# Timber Times

Partners for Healthy Forests

APRIL 2017

## SPECIAL POINTS OF INTEREST

- Materials Handling
- Weight of Objects
- Awkward Postures
- High Frequency/ Long Duration
- Inadequate Handholds
- Environmental Factors
- Helpful Links

# Safety Flyer

Hello All,

Logging is dangerous work, and safety has always been a primary focus for CTIA. I hope these monthly safety flyers contribute to your company safety program and to the safety of you and your crews.

Please share this safety flyer with your employees, contractors, or fellow loggers. If you'll send me their email address, we'll add them to our list. Our goal is safety for every logger, trucker, and mill worker in Colorado.

If you find an interesting article or an OSHA related issue, please share with me so I send to our email list or incorporate into a future Safety Flyer.

Molly

The Colorado Timber Industry Association (CTIA) is an association of small, family-owned businesses committed to logging, processing and performing service work in the forests of Colorado. We are exceptional partners to the public and private stewards of our valuable and beautiful forests. We embrace Best Management Practices (BMPs) and sustainable forestry. To meet these values, we host annual continuing education classes on BMPs and conduct field audits to demonstrate our accountability to high quality, active management designed to promote long term forest health.

# Materials Handling: Heavy Lifting

Lifting heavy items is one of the leading causes of injury in the workplace. In 2001, the Bureau of Labor Statistics reported that over 36% of injuries involving missed workdays were the result of shoulder and back injuries. Overexertion and cumulative trauma were the biggest factors in these injuries. OSHA reports that manual materials handling is the principal source of compensable injuries in the American work force, and four out of five of these injuries will affect the lower back. Manual materials' handling often involves the following risk factors, which can increase the likelihood of back injuries. These include:

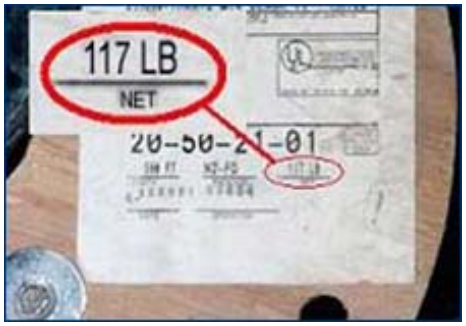
- Lifting heavy loads;
- Carrying bulky loads or loads far away from the body;
- Frequent lifting;
- Bending the trunk, as when picking items up off the floor or when reaching into a bin;
- Twisting the trunk;
- Static loading, such as holding or carrying objects for long periods of time;
- Pushing or pulling.

When employees use smart lifting practices and work in their "power zone," they are less likely to suffer from back sprains, muscle pulls, wrist injuries, elbow injuries, spinal injuries, and other injuries caused by lifting heavy objects.

- Weight of Objects
- Awkward Postures
- High-frequency and Long-Duration Lifting
- Inadequate Handholds
- Environmental Factors

# Weight of Objects: Hazards and Solutions

**Potential Hazards:**



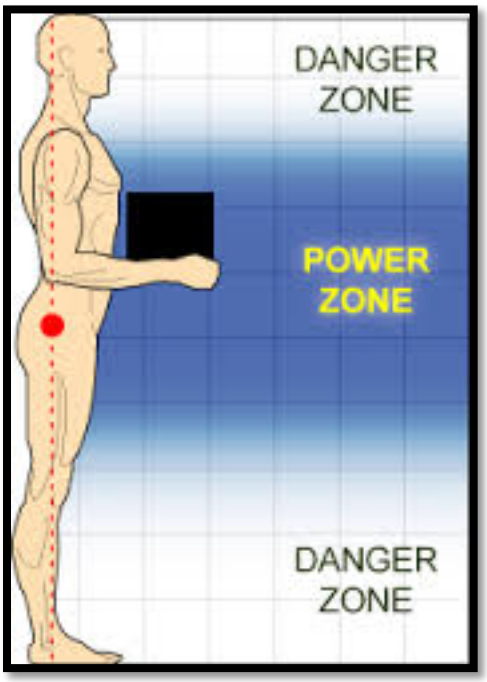

- Some loads, such as large spools of wire (Figure 1), bundles of conduit, or heavy tools and machinery place great stress on muscles, discs, and vertebrae.
- Lifting loads heavier than 50 pounds will increase the risk of injury.

**Possible Solutions:**

- Use mechanical means such as forklifts, or duct lifts to lift heavy items.
- Use pallet jacks and hand trucks to transport heavy items.
- Avoid rolling heavy objects. Once they are in motion, it is difficult to stop them.
- Use ramps or lift gates to load machinery into trucks rather than lifting it.
- Materials that must be manually lifted should be placed at "power zone" height, about mid-thigh to mid-chest. Special care should be taken to ensure proper lifting principles are used. Maintain neutral and straight spine alignment whenever possible. Usually, bending at the knees, not at the waist, helps maintain proper spine alignment.
- Place materials that are to be manually lifted at "power zone" height.
- Order supplies in smaller quantities and break down loads off-site. When possible, request that vendors and suppliers break down loads prior to delivery.

- Prefabricate items in a central area where mechanical lifts can be used. Only transport smaller, finished products to the site.
- Limit weight you lift to no more than 50 pounds. When lifting loads heavier than 50 pounds, use two or more people to lift the load.
- Work with suppliers to make smaller, lighter containers.


LIFTING DO'S & DON'TS
DO LIFT AS A TEAM
Do lift bulky or heavy loads as a team. Doing so is smart and the safe way to work.
DO TURN WITH LEGS
Do move your legs and feet when turning or lowering the load. Avoid twisting at your waist.
DO USE YOUR LEGS
Do lift the load using your powerful leg and buttocks muscles. Your feet should be wide apart, head and back upright. Keep abdominal muscles tight and the load in close.
DO USE EQUIPMENT
Do use equipment like hand trucks, dolly's, or forklifts to do the heavy lifting. It's much less work and less risk of injury.
DON'T LIFT BULKY LOADS ALONE
Don't lift bulky or heavy loads alone. Doing so puts great stress on your low back muscles and spine.
DON'T TWIST WHEN LIFTING
Don't twist when lifting, lowering, or carrying any load as this increases your risk of back injury.
DON'T USE YOUR BACK
Don't lift the load with your rear end high and your lead low. Use your leg muscles, not your weaker low back muscles.
DON'T LIFT HEAVY LOADS
Don't lift heavy loads when you can use equipment. It is less work and less stress on your low back.


DANGER ZONE
POWER ZONE
DANGER ZONE


Safe lifting
• Back injuries are the 2nd-most common workplace problem
• A back injury costs an average of $11,645 in medical claims and lost time wages.
National Safety Council
• Most back injuries can be prevented

# Awkward Postures: Potential Hazards and Solutions

**Potential Hazards:**

- Bending while lifting (see figure) forces the back to support the weight of the upper body in addition to the weight you are lifting. Bending while lifting places strain on the back even when lifting something as light as a screwdriver.
- Bending moves the load away from the body and allows leverage to significantly increase the effective load on the back. This increases the stress on the lower spine and fatigues the muscles.
- Reaching moves the load away from the back, increases the load, and places considerable strain on the shoulders.
- Carrying loads on one shoulder, under an arm, or in one hand, creates uneven pressure on the spine.
- Poor housekeeping limits proper access to objects being lifted and forces awkward postures.

**Possible Solutions:**

- Move items close to your body and use your legs when lifting an item from a low location.
- Store and place materials that need to be manually lifted and transported at "power zone" height.
- Minimize bending and reaching by placing heavy objects on shelves, tables, or racks.
- Avoid twisting, especially when bending forward while lifting. Turn by moving the feet rather than twisting the torso.
- Keep your elbows close to your body and keep the load as close to your body as possible.
- Keep the vertical distance of lifts between the mid-thigh and shoulder height. Do not start a lift below mid-thigh height nor end the lift above shoulder height.
- Use ladders or aerial lifts to elevate employees and move them closer to the work area so overhead reaching is minimized.
- Break down loads into smaller units and carry one in each hand to equalize loads. Use buckets with handles, or similar devices, to carry loose items.

# High Frequency/ Long Duration Lifting: Potential Hazards and Solutions

**Potential Hazards:**

- Holding items for a long period of time, such as when installing fixtures, even if loads are light, increases risk of back and should injury, since muscles can be starved of nutrients and waste products can build up.
- Repeatedly exerting, such as when pulling wood, can fatigue muscles by limiting recuperation times. Inadequate rest periods do not allow the body to rest.

**Possible Solutions:**

- Use a template made of a lightweight material such as cardboard to mark holes for drilling when mounting heavy items. This ensures that the heavier item does not need to be held in place to level and measure for anchor mounts.
- Provide stands, jigs, or mechanical lifting devices such as duct lifts to hold large, awkward materials in place for fastening.
- Rotate tasks so employees are not exposed to the same activity for too long.
- Work in teams; one employee lifts and holds items while the other assembles.
- Take regular breaks and break tasks into shorter segments. This will give muscles adequate time to rest. Working through breaks increases the risk of musculoskeletal disorders (MSDs), accidents, and reduce the quality of work because employees are overfatigued.
- Plan work activities so employees can limit the time they spend holding loads.
- Pre-assemble work items to minimize the time employees spend handling them.

# Inadequate Handholds: Potential Hazards and Solutions

**Potential Hazards:**

- Inadequate handholds make lifting more difficult, move the load away from the body, lower lift heights, and increase the risk of contact stress and of dropping the load.

**Possible Solutions:**

- Utilize proper handholds, including handles, slots, or holes with enough room to accommodate gloved hands.
- Ask suppliers to place their materials in containers with proper handholds.
- Move materials from containers with poor handholds or without handholds into containers with good handholds.
- Wear proper personal protective equipment (PPE) to avoid finger injuries and contact stress. Ensure that gloves fit property and provide adequate grip to reduce the chance of dropping the load.

# Environmental Factors: Potential Hazards and Solutions

**Potential Hazards:**

- Cold temperatures can cause decreased muscle flexibility, which can result in muscle pulls.
- Excessive hot temperatures can lead to dehydrations, fatigue, and increased metabolic load.
- Low visibility or poor lighting increases the chance of trips and falls.

**Potential Solutions:**

- Adjust work schedules to minimize exposure to extreme temperatures.
- Wear warm clothing when exposed to cold temperatures.
- Drink lots of water to avoid dehydration in excessive heat.
- Provide proper lighting for areas with low light and perform work during daylight hours.

# Helpful Links

http://ergo-plus.com/wp-content/uploads/WA-Handout-Proper-Lifting-Techniques.pdf

http://www.mayoclinic.org/healthy-lifestyle/adult-health/multimedia/back-pain/sls-20076866

http://safety.blr.com/workplace-safety-news/safety-administration/safety-general/11zll02-Five-Key-Steps-for-Safe-Lifting-

http://www.gonzaga.edu/Campus-Resources/Offices-and-Services-A-Z/Human-Resources/Environmental-Health-And-Safety/Ergonomics/Safe-Lifting-Techniques.asp