

ERGONOMIC SURVIVAL GUIDE FOR ELECTRICIANS

This SURVIVAL GUIDE is designed to promote awareness of safe work practices for ELECTRICIANS. Please visit our website for other Cal/OSHA educational materials:

www.dir.ca.gov/dosh/puborder.asp



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**

AVOID THE PAIN & COST OF AN INJURY

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 for long periods of time**.

These include:

- Exerting force to perform a task or to use a tool.
- Working in positions such as bending, stooping, twisting, and overhead reaching.
- Using awkward 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 cold temperatures, produced by climate, equipment, or machines.
- Sitting on, standing on, or holding equipment or tools that vibrate.

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

Most common injuries:

- Back
- Fingers/Hands
- Knees

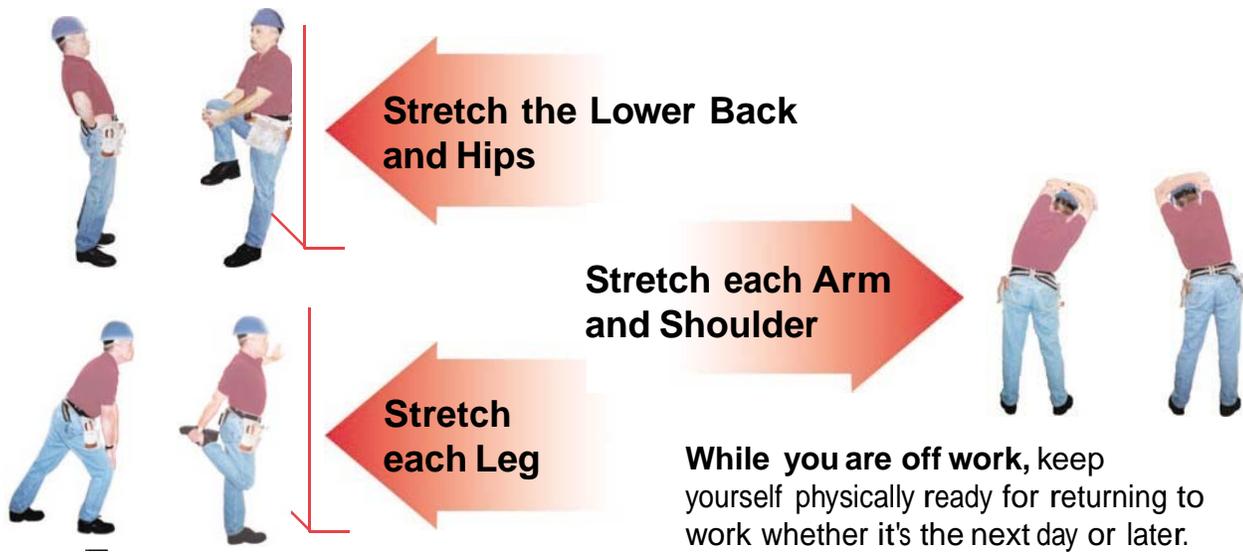


Prepare Yourself for Work

Just as a runner prepares for a race by warming up, prepare for your workday 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 exercising stop immediately!



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

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 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

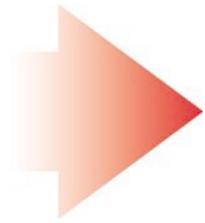
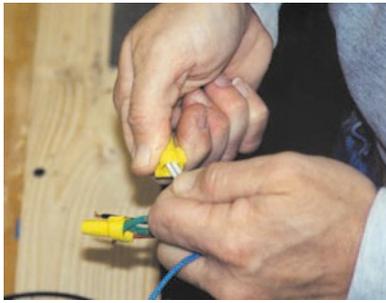
Where?

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

If you develop any symptoms:

- Talk with your supervisor about your symptoms right away.
- Work with your foreman or 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

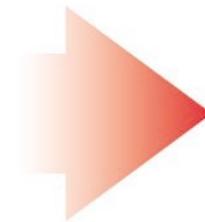


Repetitious hand work may cause pain and result in permanent injury, limiting your ability to use your hands in any kind of work.

A SAFER WAY

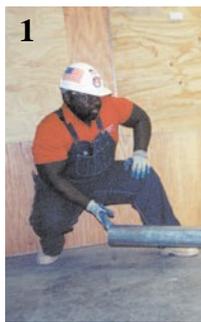


- Use hand tools or power tools whenever possible.
- Keep tools close to your body to reduce fatigue and increase productivity.

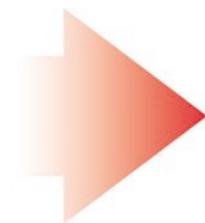


Lifting, pulling, pushing or carrying heavy loads may cause serious back injury.

3-Point Lift



- Use a three-point lift when handling heavy material by yourself.
- Stack or rack conduit at waist height to reduce bending and stooping.
- Use teamwork and mechanical aids whenever possible.



The force and awkward posture required to pull wire by hands is hard and tiring.



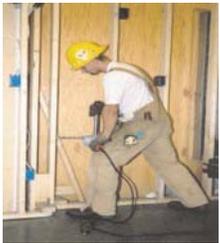
- Avoid manual wire pulling and use a tugger or a handtool whenever possible
- Communication between the puller and feeder to coordinate movements will make the job easier and safer.
- Use lighter-weight tools.

Make It Easy on Yourself



← **LIGHTEN YOUR LOAD.** Plan what you are going to do. Carry only the tools or equipment you will need. Wear a tool belt that fits and distribute the tools and materials evenly.

PROTECT YOURSELF. Wear safety gear that fits. Protect your knees from hard, sharp surfaces by wearing knee pads. Wear appropriate eye protection to protect your eyes from debris and flying particles. Protect your hands from friction and sharp edges by wearing gloves. →



← **SELECT THE RIGHT TOOL.** Choose tools that fit your hand comfortably and have soft grips. A good handle grip prevents your hand from slipping while using the tool. Consider using tools that reduce the amount of force or movements you use. Keep tools well maintained.

PRACTICE GOOD HOUSEKEEPING. Pick up debris and scrap material to prevent trips, slips, and falls. Good housekeeping allows you and your equipment to get closer to your work. →



← **CHANGE BODY POSITIONS.** Working overhead, at floor level, or in cramped spaces forces the body into awkward postures. To relieve muscle tension and improve circulation, change body positions, alternate tasks, and stretch throughout the day.

KEEP THE LOAD OR TOOL CLOSE TO YOUR BODY

Carrying a **10 lb.** object that is **25"** from your spine is equal to **250 lbs.** of force on your lower back.



LIFT SMART: Keep loads and tools close to your body. The farther the load or tool is from your spine, the greater the force on your lower back.



Carrying a **10 lb.** object that is **10"** from your spine is equal to **100 lbs.** of force on your lower back.



AVOID HEAT ILLNESS:

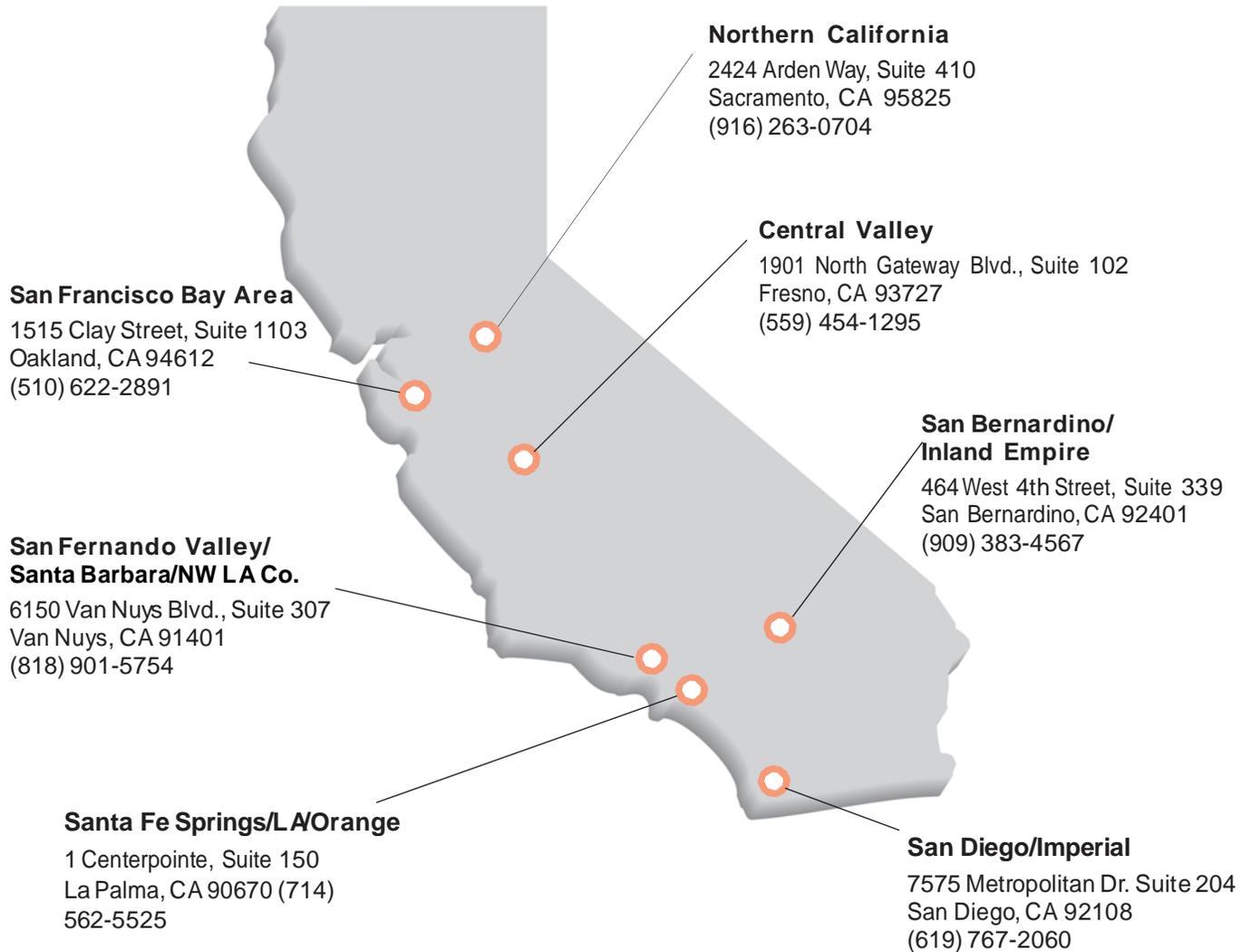
- Start work early in the day. Avoid extreme heat.
- Wear light-colored and loose-fitting clothing.
- Take frequent breaks in the shade.
- Drink water frequently before, during, and even after work. Drink water even if you are not thirsty.

WHY?

Heat illness can cause fatigue, dizziness and painful muscle cramps.

REMEMBER: HEAT ILLNESS CAN KILL IN LESS THAN ONE HOUR OF EXPOSURE TO EXTREME HEAT!

On-site Assistance Program Area Offices



Your call will in no way trigger an inspection by Cal/OSHA enforcement.

- **Research and Education**
Sacramento, CA 95825
(916) 574-2528

- **Voluntary Protection Program**
Oakland, CA 94612
(510) 622-1081