

MOVE IT SAFELY: *Avoiding Injury While Moving Materials*

This easy-to-use Leader's Guide is provided to assist in conducting a successful presentation. Featured are:

INTRODUCTION: A brief description of the program and the subject that it addresses.

PROGRAM OUTLINE: Summarizes the program content. If the program outline is discussed before the video is presented, the entire program will be more meaningful and successful.

PREPARING FOR AND CONDUCTING THE PRESENTATION: These sections will help you set up the training environment, help you relate the program to site-specific incidents, and provide program objectives for focusing your presentation.

REVIEW QUESTIONS AND ANSWERS: Questions may be copied and given to participants to document how well they understood the information that was presented. Answers to the review questions are provided separately.

INTRODUCTION

Two of the main causes of injuries to material handling workers are attempting to show off to their co-workers and not wanting to take time to get the proper equipment or ask for help. This leads to workers struggling to lift and carry materials which are too heavy to be moved safely. In order to move objects safely, employees must be well trained in safe material handling techniques while also maintaining the proper attitude and state of mind to use their training each time they lift or move an object. This program discusses the techniques, precautions and safe work practices employees should follow so that when an object must be moved, they can "move it safely."

Topics include preparing to move a load, manual lifting techniques, use of hand trucks, carts and dollies, moving pallets safely and working safely with and around pallet jacks and forklifts.

PROGRAM OUTLINE

BACKGROUND

- According to recent studies, in addition to employee training, two of the main causes of injuries to material handling workers are attempting to show off to their co-workers and not wanting to take time to get the proper equipment or ask for help.
- This leads to workers struggling to lift and carry materials which are too heavy to be moved safely.
- In order to "move it safely," employees must be well trained in safe material handling techniques, while also maintaining the proper attitude and state of mind to use their training each time they lift or move an object.
- Material handling is a broad term that encompasses both manual lifting, which is the lifting, carrying or moving of objects without assist devices, as well as the moving of loads with mechanical aids such as hand trucks, pallet jacks, forklifts and other material handling equipment.

PREPARE FOR THE JOB

- No matter what type of load you intend to transport, or what method you intend to use to move it, the first step is to prepare for the job. In other words, you need to come up with a plan for safely lifting the load, carrying it to its destination and placing it securely.
- First, check the load's stability and weight. For small loads, you can do this by tilting it slightly to one side to determine if it is too heavy to lift and carry alone.

- If a load is too heavy for you to lift without assistance, do not attempt to lift it. Get help from a co-worker or use a hand truck or other device designed for transporting materials.
- On larger loads, check for labels or tags which may give you an indication of the weight and any special handling requirements for the contents.
- Of course, large loads require more powerful lifting equipment. When this is the case, you must ensure that the weight of the load does not exceed the lifting capacity of the equipment to be used.
- The weight of some objects may need to be looked up in a reference book or found by other methods.
- In addition to weight, the stability of the load must also be considered. Before moving a load manually you may need to re-stack loads that are composed of multiple pieces.
- Moving a load on a pallet, lifting with a crane or using a hand truck or dolly also requires the load to be arranged in a stable manner with the center of gravity of the load in the appropriate location to ensure a stable move.

PATH OF TRAVEL

- Safe material handling requires planning and an important part of your plan must be a safe path of travel.
- Make sure your planned route has no slip or trip hazards as well as any obstacles that may interfere with the equipment you may be using.
- Also, check for overhead hazards, especially when using forklifts, cranes or when moving tall loads.
- Finally, inspect your route for any potential hazards created by passing near fixed objects such as doorways, support beams or storage racks. Many injuries occur when our body parts strike fixed objects we weren't prepared for while traveling with a load.

PERSONAL PROTECTIVE EQUIPMENT

- In addition to ensuring that the load can be moved safely, you must also make sure that you are protected from any hazards which may be encountered along the way. This typically means wearing PPE, or personal protective equipment.
- When moving materials, make sure you are wearing the appropriate shoes or boots for the work environment to be entered and for the materials to be transported.
- Also consider if eye protection, hearing protection or a hardhat are required. If you are not sure, ask.
- If the material has rough or sharp edges, or splinters, wearing leather work gloves can prevent hand injuries.
- If the load requires handling chemical containers, you may need to wear chemical resistant gloves.

ATTITUDE

- Many injuries occur when workers attempt to lift or move objects that are too heavy. Trying to impress your co-workers or save a few minutes of time is never worth the risk of an injury.
- Never attempt to lift anything if you have any doubts about your ability to do so without overexerting yourself. This requires an attitude focused on injury prevention rather than only focusing on finishing the job quickly.
- Also, don't allow other workers to influence your decision of whether an object is too heavy for you to lift safely. You are the only one who can make that call.

- Staying within the limits of your lifting capabilities is part of having a good safety attitude.
- Of course, part of that same safety commitment is to always use proper lifting techniques when lifting and moving materials. Using proper technique is key to preventing back injuries.

MANUAL LIFTING TECHNIQUES

Grip & Stance

- Once you have decided that it is safe to lift an object by yourself, it is important to make sure you follow safe lifting, carrying and placing techniques.
- First, decide how you will grip the load. If the object has handles or handholds, you should use them. Tilting the load can also create a spot for a solid grip.
- Stand close to the object with your feet spread about shoulders-width apart.

Knees & Legs

- Then lower yourself down to the load by bending your knees and keeping your back in its natural position which maintains the back's natural curvature.
- The motion to avoid is bending over at the waist. Bending at the waist is harmful to your back and is the cause of many injuries.
- After lowering yourself by bending your knees, get a firm grip on the load and bring the load close to your body. Then use the strength of your legs to rise up and lift the load.

Keep Load Close

- The reason to keep the load close to your body while lifting is to minimize the force placed on your lower back.
- Holding a load away from you creates much more force on your back than holding it close.
- Some people find that taking a stance wider than shoulder-width allows you to get even closer to the load and makes for an easier lift.
- A wide stance also allows you to get lower with less knee bend. It is easier to rise up again if your knees are not bent to an extreme angle.

Jerking & Twisting

- Be sure not to suddenly jerk or snatch a load and never twist your back while lifting. Jerking and twisting can cause strains and sprains in the ligaments and muscles of the spine, which can be quite painful and take a long time to heal.
- Instead of twisting your back while lifting, perform the lift first then shuffle and pivot your feet in order to turn. This turns your whole body as one unit and greatly reduces the wear and tear on your back.
- While carrying the load, keep your back in its natural posture and bend your elbows slightly. Keep the load close to your body and proceed with caution.

Travel Path

- Keep your eyes focused on the travel path and don't allow the load to block your view.
- Traveling with a blocked view is just asking for trouble.

Placing the Load

- Once you arrive at your destination, be sure to keep your back in its natural posture with the load close to your body while lowering the object.
- Use your legs to lower the object straight down while bending your knees.
- Make sure your fingers aren't underneath the load when setting it down.

HAND TRUCKS

Correct Truck for Job

- If you decide you can't carry a load safely, a hand truck, cart or dolly can be used. Using one of these devices not only makes it easier to move a heavy object, but can also reduce the number of trips needed to transfer larger quantities of items.
- When using a hand truck, always use the correct one for the job. While a standard truck is good for moving boxes and other square-shaped items, specialty trucks with curved beds should be used when moving barrels and other round containers.

Loading the Truck/Placing the Nose

- When loading a hand truck, be sure to follow safe lifting methods. Safe lifting must become second nature for everything you do.
- To keep the load stable, place the heaviest items at the bottom and only stack objects to a height that you can see over while traveling.
- Placing the nose of the hand truck under a load can sometimes be a challenge. Tilting the load slightly allows the nose to be moved into place.

Proper Tilt

- To move the load, the hand truck must be tilted backwards to allow the weight of the load to be primarily carried by the wheels and axle.
- Avoid tilting the truck too far backwards. This places most of the weight onto the frame of the truck and places more force on your back.
- Be aware that the nose of the hand truck will tend to tip the load over when the truck is first tilted backwards.
- On light loads, you can overcome this by holding the load in place with one hand as you tilt the truck with the other.
- Heavy or awkward loads will require a strap be installed to hold the load in place while tilting and while under way.
- Moving compressed gas cylinders requires safety chains be in place and the safety caps must be on.
- Placing your foot against the axle can make it easier to tilt the truck and also keeps the wheels from rolling towards you while tilting.

Travel Tips

- When traveling, grip the handle firmly and when possible, you should push the truck instead of pulling it.
- When you reach your destination, support the load with one hand and slowly lower the truck with the other to make a controlled stop. An uncontrolled stop can easily spill the load.

Placing the Load

- Again, use proper lifting techniques when unloading the hand truck and be sure not to twist your back while placing the load.
- When your work with the truck is complete, park it in its approved storage area so it won't become a tripping hazard and can be found when needed.

CARTS AND DOLLIES

- Sometimes your work may require more stability and weight capacity than a hand truck can provide. In these instances, a four wheeled vehicle such as a cart or dolly may be a good choice.
- When loading a cart or dolly, make sure the total weight of the items is distributed evenly to maximize stability.
- Some carts also have a lower storage area. Placing some of your items on the lower level helps keep the center of gravity of the cart low, which makes it less likely to tip over.
- Accessing the lower level of a cart without straining our back can be a challenge. Don't bend at the waist; instead, squat down and keep the load close to your body until it's time to transfer it to or from the cart.
- You can also kneel down and use your leg as a "bridge" to help support the load as it is transferred. This technique is especially useful for heavier items and also works to access items on low shelves or under racks.
- When loading a cart, be sure not to over stack your items. Over stacking creates a high center of gravity and makes the cart more likely to tip over.
- Over stacking may also block your view, leading to a collision.
- Whenever possible, push the cart or dolly instead of pulling it while also keeping your eyes focused on the path ahead. Be sure to travel at a speed which allows you to maintain control and avoid obstacles.
- Keep in mind that the more weight you have on the cart, the greater stopping distance is required. Stopping too quickly can upset your load.
- Of course don't forget to use safe lifting techniques when unloading the cart or dolly.

FORKLIFTS & PALLETS

- Many loads in the workplace are just too large or too heavy to lift and carry by ourselves or with the assistance of a hand truck or cart. When this is the case, a load is often placed onto a pallet which can then be moved by a forklift or pallet jack.
- These types of machines are both powerful and dangerous and you must be trained and authorized by your company before being allowed to operate them.

Pedestrian Safety Tips

- Material handlers often find themselves working in proximity to powered material handling equipment.
- The path of material handling equipment is unpredictable and the operator frequently stops, starts, turns and backs up quickly and without warning.
- Never assume the operator can see you. Make eye contact and establish communication with the driver before approaching or crossing the path of this equipment.

- Always look both ways before entering an aisle or crossing an intersection and do not place yourself between material handling equipment and a solid object.
- The forks of lift trucks and pallet jacks are notorious tripping hazards. Give them a wide berth when traveling nearby and pay close attention to your path of travel.
- Finally, do not walk or stand under a raised load. Falling loads injure many material handlers each year.

Handling Pallets

- Material handlers often need to load, move and handle pallets. Working with pallets creates a few safety concerns that must be considered.
- When handling pallets, gloves should be worn to avoid splinters.
- Ideally, a forklift or pallet jack would be available to move pallets when needed, but this is not always the case.
- Two workers lifting together can easily move a pallet, but a pallet may also be safely moved by one person.
- To move a pallet alone, you can tilt the pallet onto its edge so that the planks run parallel to the floor. Then, bend your knees and find a secure grip on one of the planks and lift with your legs.
- Another method is to simply push the pallet while sliding it along the floor. This allows you to move the pallet without lifting.
- Pallets should be stored flat and not on an edge. Pallets stored on edge tend to fall over which can result in injury.
- Avoid walking or standing on pallets. Pallets are the source of many ankle injuries.
- If you can't reach what you are after without walking on a pallet, consider having the pallet moved to be more accessible.
- It may also be possible to use an assist device to move the object within reach.

Loading Pallets

- Before placing a pallet into service it should be inspected to ensure it is in good condition.
- When arranging a load onto a pallet, the center of gravity of the loaded pallet should be in the center of the pallet.
- Many loads will need to be shrink-wrapped, taped or banded to the pallet to ensure they remain stable during transport.

FORKLIFT & PALLET JACK OPERATION

- If you are a trained and authorized operator of forklifts or pallet jacks here are a few things to keep in mind when moving palletized loads.
- When traveling with a load, keep it as low as safely possible to the floor.
- Never raise or lower a load while in motion. Doing so can make your vehicle and the load become unstable.
- When traveling, pay close attention to your travel path, avoiding obstructions and pedestrians.

- Whether using a manual or powered pallet jack, be mindful of the combined weight of the load and the vehicle and allow a safe stopping distance accordingly.
- Don't block aisles, stairs or doorways with your pallet jack, empty pallets or your load.
- Place empty pallets in their proper storage area and return the pallet jack to its proper place when you are finished using it.

CONCLUSION

- In this program, we have discussed some of the safe work practices and precautions you can take to prevent painful and often disabling injuries while performing material handling operations.
- We also discussed how a good attitude that is focused on injury prevention is the key to following these safe work practices each and every time you lift, move or transport an object.
- Perhaps the most important point to remember is to stay within the limits of your physical lifting abilities and to seek help when a load is too heavy to safely move alone.
- This help may come in the form of a co-worker, a material handling device, a powered industrial truck or some other means.
- No matter the method, use the tips and techniques learned in this program to make sure that when you decide to move an object that you are able to "move it safely."

PREPARE FOR THE SAFETY MEETING

Review each section of this Leader's Guide as well as the program. Here are a few suggestions for using the program:

Make everyone aware of the importance the company places on health and safety and how each person must be an active member of the safety team.

Introduce the program. Play it without interruption. Review the program content by presenting the information in the program outline.

Copy the review questions included in this Leader's Guide and ask each participant to complete them.

Make an attendance record and have each participant sign the form. Maintain the attendance record and each participant's test paper as written documentation of the training performed.

Here are some suggestions for preparing your video equipment and the room or area you use:

Check the room or area for quietness, adequate ventilation and temperature, lighting and unobstructed access.

Check the seating arrangement and the audiovisual equipment to ensure that all participants will be able to see and hear the program.

CONDUCTING THE PRESENTATION

Begin the meeting by welcoming the participants. Introduce yourself and give each person the opportunity to become acquainted if there are new people joining the training session.

Explain that the primary purpose of the program is to discuss precautions and safe work practices employees should follow when lifting and moving and object while stressing the importance of staying within the limits of their physical lifting abilities.

Introduce the program. Play it without interruption. Review the program content by presenting the information in the program outline.

Lead discussions about specific material handling tasks that are performed regularly at your facility and how they can be completed safely.

After watching the program, the viewer will be able to explain the following:

- How to prepare for lifting and moving a load;
- Why you must stay within your limits without exerting yourself when you are lifting and moving an object by yourself;
- How to manually lift and move an object without injury;
- How to properly move loads with hand trucks, carts and dollies;
- How to avoid injuries when working near powered material handling equipment.
- How to safely move pallets by ourselves or with forklifts and pallet jacks.

MOVE IT SAFELY:
Avoiding Injury While Moving Materials
REVIEW QUIZ

Name _____ Date _____

Please provide answers to the following to show how well you understand the information presented during this program.

1. The weight of the load is the only consideration for safely moving materials.
 - a. true
 - b. false

2. When determining a safe path of travel, which of the following items must be considered?
 - a. slip and trip hazards
 - b. overhead objects
 - c. fixed objects
 - d. all of the above

3. Which of the following is a valid reason for attempting to lift an object that is too heavy?
 - a. to impress a co-worker
 - b. to save time
 - c. pressure by others
 - d. none of the above

4. Which of the following is a way to avoid twisting while lifting?
 - a. stand on one foot
 - b. only lift while kneeling
 - c. shuffle and pivot your feet

5. When loading a hand truck, the heaviest items should be placed on top.
 - a. true
 - b. false

6. You should always push a loaded hand truck rather than pulling it.
 - a. true
 - b. false

7. Accessing the lower level of a cart requires bending at the waist.
 - a. true
 - b. false

8. Before approaching or crossing paths with a forklift, you should make eye contact and establish communication with its operator.
 - a. true
 - b. false

9. Pallets should be stored on their sides to save space.
 - a. true
 - b. false

10. Operators of material handling equipment always have the right of way and do not need to watch out for pedestrians.
 - a. true
 - b. false

ANSWERS TO THE REVIEW QUESTIONS

1. b

2. d

3. d

4. c

5. b

6. a

7. b

8. a

9. b

10. b