

# **PRESENTER'S GUIDE**

## **"BACK SAFETY IN INDUSTRIAL ENVIRONMENTS"**

**Part of the General Safety Series**

# **OUTLINE OF MAJOR PROGRAM POINTS**

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The following outline summarizes the major points of information presented in the program. The outline can be used to review the program before conducting a classroom session, as well as in preparing to lead a class discussion about the program.

- **How's your back? If it's been hurting, you're definitely not alone.**
  - An estimated 31 million people in the U.S. are suffering from back pain at any given time.
  - And we spend more than \$50 billion dollars every year trying to get rid of it.
  
- **More than one million back injuries occur in the workplace every year, making "bad backs" a major cause of days missed from work.**
  
- **When we refer to our "back," we're talking about our spine, and the tissues and nerves that are associated with it.**
  - The spine gives our bodies structure and support.
  - It's rigid enough to carry more than half of our weight, but flexible enough to allow us to twist and bend freely.
  
- **The spine is made up of 33 individual bones known as "vertebrae" that are held together by groups of ligaments, tendons and muscles.**
  
- **The seven vertebrae in the neck are called "cervical" vertebrae.**
  - They support your skull and allow you to move your head.
  
- **The twelve vertebrae in the mid-back are called "thoracic" vertebrae.**
  - They connect to your ribs and form the "back wall" of your rib cage.

- **The five vertebrae in your lower back are called "lumbar" vertebrae.**
  - They enable you to bend at the waist and support not only the weight of your body, but anything that you lift and carry as well.
- **Vertebrae are "hinged", with "facet joints" that also guide their movement and provide stability.**
- **Between the vertebrae are cushioning structures called "intervertebral discs."**
  - These "shock absorbers" have a soft, gelatinous "nucleus" surrounded by a tough, elastic outer casing.
- **A hollow passage through the spinal column called the "spinal canal" contains the millions of nerves that make up the "spinal cord" and extend throughout the body.**
  - Protecting this delicate "information trunk" is another important function that your spine performs.
- **When it's at rest, a healthy spine forms a natural "S" curve that enables it to bear the body's weight with the least amount of stress.**
- **When everything's working right, your back does its job so well that you may not even be aware of it.**
  - But if you place enough stress on your spine to injure it... then you'll really know about it.
- **Keep in mind too, that as the body ages, muscles weaken, ligaments become stiffer and the intervertebral discs begin to wear out.**
  - So the older you get, the more likely you are to have some type of back trouble.
- **Back injuries can happen anytime, anywhere... not just at work.**

- **Maybe you didn't feel it while you were playing touch football over the weekend... or when you carried all those bags of groceries out of the store yesterday... but you were overdoing it.**
  - The extra stress injured your back, and today you can't help but notice the pain.
- **The strained muscles and sprained ligaments are telling you that you need to treat your back more carefully!**
- **With proper treatment, such as ice packs to reduce swelling and heating pads to relieve stiffness, injuries like these will usually heal within a few weeks.**
  - Back pain that lasts less than three months is called "acute" pain.
- **When the pain persists or frequently reoccurs, it is called "chronic" back pain.**
  - This type of pain can indicate that there may be something more serious the matter with your spine.
- **"Ruptured" or "herniated" discs are a common type of spinal injury that can cause chronic pain.**
  - Although people often call it a "slipped disc", intervertebral discs don't really "pop out" from between the vertebrae.
- **What actually happens is the outer, elastic part of the disc ruptures so that the gelatinous nucleus protrudes and puts pressure on the nerves nearby.**
  - This can cause severe back pain.
  - Herniated discs can cause numbness or pain in other parts of the body as well.
- **Most disc ruptures occur in the two lower discs in the lumbar region, because they do most of the spine's "heavy lifting".**

- **But herniated discs can occur in the spine's cervical region too.**
  - These injuries are often due to "whiplash".
  - "Whiplash" is a condition that results from the head being violently thrown backwards by a sudden jolt, such as an accident.
  
- **Properly treated, herniated discs usually heal by themselves, without the need for surgery.**
  - It can take several years for a disc to heal completely.
  
- **The human body is designed to move. Physical motion is good for us.**
  - So standing or sitting still for long periods of time, as many of us do when we're at work, can put a lot of stress on our bodies.
  - That's why having good posture is so important.
  
- **"Slouching" puts unnecessary strain on your back, so you should:**
  - Stand up straight.
  - And maintain neutral positions as much as possible.
  
- **"Neutral positions" place the least amount of stress on your body.**
  - They distribute the weight of your head and upper body evenly over the vertebrae, discs and muscles of your back.
  
- **You can avoid "hunching over" by raising your work surface, or positioning your work on a sturdy box or other platform to bring it up to a comfortable level.**
  
- **Placing one foot on some sort of footrest will also help to reduce stress on your spine by maintaining a healthy curve in the lumbar region.**
  - Remember to alternate the legs that you raise.

- **Good posture is also important when you're sitting down.**
- **The key to achieving neutral positions while seated is to adjust your chair to fit both you and your workspace.**
  - Your seat should be high enough so that your forearms are at about a 90-degree angle to your upper arms, and are level with your work surface.
- **Your feet should rest flat on the floor, with your thighs at right angles to your lower legs.**
  - If your feet don't reach the floor after you adjust your chair to suit your upper body, get a footrest to support them.
  - "Dangling" legs it puts stress on your lower back.
- **To help maintain your spine's natural "S" curve, make sure your lower back is firmly supported.**
  - If your chair doesn't provide enough support on its own, place a "lumbar cushion", small pillow or rolled-up towel behind your back.
- **Don't let yourself get "stuck" in one position for too long.**
  - Take a break now and then to move around and stretch.
- **Most of the back injuries that occur in the workplace happen when people lift things the wrong way.**
  - Sometimes the object is too heavy for them, or it's too bulky to carry safely, or they try to lift it while they're in an awkward position.
  - Most of the time employees hurt themselves by bending at the waist when they lift.
- **Bending at the waist multiplies the weight of your upper body, and anything that you pick up and carry, by a factor of ten!**
  - That 30-pound box of fasteners you're carrying puts an additional 300 pounds of weight on your back.
  - All that pressure is focused on the vertebrae in your lumbar spine.

- **To avoid these problems, remember to "think before you lift".**
  - Don't do any lifting if your back feels stiff or painful (you'll just make things worse).
- **Consider the load's size, shape and weight.**
  - If it's too heavy for you to pick up easily, or it's bulky or hard to grasp, get some help.
  - Ask a coworker to give you a hand, or use a hand truck or dolly.
- **When you do decide to make a lift by yourself:**
  - Get close to the object.
  - Lower yourself by bending at the knees.
  - Keep your shoulders level and centered over your hips.
  - Grasp the load securely.
  - Keep your back straight.
  - Lift slowly and steadily with your legs.
- **Leaning forward when you lift is as hazardous as bending at the waist.**
  - Slide objects toward you and get them as close as you can before you lift them.
- **You should keep your back straight while you're carrying a load as well.**
  - If you need to turn, change direction by moving your feet.
  - Do not twist at the waist.
- **When it's time to put the load down:**
  - Keep your back straight
  - Slowly bend your knees
  - Use the muscles in your legs for control.



- **Handling things that are "up high" presents special problems.**
  - Lifting with your arms above your shoulders puts a lot of stress on your neck and lower back, so don't do it.
  - Use a ladder or mobile stairs instead, to climb up to where you can make the lift without straining.
- **The habits you develop to keep your back healthy and pain free work just as well at home as they do on the job.**
- **Safe lifting techniques can come in handy when you're performing any household chores that could strain your back, such as:**
  - Raking leaves.
  - Shoveling snow.
  - Moving furniture.
  - Carrying groceries.
- **Believe it or not, carrying small children is a leading cause of back injuries in the home.**
  - In addition to being heavy, they can suddenly shift their weight and put a severe stress on your spine... so be careful.
- **Driving a car or truck can lead to neck and back pain as well, unless you adjust the seat to minimize stress.**
  - Position the seat so that your hips and knees are flexed, and you don't have to stretch your legs to operate the pedals.
  - If the seat has a "lumbar" support, adjust it so that it provides a firm base for your lower back.
- **Remember to sit up straight while you're driving, and set the rearview mirror so you don't have to strain your neck as well.**
- **You can also help to keep your spine healthy by maintaining neutral positions when you sleep.**
  - It helps to have a nice, firm mattress.

- **If you sleep on your back, place a pillow under your knees so your legs are slightly bent. Support the natural curve of your neck with a pillow as well.**
- **If you sleep on your side, you can get your legs into a neutral position by bending your knees and putting a pillow between them.**
- **Avoid sleeping on your stomach.**
  - It forces your neck to twist and places a lot of pressure on the cervical section of your spine.
- **Exercising can be very important to your back's health.**
- **Focus on "low impact" exercises, like walking, swimming and bike riding.**
  - "High impact" activities such as jogging and playing contact sports can actually increase the risk of back injuries.
- **Your healthcare professional can suggest other ways for you to keep your back strong, healthy and pain-free as well.**

**\* \* \* SUMMARY \* \* \***

- **Your spine supports your body with remarkable strength and flexibility, but you need to avoid straining it.**
- **You can use "neutral positions" to reduce the stress on your back when you're standing, sitting, even sleeping!**
- **Think before you lift! Never bend at the waist. Bend at the knees and lift with your legs.**
- **With proper treatment, "acute" back pain from a strain or a sprain will usually heal within a few weeks.**
- **"Chronic" back pain can indicate that a more serious condition may exist.**
  - If your back keeps giving you trouble, see your doctor.

- **Now that you understand how your back works and what you can do to take care of it, you should be able to keep it strong, healthy and pain-free... every day!**