HEALTH & SAFETY TRAINING FOR SCHOOLS

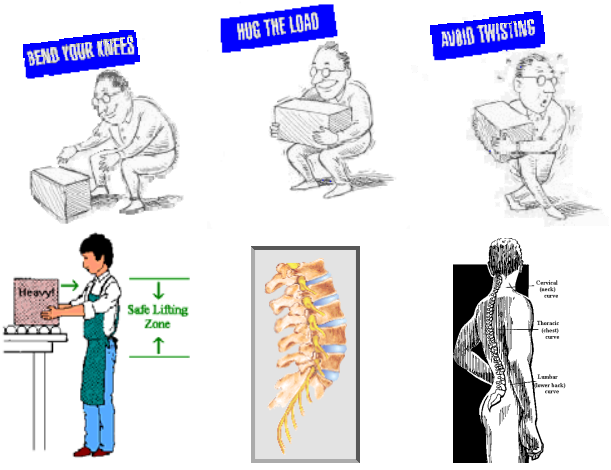
nassau BOCES
Board of Cooperative Educational Services

Health & Safety Training and Information Service

Back Safety & Lifting

Why Be Concerned?

According to the Bureau of Labor Statistics, more than one million workers suffer back injuries each year, and back injuries account for one of every five workplace injuries or illnesses. Further, one-fourth of all compensation indemnity claims involve back injuries, costing employers billions of dollars. These figures do not begin to reflect the pain and suffering employees experience as a result of their injuries. Back injuries are exceedingly painful. They are difficult to heal, and they have an effect upon everything a person does. If you have ever experienced a back injury, you already know this. What you may not know is that after you have experienced one back injury, you are much more likely to experience another one sometime during your lifetime. It is important to learn techniques and procedures that may help you prevent a reoccurrence. If, on the other hand, you are lucky enough to have never injured your back, you can do yourself a big favor by learning how to prevent one in the future. By learning proper lifting techniques and the basics of back safety, you may be able to save yourself a lot of pain.... and a lifetime of back problems.



What is Ergonomics?

The term ergonomics is derived from the Greek words *Ergon (Work)* and *Nomos (Laws)*. Literally this means the laws of work or how we adapt to the work environment. Some call it *Human Factor Engineering* or design of a system so that it is compatible with human capabilities and limitations. It is the applied scientific/engineering discipline concerned with the interaction among systems and the people who operate and maintain them. It should seek to fit the **job to the worker** to prevent the development of occupational injuries or illnesses and to reduce the potential for fatigue, error, or unsafe practices. *Reactive ergonomics* takes corrective action after an event occurs while proactive ergonomics takes corrective action prior to an illness or injury occurring.

Factors Affecting Lifting

- ☞ Weight of the object
- ☞ Location of the load in relation to the body
- ☞ Size of load
- ☞ Frequency of lifting
- ☞ Stability of load
- ☞ Handles or handholds
- ☞ Geometry of the workplace
- ☞ Environmental factors
- ☞ Personal factors

Causes of Back Injuries

- ☑ Strains
- ☑ Twisting
- ☑ Unused muscles
- ☑ Lack of exercise
- ☑ Manual handling tasks
- ☑ Previous Illness
- ☑ Previous back injury
- ☑ Failure to evaluate the lifting task

What Do School Employees Need to Know?

How Do Injuries Occur?

Every time you bend over, lift a heavy object, or sit leaning forward, you put stress on the components of your back and spine. Over time, they can start to wear out and become damaged. Many of the problems that cause back pain are the result of injury and degeneration of the inter-vertebral disc. Degeneration is a process where wear and tear causes deterioration, like when your favorite jeans get old. The disc is subjected to different types of stress as we use our backs each day. Eventually, discs can collapse or herniated vertebrae can shift; bone spurs can develop. Acute or immediate injuries to the back can be caused by tearing or straining ligaments and muscles. Muscles can also spasm due to stress or tension.

Anatomy of the Spine

The human spine (or backbone) is made up of small bones called vertebrae. The vertebrae are stacked on top of each other to form a column. Between each vertebra is a cushion known as a disc. The vertebrae are held together by ligaments, and muscles are attached to the vertebrae by bands of tissue called tendons. Openings in each vertebrae, line up to form a long hollow canal. The spinal cord runs through this canal from the base of the brain. Nerves from the spinal cord branch out and leave the spine through the spaces between the vertebrae. The lower part of the back holds most of the body's weight. Even a minor problem with the bones, muscles, ligaments, or tendons in this area can cause pain when a person stands, bends, or moves around. Less often, a problem with a disc can pinch or irritate a nerve from the spinal cord, causing pain that runs down the leg below the knee, called sciatica. Every time you bend or move, these discs compress with the motion of the spine.

Proper Lifting Technique

Squat to lift and lower. Do not bend at the waist.
Keep you low back bowed in while bending over.
Keep the weight as close to you as possible.
Bow your back in and raise up with your head first.
If you must turn, turn with your feet, not your body.
Never jerk or twist!
Put the weight down by keeping your low back bowed in.
Keep you feet apart, staggered if possible.
Wear shoes with non-slip soles.

Employee Information Contacts

New York State Department of Labor
Division of Safety & Health
Public Employee Safety & Health Bureau

516-228-3970

Thank You!

If we can be of any assistance, please feel free to contact the Nassau BOCES Health & Safety Training and Information Service at:

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