

Advanced Back Injury Prevention

General Information

There are literally thousands of books, manuals, videos, seminars, multimedia, and other training materials relating to back injury prevention. There are many thousands of doctors who treat back pain. Twenty-five percent of workplace accidents relate to back injuries..... causing 80 to 100 billion dollars lost every year in the United States alone. Let's face it, back injuries are a big business.

Preventing back injuries is a very popular subject because back injuries continue to occur at an alarming rate. What is the solution? This question was asked of a wide variety of back experts, medical professionals and trainers from the United States and a number of other countries. An investigation was done on a wide range of back injury prevention programs such as videos and interactive programs. We researched the files of universities who had done studies on back injuries. The results were surprising. We discovered that very few safe-lifting training programs actually reduced back injuries. We learned, without a doubt, each individual is absolutely the most important ingredient of any safe-lifting program.

If you follow the information provided in this program, you'll be on your way to reducing your exposure to back injury in the workplace and elsewhere in your daily life. Of course, if the information we provide conflicts with your company's policies or training, always follow your company's procedures. You should always consult with your medical advisor on any medical questions such as proper exercise, medication and treatment. This program is simply a guide to develop your own back injury prevention techniques.

In this program we'll take a look at some back care tips, back anatomy, body mechanics and general rules to follow when lifting. If you use this information, you will find back injury and back pain will be greatly reduced or eliminated. Doctors who treat back injuries and back pain generally don't agree on the same approach and method of treatment. In all back injury cases, however, doctors all agree that exercise is the key to back injury prevention. In the real world, we know that most people don't exercise enough, and there is nothing we can do or say to improve the statistics. All we can do is report that proper diet and exercise will go a long way in preventing back injuries and, it's your personal decision to take this advice. You're the only person who can motivate yourself to exercise. If we show you patients in hospitals or in wheel chairs from back injuries, this wouldn't be enough motivation to exercise - you have to want to exercise and this motivation can only come from you alone.

OK, let's get warmed up on all of this information by taking a short quiz:

Question Number One: People who have a great deal of activity are more likely to have back pain.

Question Number Two: Lifting a 30-pound box of feathers is easier than lifting a 30-pound box of nails.

The correct answer to the first question is NO. People who have a great deal of activity are least likely to suffer back pain. Activity is a result of exercising muscles, ligaments and other parts of the body. This tells us that exercise is good for your body and it's essential for a healthy body.

The correct answer to the second question is - the 30-pound box of nails is easier to lift. Both boxes are equal in weight, 30 pounds, but the feathers would be in a bulky box or container, making it more difficult to handle and lift. This should serve as a reminder that it is important to consider the size of the object you're lifting.

One of the most important steps in preventing back injuries is to understand how the back functions. When you fully understand the parts of the back and how they interact with each other, and you practice with this knowledge, your brain automatically reacts to properly lift the object and protect the entire back system.

ANATOMY

The human spine is a complex structure and vulnerable to injury, misuse and the natural aging process. Part of the

reason for this is the dual function of the spine. The back must be mobile so you can move around and, the spine must be stable so you can remain upright all day. When discussing anatomy, remember the word vertebrae, which means the bones in your back.

The spine is made up of 33 bones called vertebrae. The spine features three natural curves. First, there's the cervical or neck curve. The thoracic is the middle back curve. The lumbar or lower back curve is the third curve of your spine. In a normal, healthy spine, the cervical and lumbar sections curve forward, while the middle back section curves backward. The cervical spine is the top seven vertebra in the neck area. These are small bones that allow us to turn our heads freely, while the rest of our back remains stationary. The neck is particularly vulnerable to injury because these bones are smaller. The middle spine is made up of the 12 vertebrae in the upper back. Each vertebra is attached to a rib. The lumbar spine or the lower back consists of the next five vertebrae. The lower back usually receives the most stress and strain. Most spine problems occur in the lumbar region. Below the lumbar region are the five fused vertebrae of the sacrum (PRONOUNCED SACK RUM) and the four fused vertebrae of the coccyx, which is the end of the vertebral column. (PRONOUNCED COS-SIX).

Joining each pair of vertebrae is a facet joint. These joints function as hinges. These facet points guide the movement of the spine while also stabilizing the vertebral column. This is an important point to remember. The ideal alignment of the spine is when the joints in the spine are lined up so the back can twist and bend with little friction between the bones or vertebrae. Between each pair of vertebrae lies a flat, circular disc. The outer part of the disc is strong and hard. The inner portion of the disc is soft and absorbs shocks to the spine during any movement.

Some people use the analogy of a soft hockey puck with fluid inside, or a jelly donut to describe the discs. Your primary objective when lifting anything is to keep the spine in its natural curves by keeping your back straight. The reason for this is to keep the discs spread evenly across the vertebra so the discs won't be pinched due to bending of the back. Bending your back pinches the discs and exerts a tremendous pressure on one side of these delicate discs. Sooner or later, the discs are going to break, tear or leak. When this happens you experience back pain and other major problems with your back.

Two ligaments run the length of the spine and help hold the vertebrae together. Ligaments expand as you stretch your body. There are smaller ligaments between each vertebra. There are also small muscles in the back that span two or three vertebrae that allow the body to straighten up and lift objects. Other muscles, including the abdominal muscles, are in front of the body that allows humans to bend forward, as well as provide support for the back. These abdominal muscles should be strong - if they are not, there is an increased chance of tearing these muscles. You can strengthen these muscles by exercising. If you stretch too far, ligaments and muscles can tear and cause pain. Ligaments and muscles will generally heal themselves, but you're in pain until they heal. Tearing ligaments and muscles, also known as sprains and strains, is the cause of the majority of back pain or injury. Major ligament tears may require surgery for repair.

So far, you can see the vertebra, discs, ligaments and muscles are an integral part of all human movement, such as bending, lifting, twisting, sitting, sleeping and standing. This tells us that each part of the back system is critical to good back health. If one part of the system is damaged, then the whole system can't function effectively without some type of pain.

The vertebrae surround and protect the spinal cord which is the column of nerves running from the brain. Peripheral nerves branch off from the spinal cord with their roots passing through the vertebrae, extending all over the body. Unfortunately, this means that pain from a back problem can also travel to, and affect other parts of the body. This points out the need to protect the entire back system and not just one particular part of your back. This is the reason why some of the safe lifting programs in the past have not reduced back pain or injuries. Relying only upon the training emphasis of "bending your knees" or "keeping your back straight" is neglecting the remaining 85 percent of the back system - thus, making this type of thinking in safe lifting programs ineffective.

You've probably been trained on back safety so many times, you're tired of hearing "bend your knees - not your back" - or similar training tips. These are good tips and rules, but researchers are finding that these types of training programs have not reduced back injuries. These programs are better than none at all, but to really stop having back injuries, you have to look at the entire back system - and that's what this program is all about - how to actually prevent back injuries and back pain by protecting the entire back system. Again, you are the critical ingredient. If you don't use this information, nothing will work.

CAUSES OF BACK PAIN

Generally, back pain is not the result of a single incident. Rather, your back deteriorates from repeated wear and tear over the years, making you more vulnerable to serious injury and back pain. Stress on your back comes from excessive forward bending or heavy lifting, sitting and standing on the job. Poor posture and sports that involve impact or twisting can cause stress on your back.

Let's take a look at the causes of back pain in a little more detail:

Strains and Sprains

Most back pain stems from either muscle strains or joint and ligament sprains. Strains and sprains can occur when you bend too far or too often, lift a heavy load or twist suddenly. While activities like these can occur everyday, the damage may be mild enough not to cause inflammation, which means you may not feel any pain. Ligaments and muscles stretch and can be damaged from this excessive stretching. When this mild damage heals itself, it leaves scar tissue, which is weaker and less flexible than normal muscle and ligaments. It's easy to see how the small, delicate ligaments attached to your spine are vulnerable to tears. You're most likely to stretch and tear these ligaments, than the large, stronger ligaments in your back.

Herniated Disc

A painful disorder of the back can be the result of a ruptured or torn disc. This is sometimes erroneously referred to as a "slipped disc." There is no actual slippage of the disc. When a tear of the disc occurs, the soft inner portion of the disc can protrude into the spinal canal and compress a nerve root or the spinal cord. The damaged disc can also leak inflammatory fluid, which inflames the nerve roots. The tear can be the result of degeneration, wear and tear or trauma. If the herniated disc is in the lower back and the nerve root is compressed, you may feel the pain or numbness running down the back of the leg. This is referred to as "sciatica." Like muscles and ligaments, they heal by forming scar tissue, which is weaker than normal tissue. Most herniated discs heal without the need of surgery, but herniated discs can affect other parts of your body.

There are other causes of back pain, such as car accidents, fractures or even the narrowing of the spinal canal from degeneration of the spine, infections, swelling and buckling of the back's major ligament.

This information gives you an idea of how delicate the back system really is and the need to pay attention to what you're doing on every task you perform at work or elsewhere.

Lifting Techniques

Even if a load you attempt to lift is only a short distance from your body, you're not lifting safely.

Take a look at our simple stick demonstration.

If you hold the load at the end of the stick, what's happening?

The stick is bending - that bending is just what your back is doing when lifting with your back - at the least more pressure is being applied at the point where the stick is being held.

OK, what if we hold the load close to the base of the stick? You can see that very little pressure is exerted at the base and the load is much easier to lift. It's simply body mechanics and engineering. Remember the pressure applied to your back when you lift anything?

Ergonomic engineers have determined that there is a 10 to 1 ratio of back pressure to the weight of the load you're lifting. This means that if you use the proper lifting technique and pick up a load that weighs 50 pounds, you are exerting about 500 pounds of pressure on your back system - which includes muscles, ligaments, vertebra and discs. Now, that's is considering you're using proper lifting techniques - with the load against your body. If you're using improper lifting techniques, the pressure applied to your back can be increased 5 to 50 times.

Look at this person holding the load with the arms outstretched. Can you guess the pressure on the back from this 20-pound load that is extended far from the body? The pressure would amount to probably about 1,000 to 1,500 pounds on the back for this 20-pound load.

How long can you hold a load that is outstretched from your body? A much shorter period of time than if you held the load against your body. When lifting, bring the load against your body. This one simple rule will greatly reduce the pressure applied to your back system - which includes ligaments, muscles, discs and, of course, the spine and nerves.

The load against your body are the key words to remember. Now, you've heard this tip before - keep your back straight when bending down to lift. Exactly what does that mean? Is this what they mean by keeping your back straight? No, you would be hard pressed to lift anything in that position. It means that you want to keep your back at its natural curvature when you bend down to lift.

Looking at this spine, you can see that it's straight and in its natural curvature. The discs are spread evenly across the surface of the vertebra. If you compress your back by lifting a load, the discs will absorb the load evenly across the entire surface of the disc. This is extremely important information to remember. It's one of the major back injury prevention techniques.

So, as an example, let's demonstrate the importance of spreading the discs evenly across the bones. We'll use an automobile jack positioned on a piece of wood. You have a flat tire and need to jack up your car. When you set the jack in place, you want concrete or a good stable surface so the jack won't slip. Let's put a piece of wood under the base of the jack. The heavy pressure of the vehicle is transmitted from the vehicle, down through the jack support to the jack's base. By having a stable surface under the jack, the entire weight of the vehicle is distributed evenly across the surface of the wood. This is pressure per square inch. The more inches you have to support the weight, the less pressure is exerted on one point of the surface. Large construction cranes spread the weight of the crane and load by using out-riggers to make it more stable. You should consider the same thing, only using your knowledge of back and proper lifting techniques.

Just imagine the jack support as the spine and the wooden block as discs. What happens if you put the jack base near the edge of the wooden block? The entire pressure of the vehicle is exerted directly to one small section of the wood base. The pressure per square inch is tremendously increased at that point. When you exert pressure on only one side of your discs, the discs are going to deteriorate, leak or herniate. To prevent this from happening, keep your back in its natural curvature. This is accomplished by bending your knees, tucking your chin in towards your body. You can see that by bending your legs to squat down, the spine remains in its natural curve with the discs spread evenly across the bones. This results in reduced pressure on the back system.

Another advantage is that you are allowing your legs to do the work. The legs are much stronger than your back, so you want to use that leg power as much as possible.

The next immediate problem arises if you fail to maintain the load against your body when you stand up.

Learn and practice the lifting system that protects your back system. This is the easiest and safest way to lift - if you use it. After repeated practice, it will become natural and you won't have to think about it. If you remember this one principle, you can protect the back system when lifting anything - anywhere - anytime.

OK, you know that you're not supposed to lift and twist - and you know the reason why this is an unsafe procedure.

The back system includes the ligaments, discs, vertebra, spine, nerves and muscles. You must remember the back system - not just concentrate on one part of the system. By using this knowledge you can figure out the best way to lift, even in an awkward position or awkward heavy loads. Naturally, using additional support for your back system is an advantage.

This means - if you're lifting a load from under a rack, use your free hand to add extra support for your back. There are occasions where you can use your legs against a fixed object as a support for your back. Whatever help you can give your back, that support will pay big dividends. If you don't fully understand how the back system works, it's more difficult to make a good and safe judgment when lifting.

Prevention of Back Injuries

There isn't a doctor in the world who can prevent back injuries. There isn't a training program, a pill, medicine, shot or

anything else that can prevent back injuries. Only one person can prevent back injuries - you guessed it - you're the only one who can prevent back injuries. If you lay in bed for 24 hours a day and did nothing, that wouldn't prevent back injuries. Lying in bed 24 hours a day would be very disastrous to your back, as you would not get any exercise at all.

So, what's the answer? This training program can only provide information, techniques, education, awareness and ideas that can help you prevent back injuries. We know that if you don't exercise regularly, this program isn't going to motivate you to exercise. In this case, you're about 50 percent on the way to a back injury or pain. Let's say many of you don't pay attention to the program or you don't put the information to work for you. With good diet, exercise, and using the SAFE LIFTING SYSTEM you're reducing the chances of being free from back injuries.

Now, those people who do exercise regularly and use this information religiously, their chance of a back injury is greatly reduced. There are no guarantees, but you're giving yourself a 99 percent chance of staying away from back injuries and back pain, when you use the LIFTING SYSTEM.

The process of eliminating back injuries does not begin at work. Only one-third of your time is spent at work, and the rest of the time elsewhere. So, let's explain the entire process - of which exercising regularly is the first component. This doesn't mean you have to work out at a gym or do anything spectacular.

The stomach muscles or abdominal muscles must be strong to support your back. The lower abdominal muscles are especially important because they form a muscular brace for your back when properly activated and strengthened. The large muscles of the hip and thigh should be strong which will protect the spinal joints and back muscles from injury. Daily exercise, particularly stretching exercises, will keep your body tuned for the day's work ahead. Even doing short exercises every day will help strengthen you back.

OK, this covers the importance of exercising.

Sitting

Next, let's discuss sitting. That's right, not every back injury is the result of direct lifting. Back injuries can result from a variety of activities. Here's a tip for people who sit and watch TV - don't slump. Sitting improperly or slumping puts undue stress on your back by over stretching muscles and ligaments. Even while sitting in a chair with good lumbar support, the tendency is to slump forward as the back muscles become fatigued. You can place a rolled towel or other similar type of support at the belt line. This will help maintain the natural curve in your back. Sit with your pelvis against the backrest and with your feet flat on the floor when you're sitting in a chair with arm rests. Avoid sitting for prolonged periods of time and take frequent breaks to stand up and stretch backwards a few times to reverse the curve of the lower back.

When you're driving or riding in a vehicle, your knees should be above the bottom of your buttocks. In other words, adjust the seat so your knees are elevated higher than your thighs. There are companies who make a support for your back while sitting. It is uncertain if there are any benefits, but it does support your back in the sitting position while watching TV. It's better than slumping.

Standing

When you're standing, keep the back in its normal curvature. Wear comfortable shoes with good arch supports and low heels. High heels may cause the low back to arch improperly, creating an unsafe posture. If you're required to stand in one place for a long time, rest one foot on a stool or lower shelf and frequently shift positions. This helps maintain the normal curvature in your back.

Sleeping

Make sure your mattress doesn't sag. The natural curves in your back and neck must be supported. When lying on your side, place one pillow between your knees for additional back support. This really works well and helps relieve tired, aching backs. Physicians strongly recommend a firm mattress for back support.

Workstation Ergonomics

Many of you may work with computers either at work or home. Some tips for these people include - keeping your keyboard directly in front of you. Depending on the type of work performed, keep the screen at a comfortable distance. The top of the screen should be at eye level so the neck is maintained in a neutral posture. Your wrists must remain in the neutral position. This is done by keeping your wrists straight and not bent forward or backward. Ideally, an office chair should have adjustable heights, adjustable armrests and an adjustable seat pad and seat back. The height should be

such that your knees are level with or just slightly below the level of you hips. This takes pressure off your back. Armrests keep your arms comfortable while keeping your elbows bent at a 90-degree angle.

Ergonomics simply means fitting the workstation to the employee's comfort. If the table is too high or too low, adjust the table to the correct height. People are different heights - therefore, workstations or tables should be adjustable for each individual if at all possible.

Some companies use robotics for tedious tasks, which reduces repetitive motion and exposure to a variety of problems. Many companies also use vacuum lifting equipment for lifting the same types of loads on a daily basis. The vacuum lifting equipment is placed over the load, a button is pushed and the vacuum machine lifts the load. Cranes and other lifting devices have been around for many years to lift heavy loads. Material handling equipment and devices can be used for small loads as well. This is just one more method of taking the pressure off the back system. Of course, forklifts, pallet jacks, carts, and similar equipment can be used as much as possible.

You're part of the solution, so if you can find a better, safer way of lifting, be sure to make recommendations to your supervisor. A team effort in reducing back injuries is a worthwhile activity.

One other tip about pushing and pulling objects. You should never pull a load or object. This can easily create a strain on ligaments, muscles and add more pressure to your back. Always push objects such as carts and materials on rollers - push, don't pull.

Another important part of preventing back injuries that is often neglected is function training, also known as site-specific training. Function training is simply going through a work area, identifying potential hazards and developing polices and procedures in order to reduce potential lifting hazards. Quite often experienced employees have been working in an area and they use the same routine. With a little effort and looking for potential hazards, you can generally find a better way of doing things.

New employees should have the benefit of being trained on their specific job with function training. Once the person has been trained and performs the job properly, the potential hazards don't become accidents and injuries.

With function training you look at the equipment and work process, how people interact with machines, safety procedures, and proper lifting systems for each work process, then find solutions for potential hazards. It takes a little time, but it pays big dividends.

Body Mechanics

Body mechanics is simply keeping your body in a proper position that keeps the back in its natural curve with all the body parts working in a safe and proper manner. Let's take a look at three people lifting an object. Remember them as Number One, Number Two and Number Three.

----DEMONSTRATE----

What do you think about Number One? Looks like a good lift because the legs are bent; the back is straight and uses leg power to lift.

Although the lift looks good, here is the deficiency in that lift which all too often creates many problems. Look where the load is located in relationship with the person's back.

In most lifting training programs, you're taught to keep the load close to your body. The farther away the load is from your body, the more strain will be on your back. Do you recall the stick demonstration that was done earlier in this program? When the load is close to the body - the load is easy to lift. At a 90-degree angle, the weight of the object places a great strain on the stick. When you hold an object away from your body, the same principle applies. We have mentioned this several times because we think you should really work on keeping loads against the body when lifting anything.

What do you think about Number Two? It looks good, but the object is still away from the body.

Take another look at Number Three again. The back is straight when bending down, but then the load is away from the body. Holding the load away from your body is a natural tendency. Therefore, to be effective in lifting, you must remember to keep the load against your body every time you lift.

On a daily basis, you're lifting a wide variety of objects other than boxes from the floor. Use what you've learned about your back and good judgment to find the safe way of protecting the back system when you are lifting anything.

What happens when you twist your back? What happens when you lift and twist? Do you recall how the spine, muscles and ligaments provide back flexibility? Twisting and lifting can cause serious injuries because your back has so many delicate parts such as bones, ligaments, discs and nerves. Any one of these body parts can be injured when twisting and lifting. Bending your back can damage your discs and stretching too far can tear those muscles and ligaments. Good body mechanics are essential for a health back. Stretching, twisting and bending your back are natural body movements, but you must resist twisting to protect your back system. If you're in good shape, exercise regularly and a nonsmoker, your back is much more flexible and will be less likely to experience an injury.

You're asking, what does smoking have to do with your back? Medical experts state that smoking leads to drying and stiffness of the discs, making them more susceptible to injury. This can lead to herniation of the disc and will result in prolonged recovery time for minor back pain or injury. Eventually, poor posture, unsafe lifting techniques, lack of exercise and old age is going to catch up with you. To help prevent prolonged recovery time from back injury, protect your back system when lifting anything.

Your back is strongest when it's in its natural curvature. This means when the lower back is neutral and is not increased or decreased from its natural curvature. Muscles are stronger when they are at the middle of their range of motion rather than when the muscles are expanded or compressed.

It is more difficult to lift an object when your body is bent forward or backward. Of course, your leg muscles are stronger than your back muscles. If you bend your knees to pick up an object, bring it against your body and then stand up. By using this method of lifting you are using your leg power and not back power. Leg muscles are stronger than arm muscles. The same theory applies to your arms. If you keep your arms straight down, then your leg muscles will do the work. If you try to rely on your arms, your back will support some of the load because your arms are simply not strong enough to perform the entire task alone. If you lift a 10-pound object and hold it 14 inches away from your body, you'll be exerting the same pressure on your back as if lifting the equivalent of 300 to 500 pounds or more. This does not mean you are lifting 300 to 500 pounds, rather you are exerting 300 to 500 pounds of pressure per square inch on your back. Think about all that pressure placed on your back. Remember to protect the system - your back system.

Lifting Frequency

What about the frequency of lifting? Lifting light objects many times can cause as much strain as lifting one heavy object. This means that no matter what you lift you should use safe lifting techniques and maintaining your back in its natural curvature.

There are millions of objects that are lifted every day with almost every conceivable lifting situation. There is nothing more effective in reducing exposure to back pain or injury than a person who has the knowledge of how the back works and applies this knowledge in very lifting situation.

Workplace Lifting Basics

Before you lift anything, size up the weight of the load. If it's too heavy, ask for help. Look at the size of the object you're going to lift. Can it be lifted safely? Bend down with your feet spread evenly over the object, remembering to keep your back in its natural curvature. Get a good, firm grip and then lift the object against your stomach. Then stand up and allow your leg power to do the work. Do not twist while lifting. If you're changing directions, lift the object and then turn your feet in the direction of travel. All of these techniques would appear to take a long time to think through, but your brain is much faster than a computer, so all that information is processed immediately. If you practice the techniques and use them on every lift, you won't have to think about it - it becomes second nature.

Many hours of research on lifting injuries and back pain reveal these simple facts: Correct lifting techniques, exercise, good posture and all the things we have discussed in this program can help prevent back injuries and back pain. Unfortunately, research and injury statistics from around the world also reveals that not everyone follows the rules. Lifting improperly, taking shortcuts, ignoring proper procedures and, of course, poor body conditioning, all lead to back problems. It's the individual who has the responsibility to reduce back injuries. If you do not use safe lifting techniques, or fail to exercise and stay in good condition, then you can expect to experience back pain or a back injury sometime in the future.

Safe lifting training is used in most parts of the world. Each country experiences the same problems, but there are solutions such as the ones we have discussed in this program.

Let's look at a summary of recommendations we received from trainers in many countries. Many of these recommendations you've heard before, but listen and watch to see if there's something new that would help you in preventing back injuries.

Back Belts

There are millions of back belts in use throughout the world today. Some organizations have found the belts greatly reduce back injuries. Other organizations have found the belts do not reduce back injuries at all.

What is the real story on back belts? There have been limited scientific studies by NIOSH, a United States governmental agency that stated back belts do not do any good and in some case they may do harm. There are some legitimate reasons for these findings. First of all, back belts do not increase the amount of load you can lift safely. The back belts have nothing to do with your back system. You can't lift any heavier objects with or without a back belt. Back belts should not be worn tightly around your stomach until you're ready to lift something. Obviously, many people who wear a back belt don't know or practice this rule. The reason for not wearing a back belt tightly is that a tight belt around your stomach can interfere with natural body function and can create problems. If you do wear a back belt, do not tighten it until you're ready to lift.

How does a back belt help you reduce back injuries? By far, the most important service back belts can provide is to help keep your back in its natural curve. The larger the height of the belt, the better they keep your back straight when bending down to lift.

What's the answer? If your organization believes back belts help reduce back injuries, then follow your company's policies and rules. If you don't use back belts, follow your company's rules relating to safe lifting. The decision to wear or not wear back belts is your organization's responsibility. To defend the use of back belts, a recent study of 600 people showed a significant increase in lost work day injuries for those who discontinued wearing back belts after a wearing them for a length of time.

Should you or should you not wear back belts?,,,,,,,,,The ultimate responsibility to use back belts is you and your organization.

Summary

For years there has been controversy about women and older persons lifting heavy objects. University research has shown that an average woman's arm and torso can lift 60 percent as much as a man. At age 65, the average person's strength is 75% of someone who is 20 or 25. These two statistics are meaningless. Everyone is different with various degrees of health, weight, height and other characteristics. Generalizing about the human body doesn't have much credibility. What is important is the knowledge of how the back system works and how this knowledge is used to develop your own lifting technique to reduce exposure to back injuries or pain.

One last thought, think about the back system pressure zone.... this is a new word but an old concept. The red zone is lifting with the load outstretched or far away from your body. Red means danger. Next is caution or the yellow zone. This is where the load is fairly close to your body, but far enough away to increase pressure on your back system. Next is the green zone. This is where the load you are lifting is against your body. The next buzz word to help you visualize proper protection for your back system is the safe lifting zone. The safe or lifting green zone is between your knees and shoulders. If the load is below knee level, bend your knees and lift with your legs. The lifting red zone is if the load is above your shoulders. Red means danger so you need to use a proper stool or ladder designed for that purpose to maintain proper lifting techniques. Obviously, anything in between the red and green zone is a caution zone that requires some thought to find the best way to lift properly. Take these warning signs to heart and stop the bad habits and learn how to perform your job safely. No one can lift for you - it's your job. It's your responsibility to use your knowledge, good judgment and common sense to prevent back pain or back injury. No one knows more about your job than you, so develop safe habits and stay healthy. Think of the back system and the safe lifting system. It works. Thank you for your attention.