

Back and Lifting Safety

Preparation

1. Read Applicable Background information and related Company Policy Chapter.
2. Make _____ Copies of this Lesson Plan for Personnel
3. Make Transparency, procure transparency pens, etc.
4. Other:

Material

1. Dolly, hand cart, wheel cart, large box, back belt

Objective

By the end of this session, personnel shall be able to:

1. Explain how to prevent back injury
2. Explain material handling techniques
3. Show how to lift objects properly
4. Explain the disadvantages of using back belts

Background

Keeping your back healthy and keeping you on the job requires a team effort. Management is committed to helping reduce back injuries at work, by teaching good lifting and material handling techniques. Back safety is a shared responsibility- it requires your cooperation at work, home, and play.

Not all back injuries are a result of sudden trauma - most are of a cumulative type, where a repeated minor injury has flared up, or continued use of a heavy tool in the same position has caused pain, or a great deal of time is spent in the same position.

80% of back injuries occur in people between the ages of 30 and 50. With an expected life span in America reaching nearly 80 years, that is a long time to live in pain, or with limited mobility.

Lesson

How to Prevent Back Injury

Preventing a back injury is much easier than repairing one. Because your back is critically important to your ability to walk, sit, stand, and run, it's important to take care of it. Most back pain arises from using your back improperly, so learning a few basic rules about lifting, posture and proper exercise can help keep your back in good shape.

Exercise: Having strong back and stomach muscles is important in order to ease the work your back is put through each day. By doing simple back-toning exercises, you not only strengthen your back but also reduce stress and improve your appearance, too! Check with your doctor as to the best exercises for you.

Lose Weight: Pot bellies and being overweight exerts extra force on back and stomach muscles. Your back tries to support the weight out in front by swaying backwards causing excess strain on the lower back muscles. By losing weight, you can reduce strain and pain in your back. Check with your doctor for the most sensible diet plan for you.

Good Posture: You can prevent many back pains by learning to sit, stand and lift items correctly. When you sit down, don't slouch. Slouching makes the back ligaments, not the muscles, stretch and hurt, thus putting pressure on the vertebrae. The best way to sit is straight, with your back against the back of the chair with your feet flat on the floor and your knees slightly higher than your hips. Learn to stand tall with your head up and shoulders back.

Plan the Lift: Before you lift that box, or tool, or piece of equipment, take a moment to consider your action:

Do you need to lift the item manually?

How heavy is it?

Where are you moving the item from?

Where does it have to go?

What route do you have to follow?

Notes

Notes

Get Help, If Needed: If the load is too heavy, bulky or awkward for you to lift alone, find a friend to help you carry it. If no one is available, is it possible to break the load into two smaller loads? Or, can you locate a cart or dolly to help you move it? Look for simple solutions to help make the move easier on you and your back.

Material Handling Techniques

Mental Lifting: To handle materials safely, lift everything **twice**. First, lift the load mentally. Plan every step before you do it physically.

Size Up the Load- How much does it weigh? Give it a “heft test” to see whether you can lift it. If it feels OK, go ahead and lift it.

Get Help: If the load is too bulky or heavy for you to lift alone, get help. Don’t hesitate to ask someone else for a hand. A moment’s help could save you from days of disability.

Team Lift- When team lifting, pick one person to call signals. The leader should direct the team so you all lift together, walk in step, and lower to load together, using the lifting principles below.

No One to Help?: Sometimes no one is around to help, or the job is bigger than both of you. Arrange for mechanical help from a pushcart, hand truck, dolly, wheelbarrow, or forklift.

Push, Don’t Pull- Use good lifting techniques to load mechanical devices. Whenever possible, push rather than pull. You can push twice as much as you can pull

How to Lift Properly

Avoid picking up heavy objects placed below your knees. Try to see that heavy objects are placed and stored above knee level and below shoulder level. If you suspect the load is too heavy to be lifted comfortably, do not chance it. Use a mechanical aid, break the load down into its component parts, or get help. The most common cause of back injury is overloading.

Position Yourself Correctly in Front of the Load: Once you have planned your lift, the next important step is to align yourself correctly in front of the load, as close to the load as possible, with your feet straddling the load. The further the load is from the centerline of your body, the greater the strain imposed on your back. If need be, squat down bending your knees (not your back and stomach). This gets it closer to the center of your body and helps prevent the need to bend at the waist. However, since your leg muscles are the largest muscles in your body, they are the biggest energy consumers. Repeated squatting can be very fatiguing, and reduces a person's ability to lift in this manner for any length of time. In addition to lifting the load, you are also hoisting the majority of your body weight. For *repeated* lifting, other strategies must be used.

Tighten your stomach muscles. This technique helps prevent your spine from twisting. If you lift a load and need to place it off to one side, turn by moving your feet.

Lift with Your Legs, not Your Back: Once the load is close to your body, slowly straighten out your legs until you are standing upright. Make sure the load isn't blocking your vision as you begin to walk slowly to your destination. If you need to turn to the side, turn by moving your feet around and not by twisting at your stomach.

Set the Load Down Correctly: Once you have reached your destination, it's equally important that the load is set down correctly. By reversing the above lifting procedures you can reduce the strain on your back and stomach muscles. If you set your load on the ground, squat down by bending your knees and position the load out in front of you. If the load is set down at table height, set the load down slowly and maintain contact with it until the load is secure and will not fall when you leave.

Disadvantages of Back Belts

What is a back belt? Back belts, also called "back supports" or "abdominal belts" were originally used in medical rehabilitation therapy. Athletes during weight lifting have also used leather belts. Recently, the "industrial back belt" has become popular. While there are many types of belts on the market, the most common style is of a lightweight, elastic belt worn around the lower back and sometimes held in place with suspenders.

Notes

Why are people using back belts? A back belt is a device used, in theory, to reduce the forces on the spine, increase abdominal pressure, stiffen the spine and reduce loads during lifting. It is also advertised that by wearing a back belt, the worker will be reminded to avoid awkward postures and heavy loads, reduce bending motions and in the end, reduce injuries in certain workplaces.

Notes

Do back belts protect workers from back injury? No evidence has so far been found to support the claim that wearing back belts improves one's back safety. In response to the substantial increase in the number of workers who rely on back belts to prevent injury from lifting, the National Institute for Occupational Safety and Health (NIOSH) in the United States reviewed and evaluated the existing data related to back belts. Their final conclusions are:

- back belts should not be considered as personal protective equipment;
- back belts should not be recommended for use in occupational situations.

NIOSH concerns led to the below conclusions:

- the use of back belts may produce some strain on the cardiovascular system;
- the use of back belts limits mobility and may reduce the suppleness and elasticity of muscles and tendons, potentially contributing to back injury;
- the use of back belts may create a false sense of security, increasing the risk of lifting excessive loads.

With these recommendations in mind, the Company warns users and potential users of any kind of back belts about the potential health risks that could result from wearing these devices.

Closure

Care and maintenance of your back is every bit as important as the care and maintenance of your vehicle, your home, or your tools, but this most important asset of our physical being is commonly overlooked or neglected. Your back is the foundation and the structure upon which the rest of your body relies for balance and support. Used improperly, or unsafely, your back can suffer injuries that can literally change the way you live.

What questions do you have?

Back and Lifting Safety-Assessment

Name: _____ Date: _____

1) True or False

It is much easier to fix a back injury than to prevent one from happening.

2) True or False

Most back injuries occur because of sudden trauma and auto accidents

3) Check all that apply

A few basic rules about lifting, posture and proper exercise can help keep your back in good shape. These are:

- Exercise regularly
- Lose Weight
- Sit in a slouched, comfortable position
- Correct Straight Posture
- Using the back muscles to lift light loads

4) Check all that apply

Material handling techniques to be followed are:

- Get two strong guys to move it
- Move the object twice, once in the head and once actually moving it
- Pull the object into place
- Ask for help
- Lift with the back, not the legs

5) True or False

Avoid lifting heavy objects that are lower than your knees. If you suspect the load is too heavy to be lifted comfortably, do not chance it. Use a mechanical aid, break the load down into its component parts, or get help.

6) True or False

The further the load is from the centerline of your body, the less the strain imposed on your back. If need be, squat down bending your back and stomach.

7) True or False

Lift with Your Legs, not Your Back. If you need to turn to the side, turn by moving your feet around and not by twisting at your stomach.

8) True or False

Set the Load Down Slowly. Once you have reached your destination, it's equally important that the load is set down slowly. It is much better not to break the merchandise than it is to wrench your back.

9) True or False

Back belts protect workers from back injury.

10) True or False

National Institute for Occupational Safety and Health (NIOSH) in the United States reviewed and evaluated the existing data related to back belts. Their final conclusions are:

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Key-Back and Lifting Safety-Assessment

1) True or False

It is much easier to fix a back injury than to prevent one from happening.

Preventing a back injury is much easier than repairing one.

2) True or False

Most back injuries occur because of sudden trauma and auto accidents

Most back pain arises from using your back improperly

3) Check all that apply

A few basic rules about lifting, posture and proper exercise can help keep your back in good shape. These are:

- **Exercise regularly**
- **Lose Weight**
- Sit in a slouched, comfortable position
- **Correct Straight Posture**
- Using the back muscles to lift light loads

4) Check all that apply

Material handling techniques to be followed are:

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