Avoiding Back Injuries

Welcome

Introduction

Notes:

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Welcome to BLR® training.

Avoiding Back Injuries

Every Move You Make

Notes:

Your back is involved in almost every move you make. For example, your back helps you:

- Stand up,
- Sit down,
- Bend over,
- Reach,
- Turn to the side,
- Push and pull, and
- Lift and carry, and much more.

Just think of all the ways your back works for you every day. With all that work, it's not surprising that back injuries are so common. But as you'll learn today, they are preventable.

Proper Posture

Notes:

Posture, or the position of your body, is important in everything you do. You can maintain good posture by maintaining your body's natural curves when you are standing, sitting, or moving around.

- When standing, stand straight with your shoulders back, your head up, and your feet shoulder-width apart. Remember not to slouch or hang your head.
- When sitting, don't slouch backward, forward, or to the side. Sit up straight against the chair's backrest, with your shoulders back and your head up. Your feet should touch the floor or be placed on a footrest.
- When walking, stand tall, look ahead, and allow your arms to swing freely from your shoulders, not from your elbows.

If you are already experiencing back pain, you might tend to slouch or bend in order to

relieve the pain. However, this contributes to bad posture and is likely to make the problem worse.

Anatomy of the Back

Notes:

Your back has many different, interactive parts. That's part of the reason it's so often injured.
Select each tab to learn more.
Vertebrae: Vertebrae are bony structures that protect bundles of nerves in your back—called the spinal cord. There are more than 30 vertebrae, stacked one on top of the other, from your neck to your lower back.
Nerves: Nerves run down the spine from your brain and extend down the legs.
Discs: Discs are made of a gel-like tissue that separates and cushions the vertebrae, allowing your spine to be flexible.
Muscles, Ligaments, and Tendons: The system of muscles, ligaments, and tendons allows you to bend and turn your back and keeps everything properly aligned. Ligaments are the tissues that connect bone together at the joints, and tendons are the tissues that connect muscle to bone.
To learn more about the anatomy of your back, select ***All About Your Back*** from ***Resources.***

Types of Back Injuries

Notes:

Back injuries can occur from a single traumatic event or develop gradually over time. Some back pain is acute, or short term, but if pain lasts 12 weeks or longer, it is considered chronic.
Let's look at some common types of work-related back injuries.

- A strain happens when you tear or overstretch your back muscles or tendons. This often happens to people who try to do too much when their backs are not properly conditioned.
- A sprain happens when a ligament in the back is torn or excessively stretched. This could be the result of a sudden forceful movement or from a small movement that injures an already weak ligament.
- A herniated disc occurs when the disc begins to leak its cushioning fluid. The disc loses its ability to cushion the vertebrae, resulting in pressure on vertebrae, the spinal cord and, possibly, other organs.

Signs and Symptoms: Sprains and Strains

Notes:

If you sprain or strain your back, you may experience the following symptoms:

- Pain and tenderness in the area of the strain;
- Muscle spasms, which are sudden, involuntary contractions of the muscle that may be

painful; *and*
- A decrease in the muscle strength or the loss of muscle function.

These injuries may occur over time or suddenly, with a "snap" or "pop" sensation.

Signs and Symptoms: Herniated Disc

Notes:

The symptoms of a herniated disc will affect different parts of your body, depending on where the herniated disc is located along the spine. If the injured disc is:

- In the neck, or cervical region, there can be pain in the neck, shoulders, arms, or chest. The arms or fingers may feel numb.
- In the upper back, or thoracic region, there can be pain in the upper back, lower back, chest, abdomen, or legs.
- In the lower back above the pelvis, or lumbar region, there is often severe, shooting pain down the back of the leg.

If you experience any of these symptoms, or if you have changes in bladder or bowel control, you should contact your healthcare professional.

Risk Factors for Back Injuries

Notes:

There are many risk factors that make a person more susceptible to back injuries. Often, an injury occurs due to a combination of factors that weaken your back over time.
Select each tab to learn more.
Fitness Level: If your back muscles are weak, your spine will not be properly supported, and you may develop back problems and pain. If you are inactive, doing a lot of activity all of a sudden makes you prone to an injury.
Excess Weight: Being overweight can put continuous stress on your back that will gradually weaken it and contribute to injury.
Age: As you age, bone strength, muscle elasticity, and muscle tone decrease. Discs begin to lose fluid and flexibility, meaning the vertebrae are not cushioned as well.
Medical Conditions: An underlying medical condition or a previous injury can make the back more susceptible to injury. For example:

- Degenerative conditions such as arthritis and osteoporosis,
- Certain types of infections, *and*
- Conditions that cause irritation to joints and discs.

Mitigating Risk Factors

Notes:

You are at a higher risk for back injuries if you are overweight or out of shape. However, improving your fitness can lower your chances of experiencing an injury.

- Physical conditioning of your back means strengthening not only your back muscles but also the muscles that work together with your back while you lift. Exercises, such as crunches, will strengthen your stomach muscles that help support your back and

maintain good posture. Your thigh muscles are engaged when you lift, and squat exercises will help strengthen them.
- Staying flexible and limber is also important. Your fitness program should include stretching exercises so that you can bend, turn, and twist your back with ease.
- You should try to lose excess weight that contributes to poor posture and puts stress on your back muscles. Remember, be sure to consult with your doctor before starting an exercise program.

Occupational Hazards

Notes:

Workers can be exposed to many different hazards on the job that could lead to back injuries. Examples of hazards include:
- Lifting and carrying heavy loads.
- Long-duration lifting, such as when installing fixtures overhead, or repeated lifting and carrying.
- Bending or reaching for loads located outside of the power zone. The power zone is the area close to your body from your mid-thigh to mid-chest. Bending or reaching for loads located outside of this area puts extra stress on the back. This means that you should avoid storing items that you need to lift on the floor or higher than you can safely reach with a ladder or step stool.
- Holding awkward postures. Awkward postures can also put stress on muscles and tendons, resulting in a back injury, especially if these motions are repeated. For workers who sit for many hours at a time, poorly designed workstations can lead to bad posture. And, holding fixed positions, such as standing in one place for a long period of time, may also lead to a back injury.

Controlling Hazards: Engineering Controls

Notes:

Injuries can be preventable if hazards are controlled in the workplace. To lower the exposure to hazards, engineering controls, which are physical changes to the work space, can be implemented. Examples include:
- The use of lifting equipment. Powered or manual lifting equipment can easily move heavy loads that are too heavy to move yourself.
- Improving ergonomics to eliminate discomfort and reduce the risk of injury, redesign workstations, and store objects within reach.

Lifting Equipment

Notes:

Let's look at some examples of lifting equipment that you can use as an alternative to manual lifting and carrying. This equipment will reduce your effort and force, helping you avoid back injuries.
- Powered equipment such as forklifts, powered carts, and electric pallet jacks can move

heavy loads easily. But remember that you must be trained and authorized before using this kind of equipment.

- Manual equipment such as hand trucks, carts, and manual pallet jacks can be very helpful, but make sure you choose the right equipment for the job. It's also better for your back to push a hand truck or cart rather than pull it.
- Cranes and hoists are good for lifting heavy loads, as long as you are trained and authorized to use them. Make sure that all lifting devices are rated to carry the weight you are trying to lift.
- Lift tables can be used to raise and lower loads or to adjust objects to a comfortable height for working.
- Conveyors are a good way to move material without carrying it. However, there are many moving parts. Remember to work safely around conveyors, as they present pinch point hazards. Also, never ride on a conveyor or climb over or under it.

Ergonomics

Notes:

If you work for many hours at a time in front of a computer, it can put stress on different parts of your body, including your wrists, neck, and back. A workstation that is properly designed will make it easier to maintain good posture and avoid bending, twisting, and reaching. You can improve workstation ergonomics by:

- Positioning frequently used items within reach.
- Using a headset instead of a handheld phone.
- Positioning the computer monitor at eye level.
- Using a chair that supports your back in an upright position with your body's natural curve. You may consider using a lumbar pillow for extra lower-back support.

Controlling Hazards: Safe Work Practices

Notes:

To prevent an injury, you must use the proper techniques to lift, carry a load, and unload. There is no OSHA standard defining the weight limits of how much a worker can lift. The National Institute for Occupational Safety and Health, or NIOSH, has developed an application to help you determine your safe lifting limit for the particular manual lifting task at hand. However, always use your best judgment, and do not attempt to lift something too heavy just to get the job done quickly.

Have a Lifting Plan

Notes:

Before lifting or carrying a load, have a safe lifting plan. This doesn't mean a written plan; it simply means thinking about what you're going to do before you pick up and carry a load. Weight alone does not determine if an object is safe to lift.

- First, assess your ability to handle the load. How much does it weigh? Is it bulky, long, or awkward? Does it need more than one person to lift it? At what height is the object

located? Think about how you will grip it and be able to maintain your grip. Think about whether you will be able to see properly when you carry it.'
- Second, make sure your path is clear for carrying the load. Are objects in the way? What about doorways and tight corners or stairs, steps, and ramps? Are you sure the load will fit through any tight spaces? Try to move the load smoothly and without sudden jerks.
- And third, think about how you are going to unload the object. Make sure you have a clear, accessible area so that you can unload safely.

Proper Technique: Lifting

Notes:

After you've determined that an object is safe to lift on your own and you have a clear path, it's time to lift it. Let's discuss the proper techniques for lifting a box to avoid back injuries.
Select each button to learn more.
Step 1: First, stand close to the object with your feet shoulder-width apart. Your body should be centered with the object you are going to lift. Try to make sure the object is located in your "power zone."
Step 2: Next, bend at the knees, not at the waist, and try to maintain your body's natural curve throughout the lift.
Step 3: Pull the load close to you, and grip it firmly.
Step 4: Tighten your stomach to act as a back support, and power the lift with your legs rather than with your back.

Proper Technique: Carrying

Notes:

To avoid back injuries, it's as important to carry the load properly as it is to lift it properly.
- Make sure you can see where you're going. Trying to save time by stacking objects is not worth getting injured because you can't see where you're going.
- Take small steps, and make sure your footing is stable. Be especially careful on steps, ramps, and areas with uneven surfaces.
- Don't twist your back when carrying a load. To turn, move your feet rather than twisting your back.

Proper Technique: Unloading

Notes:

Unloading properly is also important for preventing back injuries. Basically, unloading is the reverse process of lifting a load. Follow these rules for proper and safe unloading:
- Squat with the load, bending your knees.
- Don't bend your back; instead, keep your back straight, and let your legs do the work.
- Finally, keep your fingers away from the bottom and sides of the load so they don't get pinched or crushed as you lay it down.

Special Situations: Introduction

Notes:

You may encounter a special situation like:

- Needing to lift a long or heavy object. This situation may require more than one person, which is called a team lift.
- Needing to lift something overhead, using a ladder or step stool.

Special Situations: Team Lifts

Notes:

Some loads are too big or heavy for one person. These require team lifting.
Select each tab to learn more.

- Select members of the lifting team with height in mind. Working with others of about the same height will help keep the load stable and level while you're carrying it.
- Designate a team leader for the lift to direct all the motions. No one should do anything unless the leader says so. This will prevent someone from being injured if another member of the team does something unexpected.
- Members of the team should lift the load slowly and at the same time. You should avoid walking backward, but if it is not possible, consider having another person who is not part of the lifting team act as a spotter.
- Keep the load level while you carry it. This is particularly important if you are going up or down the stairs or ramps. The person at the bottom will take more of the load if it is allowed to tilt downward instead of remaining level.
- When it's time to unload, team members should unload slowly and together, following the directions of the team leader.

Special Situations: Overhead Loads

Notes:

When handling loads that are over your head, it's very important to observe safety procedures to avoid an injury. You should:

- Stand facing the load. Don't reach up to pick up a load. Instead, use a step stool or ladder to get your shoulders level with the load. But don't stand on a chair or a stack of boxes; this is unstable, and you may fall.
- Slide the load close to your body, and grip it firmly with all your fingers.
- Maintain good posture, and use your legs to step carefully down from the ladder or step stool.
- If necessary, have someone else spot you to make sure you don't lose your balance.

For a summary of some basic lifting and carrying techniques, select ***Lifting and Carrying Safely*** from *Resources.*

Don’t Ignore an Injury

Notes:

You should always follow safe lifting, carrying, and unloading practices, but if you still do get injured, you should:

- Immediately report the problem to your supervisor.
- Seek medical attention. Remember that early treatment and intervention may prevent the injury from worsening or becoming a chronic condition.

Key Points to Remember

Notes:

Here are the main points to remember about this training session on back safety:

- Common types of back injuries you may sustain on the job include sprains, strains, and herniated discs.
- On the job, you may be exposed to hazards that can lead to a back injury, including lifting and carrying heavy objects; performing repetitive lifting tasks; and tasks that cause you to stand or sit in an awkward posture.
- Risk factors that may increase the likelihood of sustaining a back injury include your fitness level, whether you are overweight, or whether you have underlying medical conditions or have suffered a previous injury. Losing weight, exercising, and stretching regularly can lessen these risk factors.
- To reduce the risk of injury from hazards, always use proper lifting, carrying, and unloading techniques. Use engineering controls, such as lifting equipment and ergonomics, whenever possible. Have a safe lifting plan, and never attempt to carry something that is too heavy for you to handle on your own.

This concludes today’s training session on Avoiding Back Injuries.