

MAJOR PROGRAM POINTS

"BACK CARE AND SAFETY"

Part of the "GENERAL SAFETY SERIES"

Quality Safety and Health Products, for Today...and Tomorrow

Outline of Major Points Covered in the "Back Safety" Course

The following outline summarizes the major points of information presented in the course on "Back Safety". The outline can be used to survey the course before taking it on a computer, as well as to review the course when a computer is not available.

- **It seems like some workers have to "break their backs" to get their jobs done.**
 - While most people associate back pain with this type of hard physical labor, the "less active" modern lifestyle that many of us enjoy can be harmful to our backs as well.
 - To be healthy our backs must be used, not abused.
- **The back is a complicated arrangement of bones, ligaments, muscles, tendons and nerves.**
 - In some ways it is amazingly strong, yet it can easily be damaged.
- **Many of us don't take the precautions that are necessary to protect our backs from injury.**
 - Which is why more than 80% of both on and off the job injuries involve the back or neck.
- **But back problems are not inevitable.**
 - You can prevent back injuries, if you understand how the back "works."
- **When we say that someone has a lot of "backbone" we mean that they are "upstanding" and solid.**
 - Yet our backs are also amazingly flexible.
 - The "foundation" of your back, the spine, is rigid enough to support more than half of your body weight.
 - But the spine also has enough flexibility for you to bend down and touch your toes.

- **To accomplish these "dual functions" the spine is made up of 33 individual bones known as "vertebrae," twenty four of which are moveable. They are:**
 - The seven "cervical" (neck) vertebrae... which support your skull and allow you to move your head.
 - The twelve thoracic (middle back) vertebrae... which hold your rib cage in place.
 - The five vertebrae in the "lumbar" region of your back... which enable you to bend at the waist.
- **These vertebrae are "hinged" with "facet joints" that guide their movement and provide stability.**
- **The vertebrae are cushioned from one another by "intervertebral discs."**
 - These "shock absorbers" consist of a soft, gelatinous nucleus surrounded by a tough, elastic outer casing.
- **In addition to the three sections of the spine that move, there are nine "fused" vertebrae.**
 - Five of these bones form the "sacral" region, which attaches to the pelvis.
 - The remaining four vertebrae make up the "coccyx," often referred to as the "tailbone."
- **In a healthy spine the 33 vertebrae form a natural "S" curve.**
- **A hollow passage through the vertebrae, known as the "spinal canal," leads from the top cervical vertebrae down thorough the sacral region.**
 - This passage protects the millions of delicate nerves that form the "spinal cord" from damage.
 - Since the spinal cord is the main "information trunk" to your brain, a back problem that involves even a few of these nerves could cause pain or numbness in other areas of your body.
 - Severe damage to your spinal cord could result in paralysis or even death.

- **Because the lumbar and cervical regions of the spine are so flexible, these areas are particularly vulnerable to injury.**
 - In fact most people will end up hurting the lumbar region of their backs at some point in their lives.
 - The resulting pain can be anything from a persistent dull ache... to a sudden, sharp stabbing or stinging sensation.

- **Strained muscles and sprained ligaments are the most common causes of back pain.**
 - With proper treatment these injuries usually heal within a few weeks.
 - Back pain like this that lasts less than three months is considered to be an "acute" condition.

- **When back pain persists or frequently reoccurs, it is considered to be "chronic."**
 - Chronic back pain may indicate that something is wrong with the spine itself.

- **"Ruptured" or "herniated" discs are the most common type of spinal injury.**
 - Although sometimes referred to as a "slipped" disk, intervertebral discs don't really pop out from between the vertebrae.
 - What actually happens is that the outer, elastic part of the disk ruptures, and the gelatinous nucleus protrudes into the spinal canal... putting pressure on the spinal cord.
 - This causes severe back pain... and since the spinal cord is directly involved, there is often numbness or pain in other parts of the body as well.

- **Most disc ruptures occur to the lower two discs in the lumbar region.**
 - This is because they are subjected to more "heavy lifting" than any other discs in the spine.

- **However, herniated discs can also occur in the cervical region. Often, these injuries are due to "whiplash."**
 - Whiplash is caused by any sudden jolt, such as a car accident, that violently throws the head backwards.
- **Properly treated, herniated discs usually heal by themselves, without the need for surgery.**
 - But it can take several years for a disc to fully heal.
- **Back pain can also be a symptom of one of the many chronic diseases that affect the spine. These include:**
 - Spinal Stenosis... a condition where the spinal canal narrows and pushes on the spinal cord.
 - Osteoporosis... which causes loss of bone throughout the skeleton, including the spine.
 - Arthritis... which is the most common disease to affect the back.
- **Actually, "arthritis" is a general term for over 100 "rheumatoid disorders," which are characterized by pain and stiffness of the back or joints.**
 - Some types of arthritis cause inflammation in the lining of the joints.
 - Others result in loss of cartilage, overgrowth of bone or bone spurs.
 - Although arthritis can affect people at any age (even children), it is most common in people who are over 50.
- **Developing arthritis is just one of the things that can cause the spine to degenerate as we get older. As the body ages:**
 - Muscles also weaken.
 - Ligaments become stiffer.
 - The intervertebral discs begin to wear out.
- **This "aging process" can be speeded up by anything that repeatedly overworks the back, including:**
 - Being overweight.
 - Bad posture.
 - Lifting incorrectly.

- **Since a deteriorated back is more susceptible to injury and disease, it's critical to do whatever you can to prevent wear and tear, and keep your back "young" and healthy.**
- **Sitting or standing still for long periods of time can be as harmful to your back as lifting heavy objects improperly.**
 - Your body is designed to be in motion, so it's important to take breaks to move around, stretch and adjust your posture.
- **Having good posture is important because "slouching" puts unnecessary strain on your back. So you should:**
 - Sit up straight.
 - Stand tall.
 - Keep your arms and legs at right angles to your body as much as possible.
- **These "neutral" positions distribute the weight of your head and upper body evenly down your spine.**
 - This places the least amount of stress on the vertebrae, discs and muscles of your back.
- **The key to achieving a good sitting posture is to adjust your chair to fit you.**
 - Your seat should be high enough so that your forearms are at 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 a right angle to your lower legs.
 - Don't "dangle" your legs... it puts a lot of stress on your lower back.
 - Get a footrest if your feet don't reach the floor.
- **Remember to sit up straight and maintain your spine's natural "S" curve.**
 - If you need to support your lower back use a "lumbar cushion," small pillow or rolled-up towel.
- **"Over-stretching" is something else that can hurt your back, so keep tools and materials within easy reach...about 14 to 18 inches away.**

- **When you are standing you need to make sure that you are not hunched over.**
 - Raise your work surface if necessary.
 - If this isn't possible, use a sturdy box or other platform to bring your work up to a comfortable level.
- **Standing can put a lot of strain on your lower back in particular.**
 - So prop one foot up on a short stool to keep the lumbar region of your spine in its natural curve.
- **Remember, regardless of whether you are sitting or standing, don't let yourself get "stuck" in one position... take a break and stretch occasionally.**
- **Many people hurt their backs when they lift heavy objects. So before you lift make sure that you:**
 - "Loosen up" by stretching.
 - "Listen" to your back (if it feels stiff or painful don't pick anything up... wait until your back feels better).
- **Unfortunately there is no safety device currently available that has been proven to prevent back injury.**
 - Although some people believe that "back belts" can be beneficial, many experts feel that they don't provide any real protection.
- **The only truly safe way to lift something is to lift it properly.**
 - Before you lift an object, estimate its weight.
 - Use a hand truck or dolly if it is too heavy for you to pick up safely.
- **It's important to evaluate a load's size and shape too.**
 - Get someone to help you if it's too bulky or hard to grasp.
- **How you pick up a load is the most critical factor in safe lifting.**
 - If you try to lift from an awkward position you could seriously hurt yourself.
 - The safest lifting position is where you don't have to bend over or reach up.
 - Rearranging shelves so that heavy and frequently used

items are at waist level can be a big help.

- **When removing something from a shelf you should:**
 - Slide it towards you.
 - Then lift.
- **Avoid "reaching" with your arms raised above your shoulders.**
 - This is extremely stressful to your neck and lower back.
 - If the object is over your head, use a sturdy ladder or mobile stairs to put yourself in the best possible position.
- **The most dangerous things to pick up are those that are located "below the belt."**
 - In fact, it's possible to hurt your back simply by bending over.
- **When you bend at the waist, your spine acts like an unbalanced "lever," with the "fulcrum" at the lower two lumbar vertebrae.**
 - This creates a 10:1 lifting ratio, which means that if your upper body weighs 100 pounds, bending at the waist puts approximately 1000 pounds of pressure on your lower back.
 - If you try to pick up a 50 pound object from this position there is now 1500 pounds of pressure bearing down.
- **It's easy to see how bending at the waist can cause damage, and why so many people hurt their backs when they lift something incorrectly.**
 - Fortunately, proper lifting techniques are not hard to learn.
- **The critical thing is to always keep your back straight.**
 - Get close to the object you want to pick up.
 - Lower yourself by bending at the knees.
 - Make sure that your shoulder blades are centered above your hips.
 - Then lift the load slowly and steadily with your legs.
- **If you need to turn while you are lifting or carrying a load, change direction by moving your feet.**

- Be careful not to twist or bend at the waist.

- **To put a load down, keep your back straight and slowly bend your knees, using the muscles in your legs for control.**
- **Remember to always use these lifting techniques.**
 - You have to pay attention to how you treat your back both at work and at home.
- **Back care is a 24/7 job that lasts all of your life.**
 - So let's take a look at how to protect your back when you are not at work.
- **Driving home during rush hour can literally be a "pain in the neck." But maintaining a good sitting posture can help you avoid back and neck problems. You should:**
 - Position your seat so that your hips and knees are flexed, and you don't have to stretch out your legs to reach the pedals.
 - If your seat has a "lumbar" support, adjust it so that it provides a firm base for your lower back.
 - Once you are set in your seat, position your rearview mirror so that you can see what is going on behind you without straining your neck.
- **While driving, keep both hands on the steering wheel... and make sure that you don't slouch or hunch over.**
- **Many people are conscious of how their jobs affect their backs, but fail to recognize the hazards of working around the house.**
 - Chores such as raking leaves, shoveling snow and carrying groceries can be a strain on your back too.
- **And ask any parent. Children can sometimes be a pain in the "back" as well.**
 - Picking up small children is a leading cause of back injuries.
 - Not only are children heavy, they also move.
 - As they shift their body weight your back takes a beating.
- **If your back does start to hurt, take a break from whatever it is you are doing.**
 - But "taking it easy" doesn't mean that you should become a "couch potato."

- To have a healthy back you must stay active.
- **Remember... "Variety is the spice of life"... and it's good for your back too.**
 - If you are at a desk all day, do something after work that will keep you "on your toes."
 - If your job requires a lot of physical labor, you may want to engage in a leisure activity that is less physically stressful.
- **Aerobic exercises that are "low impact," such as walking, swimming and bike riding are some of the best things that you can do to keep your back healthy.**
 - "High impact" activities, such as jogging and playing contact sports can often be hazardous to your back.
- **Some sports and hobbies have hidden dangers.**
 - For instance, golf and gardening both seem to be low impact enough.
 - But since they require you to bend in awkward positions they can be hazardous to your back if you aren't careful.
- **The best thing to do is talk to a doctor or a back care specialist about ways to make your leisure time more "back friendly."**
- **Most people spend about a third of their lives sleeping.**
 - But sleeping incorrectly is another thing that can contribute to back problems.
 - Maintaining a good "sleeping posture" is just as important as sitting or standing correctly.
 - By properly supporting your head, back and legs, you can keep your spine in a neutral position.
- **To start, you need a mattress that provides a good foundation.**
 - You can test a mattress by lying on your back and sliding both hands under the lumbar region of your spine.
 - If your hands slide in with minimal resistance, the mattress is most likely right for you.
 - If you have to force your hands in, the mattress is too soft.

– If there is a gap, it's probably too hard.

- **Waking up with a stiff or sore back can be a sign that your mattress needs replacing.**
 - But it could also be an indication that you need to change the way you sleep.
 - Sleep on your side or your back, with a pillow supporting the natural curvature of your neck.

- **A stiff neck may indicate that your pillow is propping your head up too much.**
 - In this case, an ergonomically designed orthopedic pillow can be a big help.

- **If you find that you wake up with pain in your lower back, try sleeping on your side with your knees bent.**
 - Position a pillow between your knees to keep your legs in a neutral position.

- **If you prefer sleeping on your back, place a pillow under your legs to support your bent knees.**
 - Avoid sleeping on your stomach (this twists your neck and puts a lot of pressure on the cervical region of your spine).

- **After you have had a good night's sleep, it's important to warm up your muscles and set your skeleton in alignment before you begin your day.**
 - Start by getting out of bed carefully... moving suddenly could cause you to strain stiff muscles.
 - Walk around a bit or take a hot shower to loosen up.
 - Once you have warmed up, do some stretches to relax your muscles and align your spine.

- **Stretching and "low impact" exercises can do a great deal to prevent and treat back problems.**
 - But be sure to talk to your doctor before beginning any exercise program.

- **With all of the stresses that we expose our backs to, it's no wonder that so many people experience back pain at some point in their lives.**

- **If your back "goes out," or you "pull" something, applying ice packs to the injury may help to reduce swelling.**
 - After a few days, switching to a heating pad can relieve stiffness.
 - It is essential to give a sore back plenty of rest, but this doesn't mean confining yourself to bed.
 - To speed recovery it is important to move around as much as possible.

- **To get you on your feet, there are many over-the-counter medications that can help to alleviate your pain.**
 - But just because the pain goes away, it doesn't mean that your back is completely healed.
 - A partially healed back is susceptible to reinjury, so be sure to ease into your normal routine slowly.

- **If your back problem persists make an appointment with a back care specialist, such as an orthopedist, chiropractor or physical therapist.**
 - You may want to get several opinions before deciding which form of treatment is right for you.

*** * * SUMMARY * * ***

- **With proper treatment your back will last a lifetime. Let's review what you can do to keep your back in tiptop condition.**

- **Maintain good posture when you are sitting, standing and sleeping.**

- **Adapt your working environment to accommodate your back.**
 - Adjust your chair, rearrange shelves and keep things within easy reach.

- **Don't pick up objects that are too heavy or bulky.**
 - Get some help, or use a dolly or handtruck.

- **When you do lift, bend at the knees and lift with your legs.**
 - Never bend at the waist.

- **Stretch often and ask your doctor about other exercises that you can do.**
- **Don't take chronic back pain lightly, it may be a sign of something serious.**
 - If your back keeps hurting, see a back care professional.
- **Back care is a 24 hour a day job that lasts all of your life.**
 - Using your back correctly keeps it healthy... abusing it can lead to serious back problems.
- **So keep active... but "watch your back!"**