

# Ergonomics:

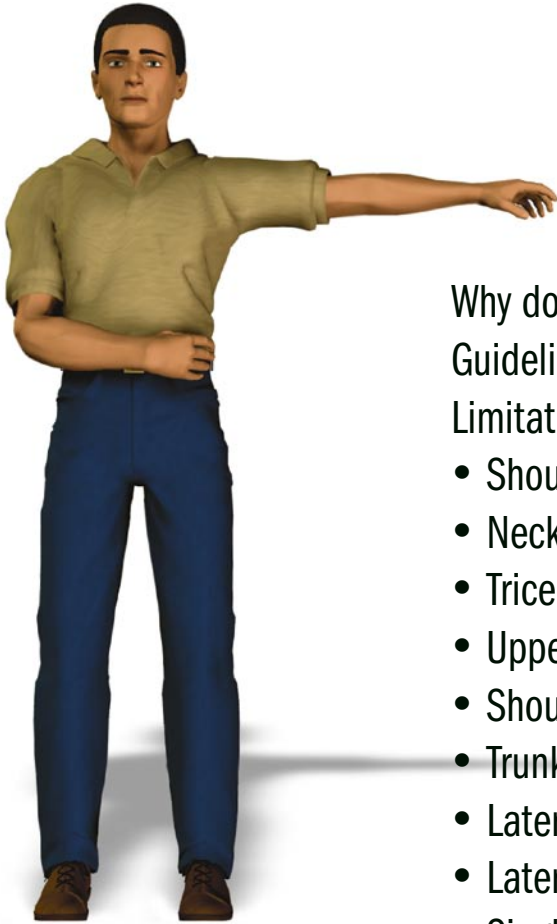
## *Tips for a Stretching Program*

**PRE-SHIFT STRETCHING PROGRAMS** — are they for you? Many companies have successfully implemented pre-shift / midshift stretching programs for their employees. There are several good reasons to do so, for both your individual employee and your company as a whole. However, prior to beginning any new program it is best to determine what your desired outcomes are, how you plan to get there and what you hope to accomplish along the way.

If you are thinking about starting a stretching program, follow these simple steps to make your program a success.

- Plan. During the planning stages, determine what outcomes you wish to see from your program. Do you want to prevent all strain- and sprain-type injuries? Is this program being implemented to prevent workers' compensation claims, or is it being implemented to increase overall health of your employee base? Understanding the reason(s) behind the program will help you tailor it to your specific needs.
- Involve a professional. A doctor or physical therapist is strongly recommended. A medical professional will bring credibility to your program and will help ensure it is designed for success.
- Determine how you will roll out the program.
- Develop posters (and maybe cards) showing the stretches.
- Obtain buy in — get your management on board. This type of program will not succeed if management, from the top to the middle and everywhere in between, isn't totally supportive. Once management is on board, get buy in from employees. How you sell it will determine how well employees do with it.
- Educate employees on WHY the program is being implemented. Why are you doing this? Are there injury issues that might be prevented with this program?
- Identify stretches (based on individual jobs, tasks, etc.); and identify stretch leaders — usually programs start with supervisors as stretch leaders with the possibility of line employees taking over those roles.
- Schedule follow-up sessions (every six months at the beginning then decreasing in frequency) with the physical therapist or doctor to ensure everyone is using proper technique.
- Make it mandatory for the employees who most need it — those who work spend shifts in essentially the same position (sitting or standing) or who regularly lift heavy objects or get into "awkward" positions. And strongly encourage everyone else.
- Focus on good ergonomics and body positioning.
- Educate about positions or stretches to avoid (and why).
- One challenge is that all stretches must be safe and appropriate for all levels of employee fitness. Identify the safest positions to get the most out of them.
- Avoid stretches that put employees on the floor.

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## WHY DO WE STRETCH?

Daily stretching creates many benefits:

- Prepares body for physical work activities—it is a wake-up call for your muscles.
- Flexibility is increased—not just at work but all of the time.
- Your circulation is promoted—your muscles need oxygen from the blood to operate at peak performance.
- Muscle tension is decreased—a static position locks the tendons
- Relaxation is increased—gives your brain something else to concentrate on instead of normal work activities.
- Your range of motion is improved—progressively strengthens muscles and lengthens your tendons which means greater range of motion.
- Your body awareness is increased—keeps those muscles from sleeping on the job.
- Muscle fatigue is delayed—removes lactic acid from the muscles which contributes to fatigue.
- Reduces frequency and severity of injury—there are proven results from numerous studies.
- Your team morale is increased—it is not a competition, it's team building, enjoy it and benefit from the results.

## GUIDELINES

Before you start stretching, make sure you begin with your body in a neutral position by:

- Standing relaxed with your feet shoulder-width apart, bend your knees a little and contract your abdomen a little. This will help keep your back straight. Your shoulders should be relaxed and your chest lifted.
- Hold each stretch for a count of ten to fifteen seconds.
- Do not bounce while you are stretching.
- Breathe in a relaxed manner, and don't hold your breath.
- Do the stretches at your own rate—don't compete.
- Stretch just beyond the point of natural tension.
- Make stretching a daily habit, and do it before you start work and immediately after work.

## LIMITATIONS

- Make sure you do these stretches at your own pace and ability. Make sure you stretch within your own limits.
- Do stretches at your own rate—don't compete.
- You should stretch to the point of comfortable tension. Then you should relax before you do the next stretch.
- You should avoid any straining while you are performing the stretches.
- None of these stretches should be painful.
- You should release the stretch slightly if your muscles begin to shake.
- If you experience any pain in the joint area, back off the stretch and make sure you are doing it correctly. If necessary, you should try another position or a different stretch for the target muscles.
- Standing relaxed with your feet shoulder-width apart, bend your knees slightly, contract your abdomen a little. You need to keep your back straight.
- Move into each stretch slowly; hold it for ten to fifteen seconds. Do not bounce while you are stretching. Bouncing increases the risk of falling or losing your balance and does not properly stretch the target muscle.
- You should breathe slowly and rhythmically while holding these stretches. Don't hold your breath. It is important that oxygen is getting to the blood and muscles.

## NOTES



- 1 Lift (shrug) shoulders as high as possible while slowly raising your arms to fully extended position above head.
- 2 At the same time, lift the body up onto your toes (for as long as comfortable). While reaching high, extend and spread fingers.
- 3 Hold this position for 10 seconds and then slowly lower arms to the side into a neutral body position. Relax while breathing slowly and rhythmically. Concentrate on your breathing rate for at least five breath cycles.



**TARGET:** Biceps, lats, forearms, and muscles that support the spine.  
Particularly good for using hand tools and light lifting tasks.

- 1 Keep your neck as straight as possible while relaxing your shoulders. Tilt your head to the right. Slowly lower head toward right shoulder.



- 2 Repeat in four positions: right, left, front, and back each time returning to the upright position.



- 3 Be sure to do this slowly and do not hold your breath. There should be a complete breath cycle with each position of the head!

**TARGET:** Neck muscles and stress reducer. Particularly good for equipment operators, office personnel, drafters, CAD operators, and engineers.

## TRICEP STRETCH

- 1 Bring right hand to upper back between shoulder blades from above shoulder.
- 2 Place left hand on the tricep (muscle on the underside of the arm) near the elbow.
- 3 Gently pull right elbow up and back with left hand, moving the right hand down center of upper back as far as comfortable. This should not cause pinching in the neck. Repeat on opposite side.



**TARGET:** Triceps and shoulders. Particularly good for light lifting, carrying or pushing such as laborers, and mail clerks.



- 1 Place hands on back of hips.
- 2 Slowly arch upper body backward to a comfortable position. Hold while continuing to breath.
- 3 Return to neutral position and repeat two more times.

**TARGET:** Lower back, abdominals. Particularly good for truck drivers, equipment operators, laborers.

## SHOULDER ROTATION STRETCH

- 1 Keeping knees slightly bent, clasp hands behind back.
- 2 Slowly bend forward from the waist to a comfortable angle while lifting arms upward and behind your back.
- 3 Hold position for one breath cycle and slowly return to upright position. Repeat two more times.



**TARGET:** Shoulders and upper back. Particularly good for carpenters, office workers.

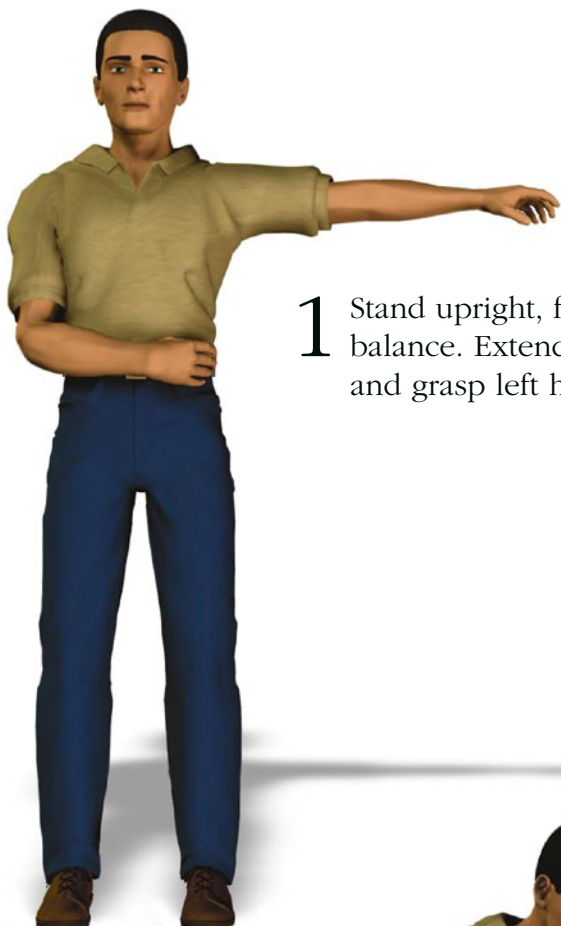
- 1 Extend left arm out to side and grasp left hip with right hand.



- 2 Rotate upper body to the left while pulling on hip with right hand.
- 3 Release tension and change to other side. Repeat on opposite side.

**TARGET:** Lower back and trunk support muscles. Particularly good for laborers, mechanics, iron workers.

## LATERAL ROTATION STRETCH



- 1 Stand upright, feet slightly apart for balance. Extend left arm out to side and grasp left hip with right hand.



- 2 Rotate upper body to left while pulling on hip with right hand, then bend slowly from waist to left side to a comfortable angle.



- 3 Return to upright position and change hand locations to other side. Repeat on opposite side.

**TARGET:** Lats, lower back muscles, abdominals, upper leg muscles.  
Particularly good for laborers, iron workers.

## LATERAL STRETCH

- 1 Place right hand on waist, extend left arm over head and bend upper body sideways to the right.
- 2 Hold position for one breath cycle and return to upright position.
- 3 Repeat two more times and change hand position to other side. Repeat on opposite side.



**TARGET:** Lats and triceps plus shoulder mobility. Particularly good for masons, riggers, machinists.



- 1 Cross legs, keeping both knees slightly flexed.
- 2 Bend forward slowly from the waist and place both hands on the forward knee. Continue bending forward as far as possible.
- 3 Hold position for one breath cycle. **WARNING:** discontinue this exercise if you become dizzy or lose your balance. Change leg position and repeat



**TARGET:** Hamstrings, lower back muscles and stability. Particularly good for laborers, masons, mechanics.

## SINGLE QUADRICEPS STRETCH

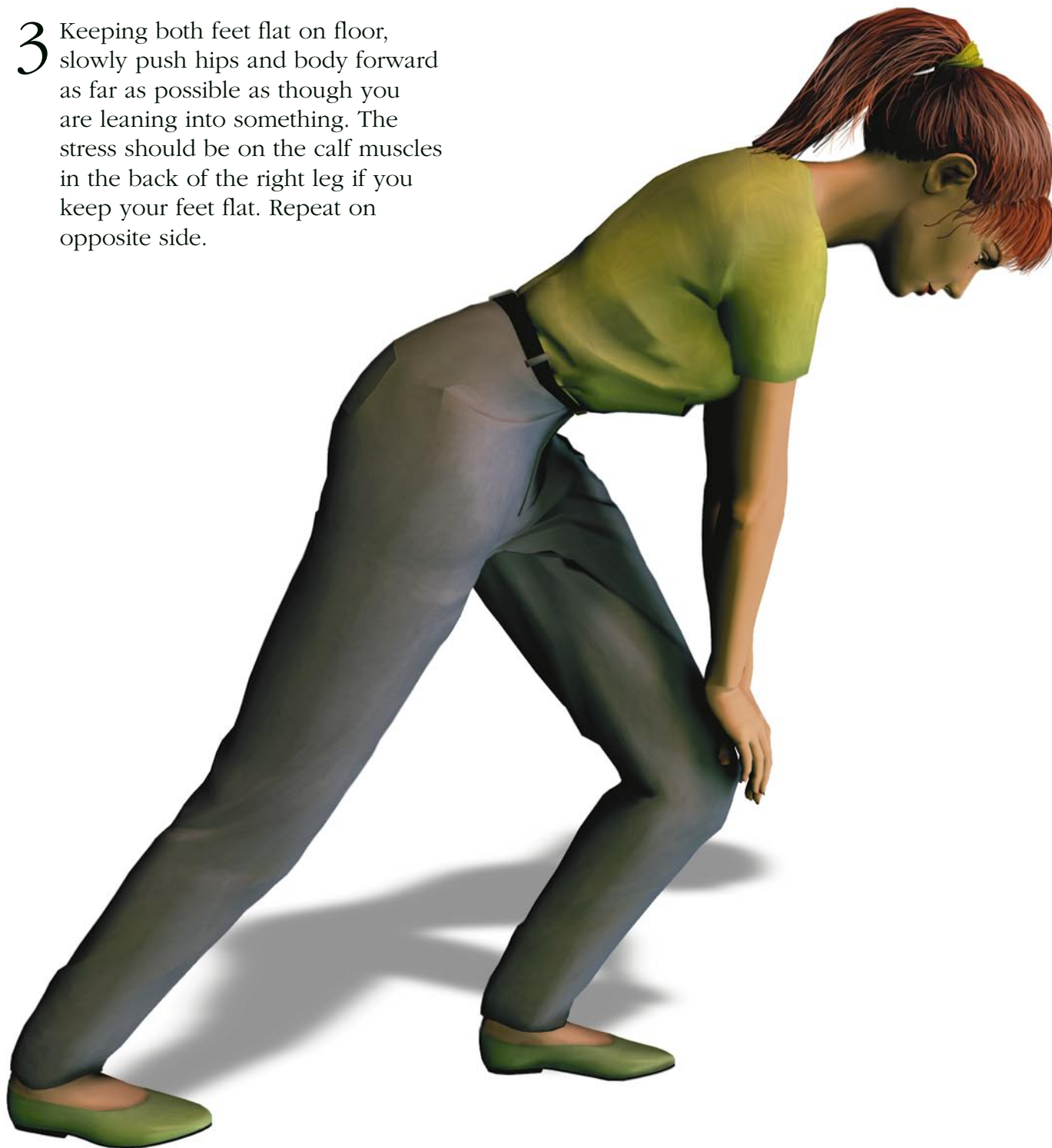
- 1 With your left hand hold onto a stationary object for support, grasp your right ankle behind hips with right hand.
- 2 Pull ankle upward to stretch the quadriceps muscle. **WARNING:** do not attempt this exercise if you have problems with balance or severe knee injuries. If you have knee injuries, you may elect to lift the lower leg behind you and holding the position for 10 seconds. Repeat on opposite side.



**TARGET:** Quadriceps and also helps body balance and ankle strength. Particularly good for laborers, flaggers, and ironworkers.

## CALF STRETCH

- 1 Stand in upright stride position, left leg forward.
- 2 Flex the upper trunk forward and place both hands on left knee.
- 3 Keeping both feet flat on floor, slowly push hips and body forward as far as possible as though you are leaning into something. The stress should be on the calf muscles in the back of the right leg if you keep your feet flat. Repeat on opposite side.



**TARGET:** Calves, lower back muscles. Particularly good for operators, teamsters, maintenance workers.

## WRIST EXTENSION

- 1 Palms together with fingers apart, press momentarily together and release.
- 2 Stretch arms out forward and make a fist in each hand. Hold 5 seconds and open hands wide.
- 3 Force your thumbs down while keeping fingers pointing up towards the sky, wrists are bent back and elbows should be locked. You should feel a slight burn in the upper arm muscles (extensor muscles) of the forearm. These muscles are frequently less used and developed than the flexor muscles in the forearm which leads to unbalance and potential wrist injuries.
- 4 Hold 10 seconds and release. Return your arms to the neutral arm position at your side and shake out your hands.



**TARGET: Extensor muscles. Particularly good for carpenters, administrative professionals, CAD operators, machinists, and maintenance workers.**



## NOTES