drag the firefighter headfirst.

To drag a downed firefighter down a flight of stairs (Skill 9-14):

1. Locate and assess the downed firefighter, placing him on his back.
2. Drag the downed firefighter to the top of the staircase, positioning him face up.
3. Rescuer 1 will position himself on the stairs behind rescuer 2. He will guide rescuer 2 and the downed firefighter.
4. Rescuer 2 will roll the downed firefighter slightly to the right or left to keep the SCBA from getting caught on the stairs when dragging. Rescuer 2 will lift on the SCBA shoulder straps of the downed firefighter

SKILL 9-13

To Raise a Downed Firefighter up a Staircase Using a Rescue Litter and Simple 2-to-1 Mechanical Advantage



A Secure the downed firefighter into the rescue litter. The litter should go up the stairs headfirst.



B Attach the 2-to-1 mechanical advantage system to an adequate anchor at the top of the stairs and the head of the rescue litter.



C Rescuer 1 will be positioned at the foot of the rescue litter to help guide the litter up as it is raised.



D Rescuers 2 and 3 will utilize the haul line to slide the rescue litter up the staircase.

SKILL 9-14**To Drag a Downed Firefighter Down a Flight of Stairs**

A Rescuer 2 will roll the downed firefighter slightly to the right or left to keep the SCBA from getting caught on the stairs when dragging. Rescuer 2 will lift on the SCBA shoulder straps of the downed firefighter while cradling the back of the head and neck on his forearm.



B The rescuers will proceed down the stairs with the upper body of the downed firefighter supported by rescuer 2. The downed firefighter's lower body will drag down along the stairs.

while cradling the back of the head and neck on his forearm (**Skill 9-14A**).

- The rescuers will proceed down the stairs with the upper body of the downed firefighter supported by rescuer 2. The downed firefighter's lower body will drag down along the stairs (**Skill 9-14B**).

Another option when moving the downed firefighter down a flight of stairs is to use a tool to assist in lifting the downed member over the stairs. Two rescuers can be positioned at the head of the downed firefighter while a Halligan bar or other tool is placed through the shoulder straps of the SCBA. This will allow the team members to grasp each side of the Halligan bar while raising the head and upper torso of the downed firefighter when bringing him down the stairs. If a third rescue member is available, he can help guide the rescuers down the stairs (**Figure 9-15**).



FIGURE 9-15

Another option when moving the downed firefighter down a flight of stairs is to use a tool to assist in lifting the downed member over the stairs.

Summary

Extracting a downed firefighter from a hazard area may require the utilization of multiple techniques—such as the extremity, cradle, or blanket carry and the lift-and-lead, push-and-pull, or blanket drag—depending on the circumstances. Drastic and unconventional measures—such as the harness conversion—may need to be taken to remove the downed firefighter. Safety and the imagination

are the only limiting factors when removing a downed firefighter in an expedient manner. The key to all of the methods discussed for moving a downed firefighter is technique. Practice and training is the only way to find out what works best and what adjustments can be made to make the operation more efficient.

■ KEY TERMS

Blanket carry
 Blanket drag
 Cradle carry
 Extremity carry
 Girth hitch
 Harness conversion
 Lift-and-lead drag

Multiple rescuer staircase lift
 Push-and-pull drag
 Rescue loops
 Stair raise with the handcuff knot
 Stair raise with a tool technique
 Tool drag

■ REVIEW QUESTIONS

1. Moving the downed firefighter should only consist of one type of drag or carry throughout the rescue to avoid confusion.
 True False
2. Carrying a downed firefighter is generally considered easier than dragging because
 - a. it allows the rescuers to utilize their leg muscles.
 - b. it enables obstacles to be navigated.
 - c. it is quicker.
 - d. all of the above
3. The rescue litter is advantageous in moving the downed firefighter because
 - a. it is able to be used in a tight space
 - b. it is designed to hold a firefighter wearing an SCBA
 - c. it has raised sides to keep the downed firefighter from rolling off
 - d. all of the above
4. When dragging a downed firefighter, the _____ can be made into a harness to provide a stable holding or grab point.
5. Harness conversions can be applied to all manufactured types of SCBA harnesses.
 True False
6. The MAST utilizes _____ interlinked loops into such a configuration that it can serve multiple applications when rescuing civilians and downed firefighters.
 - a. two
 - b. six
 - c. five
 - d. eight
7. The _____ is a good technique to use when working in a narrow space.
 - a. push-and-pull drag
 - b. tool drag
 - c. cradle carry
 - d. girth hitch lift
8. The key to moving a downed firefighter up a flight of stairs is
 - a. a large number of rescuers
 - b. strength
 - c. the size of rescuers
 - d. technique

9. The _____ is the most common cause of entanglement when moving a downed firefighter.
 - a. helmet
 - b. SCBA cylinder valve
 - c. turnout coat
 - d. air mask
10. _____ is the number one priority when moving a downed firefighter down a flight of stairs.

■ ADDITIONAL RESOURCES

Firefighter's Handbook, 2nd ed., Clifton Park, NY: Thomson Delmar Learning, 2004.

Hoff, Robert, and Kolomay, R., *Firefighter Rescue and Survival*. Tulsa, OK: PennWell Publishing, 2003.

Lasky, R., and Shervino, T., Saving Our Own: Moving the Downed Firefighter up a Stairwell. *Fire Engineering*, December 1997.

McCormack, J., *Firefighter Rescue and Rapid Intervention Teams*. Indianapolis, IN: Fire Department Training Network, 2003.

