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**CONSULTATION & TRAINING BRANCH**

It provides free on-site consultations for employers that identify workplace hazards, suggests corrective actions and evaluates and makes recommendations to improve an employer's safety and health management system to prevent future hazards. The public can call the Branch to inquire about safety and health standards and other related topics.

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ERGONOMIC SURVIVAL GUIDE FOR  
**CEMENT MASONS**



What will happen to your family and your lifestyle if you get injured and can't work? What will you lose if you get injured?

- **Your salary**
- **Your quality of life**
- **Your job advancement**
- **Future job opportunities**

**WHAT CAN YOU DO TO AVOID AN INJURY?**

This SURVIVAL GUIDE is designed to promote awareness of safe work practices for CEMENT MASONS

It was made available by Cal/OSHA, California Dept. of Industrial Relations & modified by HIOSH, Hawaii Dept. of Labor & Industrial Relations, Phone: 808-586-9100.



# What Can Make You Hurt?

There are certain things in your job that can lead to fatigue, discomfort, or pain when you do them **repeatedly or without breaks**.

These include:

- Exerting force to perform a task or to use a tool.
- Working in positions such as bending, kneeling, stooping, twisting, and overhead reaching.
- Using awkward back, hand, wrist, elbow, or shoulder postures.
- Remaining in the same position for a long time with little or no movement.
- Continuous pressure from a hard surface or edge on any part of the body.
- Working in very hot or very cold temperatures produced by climate, equipment, or machines.
- Sitting on, standing on, or holding equipment or tools that vibrate.

In addition, stressful work situations can increase muscle tension and reduce awareness of proper work technique.

Most common injuries:

Low Back  
Legs  
Neck  
Shoulders



# Prepare Yourself for Work

Just as a runner prepares for a race event by warming up, prepare for work by warming up and stretching. Warm up by walking, marching in place, or moving your arms in circles. Once your muscles are warm:

- Stretch S-L-O-W-L-Y and hold each stretch 3-5 seconds.
- Stretch a few minutes before and during your workday.

**Caution:** Check with your doctor before exercising. If you feel discomfort while exercising, stop immediately!

Stretch the low back and hips



Stretch each arm and shoulder



Stretch each leg



**While you are off work, keep yourself physically ready for returning to work, whether it's the next day or later.**

# Lifting Tips

- Use teamwork and mechanical aids such as a cart, wheelbarrow, or dolly whenever possible.
- Wearing an apron to avoid soiling one's clothes may help a worker to hold loads closer to the body.

## Tips for lifting heavy bags:



1. Get down on one knee.



2. Pull bag up leg.



3. Rest bag on knee.



4. Pull bag close to body and stand upright.



5. Pull bag up to waist height.

## KEEP THE LOAD OR TOOL CLOSE TO YOUR BODY



Lifting, or carrying a **10-pound** object that is **25 inches** from your spine is equal to **250 pounds** of force on your lower back.



Lifting, or carrying a **10-pound** object that is **10 inches** from your spine is equal to **100 pounds** of force on your lower back.

# Make It Easy on Yourself



## PROTECT YOURSELF.

Wear comfortable knee pads to protect yourself from hard surfaces and sharp edges. Wear eye protection, gloves, a hard hat, and cushioned insoles in your shoes for comfort and protection.



## PRACTICE GOOD HOUSEKEEPING.

Pick up debris and scrap material to prevent slips, trips, and falls. Good housekeeping allows you to get closer to your work. Keep areas clear for walking and moving material.



## POSITION YOURSELF.

Face your work directly to prevent twisting or reaching. This can increase your comfort level and improve your work accuracy and quality. Standing at a lower level than your work can help reduce how far you bend.



## USE A MORE COMFORTABLE HANDLE.

When lifting a bucket, you will use less grip force if you increase the diameter of the handle by adding padding or by using a handle that has a bigger diameter.



# Be Aware

If you experience symptoms, you must change the way you work or the tools you use. If you don't change, your symptoms may get worse and may keep you from working at all.

## You may have a problem if you have any of these symptoms:

- Constant fatigue
- Cold hands
- Swelling
- Numbness
- Tingling
- Lack of energy
- Changes in skin color
- Weakness
- Loss of sensation
- Aching, burning, or shooting pain

## Where?

- Back
- Neck
- Shoulders
- Arms
- Hands
- Fingers
- Knees

## If you develop any symptoms:

- Talk with your supervisor about your symptoms right away.
- Work with your supervisor to identify the cause of the problem.
- Follow your company's ergonomics program and its Injury and Illness Prevention Program.
- Always look for better ways to do your job.

## A TYPICAL WAY

A bull float with a fixed knuckle joint may force you to bend forward and work in awkward postures that may lead to back and shoulder injuries.

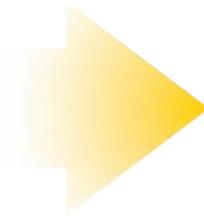


## A SAFER WAY



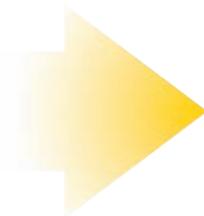
- Wear good-fitting gloves to improve grip on the bull float handle.
- Use a bull float with a rotating knuckle joint. This device allows greater flexibility in moving the float, which can reduce awkward body posture and muscle strain.

Working for a long time in an awkward posture, such as overreaching, may cause arm and shoulder pain, and fatigue.



- Make your work easier. Adopt a comfortable working posture.
- As you hand-float or hand-trowel, move closer to your work area to avoid overreaching.

Bending your wrist while putting continuous downward pressure on one hand is tiring. Over time, numbness or pain may develop.



- Alternate tasks between hands to prevent fatigue and pain.
- Take short breaks to rest your hands.