Sprain and Strain Prevention

Our loss control team has the experience and expertise needed to keep your workplace safe. We focus on the well-being of employees through preventative measures that eliminate on-the-job accidents. This leads to higher employee morale, improved workplace productivity and lower insurance premiums. Compwest is a member of AF Group and its subsidiaries are one of the largest workers' compensation insurers in the United States and rated "A" (Excellent) by A.M. Best.

Proper Lifting Technique

It's important to learn proper lifting techniques because lifting is one of the most common ways employees sustain back injuries (43% of all back injuries). However, lifting can also lead to strains and sprains and accounts for:

- 30% of shoulder injuries
- 22% of elbow injuries
- 13% of hand and wrist injuries*

*Source: SHARP technical report No. 40-6-2002

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Tips for Safe Lifting

- Squat down to lift the load and pull it between your legs, ensuring you are as close to the load as possible.
  - The further the load is from the center line of your body, the greater the strain imposed on your back.
- Avoid picking up heavy objects that are below knee-level.
  - Store heavy objects between knee and chest level.
- If you suspect a load is too heavy to be lifted correctly and with ease, do not attempt to lift it.
  - Use a mechanical aid or break the load down into its component parts.
  - The most common cause of back injury is overloading.
- Keep the natural arch in your lower back, which distributes the load evenly over the surface of spinal disks.
  - Keep your natural spine posture by bending at the hips and knees.
  - Avoid bending at the waist.
- Tighten your stomach muscles, which helps prevent your spine from twisting, and utilizes your stomach and lateral muscles to create hydraulic support in your abdomen.
- Stretch before doing physical work.
  - Stretching can sufficiently warm up cold and stiff muscles, reducing the risk of injury.
- Apply lifting force slowly.
- Put one knee against the load while in a squatting position.
- Visually check your intended route to ensure that there are no obstacles.
- Carry the load with your back in an upright position.

Tips for Safe Reaching

- Don't overstretch. Reach only as high as is comfortable.
- Before lifting/lowering an object, pull it close to your body.
- When reaching forward, move your whole body not just your arms.
- Use a step-stool or ladder if necessary, but stay balanced, inside of the side-rail.
- When reaching down, support your body with your free arm.
- Avoid straining to reach across a work table/bench; walk over to the load instead.
- Keep loads within arms' reach, if possible.

Tips for Safe Bending

- Maintain natural spine curvature/posture.
- Bend at the hips and knees — not at the waist.
- Always bend slowly to allow your muscles to adjust to the task.
- Use the whole palm of your hand(s) when gripping objects.
- Stretch and perform counteractive exercises to de-stress muscles.

Tips for Safe Standing

- Elevate one foot onto an object/surface to relieve lower-back stress.
- Give employees the option of sitting or standing (or rotate between the two).
- Provide a cushioning floor-mat to relieve back and leg stress.

Preventing Repetitive Motion Injuries

Repetitive motion injury involves muscles, tendons and/or ligaments. The causes of repetitive motion injuries are:

- Awkward posture for a long period of time
- Excessive force overloading muscles and tendons
- Use of the same muscles and joints over and over again to perform a repetitive task

Many repetitive motion injuries can be prevented through good design of workstations or task layouts to:

- Keep the elbows close to the body.
- Keep work within a comfortable reach distance.
- Keep work 2-4 inches below elbow height for heavy tasks.
- Keep work 8 inches below elbow height for light tasks.
- Avoid the need to rotate the wrists.
- Avoid the need to bend the wrists upward.
- Avoid the need to work with arms overhead or unsupported.
- Avoid the need to exert excessive grip force with an arm extended.
- Provide comfortable and adjustable seating.
- Provide adequate lighting and ambient temperature.
- Reduce vibration to the body.
- Minimize noise and other distractions.

Reduce Bending Motions by:

- Using lift tables, work dispensers and similar mechanical aids
- Raising the work level to an appropriate height (optimum height is between 31 inches and 36 inches)
- Lowering the chair height
- Providing material at work level
- Keeping materials at work level, within arms' reach
- Providing a footrest at a workstation requiring standing
- Bending at the knees and hips, instead of at the waist

Reduce Twisting Motions by:

- Providing materials and tools in front of the worker
- Using conveyors, slides or turntables to change the direction of material flow
- Providing adjustable swivel chairs for seated workers
- Providing sufficient working space for the whole body to turn
- Using hand tools designed to keep the wrist in a neutral "in-line" position
- Use headphones instead of "cradling" a telephone between the neck and shoulder

Reduce Reaching Motions by:

- Positioning tools and machine controls close to the worker to eliminate horizontal reaches over 16 inches
- Placing tools, materials and other heavy objects as close as possible to the worker
- Reducing the size of cartons or pallets being loaded or making them so large that they must be mechanically handled

Reduce Manual Lifting and Lowering Forces by:

- Using lift tables, lift trucks, cranes, hoists, load counter-balances, drum/barrel dumping devices, work dispensers, elevating conveyors, etc.
- Raising/lowering the work level to maximize worker comfort and minimize reach
- Positioning worker height to allow the worker to safely exert maximum lifting force

Reduce Object Weight by:

- Reducing the size of the object (specify size to suppliers)
- Reducing the capacity of containers
- Reducing the load in the containers
- Replacing a heavier object with a lighter one of the same type
- Reducing the number of objects lifted or lowered at one time
- Decreasing object/container weight and increasing frequency of handling

Increase Object Weight to Require Mechanical Handling By:

- Using the "unit loads" (such as large bins or containers) rather than smaller totes and boxes
- Using palletized loads

Reduce the Hand Distance by:

- Changing the shape of the object
- Providing grips or handles sized for easy grip
- Providing better access to object
- Improving layout of work areas

Reduce the Distance of Push or Pull by:

- Improving layout of work area to keep tools and materials within easy reach
- Using powered trucks
- Using chutes, slides and conveyors

Reduce Force of Push or Pull by:

- Reducing the weight of an object or load
- Using conveyors, inclined chutes or slides, air bearings, ball-caster tables and monorails
- Using trucks and carts with large diameter casters/wheels
- Locating push/pull handles between 35 inches and 39 inches tall
- Providing good maintenance of floors, hand trucks, etc.
- Treating object sliding surfaces (except floors) to reduce friction
- Using air cylinders, springs or other mechanical aids to assist

Reduce Carrying Forces by:

- Converting to pushing or pulling (using racks, carts and dollies)
- Using conveyors, air-bearings, ball-casters, monorails, slides, chutes, etc.
- Using lift trucks, two-wheeled and four-wheeled trucks, dollies, etc.
- Reducing the size of the object
- Reducing the capacity of containers
- Reducing the number of objects lifted or lowered at one time

Reduce Sitting Force to Legs and Back by:

- Adjusting seat height to allow knees to be 2 inches higher than the chair seat height (feet should not dangle)
- Providing a seat size that is properly sized for thigh length (to give adequate thigh support without cutting into the back of the knees
- Providing adjustable back rest on chair that is adjusted to support the "small" (lumbar) area of the back
- Providing workbenches and tables that are high enough to allow for comfortable leg clearance beneath
- Providing swivel and/or caster seat mobility to avoid excessive body twisting or pushing

Reduce Force to Arms and Wrists by:

- Providing hand tools designed to keep hand in line with the wrist
- Providing hand tools designed to reduce/eliminate wrist twist
- Substituting manual tools with power tools
- Providing tools designed with thumb or full hand trigger activation, instead of finger activation
- Avoiding the use of gloves that are too tight or restrictive
- Providing workstation tables and equipment surfaces that reduce pressure force against forearms and wrists, with edge-arm contact area no less than 3 inches wide

Want to know more?

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- Safety-training modules accessible 24/7 for policyholders' employees
- Loss control materials available to print and order from our website
- Safety-training videos from our resource library

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