



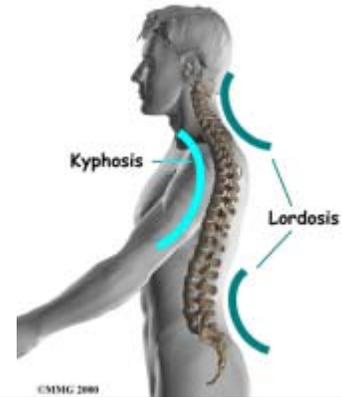
## Santa Clara County Schools' Insurance Group Back Basics – Preventing Back Injuries

### BACK INJURY PREVENTION: PROPER BODY MECHANICS

**Keep it in NEUTRAL.** Using proper body mechanics while lifting is critical in order to minimize strain on lower back, and prevent injuries to the back.

You have heard before: "lift with your legs, not your back", this is very true, but you must remember to **LOCK** your low back in its **NEUTRAL** position, will prevent injury when lifting.

**KEEP IT NEUTRAL!**



### Back in Action

**Keep the natural curve in the lower back.** This will balance disk pressures and make better use of the spinal muscles. The muscles are at their strongest when the curve is maintained.

**Keep a firm abdomen.** This doesn't mean sucking your stomach back to your spine! More like tightening up to move things through (if you know what I mean).

**Don't hold your breath.** This only increases your blood pressure. Try taking a deep breath before you start the lift and slowly let it out during the lift.

**Get a grip.** Make sure you have a good grip with your feet on the floor and with your hands on the object you are lifting. Many back injuries could have been prevented by not losing your footing and having a good set of hand holds.

**Keep things in balance.** Try to keep boxes evenly balanced and make sure the contents can't suddenly shift. This will help avoid sudden muscle contractions to control the load.

**Bend your knees.** Bending your knees is the single most important thing you can do when you lift moderate to heavy objects. Squat down like weightlifters do, bend your knees, keep your back in its natural arch, and let your legs do the lifting. Your leg muscles are much more powerful than the smaller muscles in your back.

**Do not jerk.** Use a smooth motion and lift straight up.

**Do not twist or turn your body while lifting.** Keep your head up, and look straight ahead. Hold the load close and keep it steady.



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### Lifting From Knee Level

### Squat, **LOCK** and Lift

Similar to Olympic weight lifters:

- Squat with a straight back,
- Grab the handles firmly with your hands
- Before you lift put your chin up,
- **LOCK** your low back as in seating position...
- And then lift with your legs.



### When Lifting from the floor:

### Diagonal/Half-knee lift

- While squatting, get as low as possible, (you may place one knee on the ground), keep the load close to body, lift your chin, **LOCK** you low back and lift with your long leg muscles.
- This technique is not recommended if you have weak knees or you lack flexibility.



### One-handed Golfer's Lift

- To pick up light and small objects. This is also good for getting canned goods out of a shopping cart.
- You must have a stick, cane or other object to lean on in order to perform this lift. Lean one hand on your stick,
- Maintain a neutral spine, and pivot forward from the hips, while allowing the opposite leg to rise up behind you.

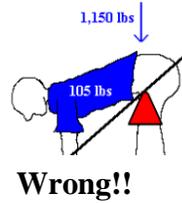




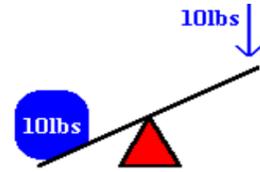
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### Bending Forward

- Constant bending forward and lifting improperly can add a tremendous amount of pressure on your low back.
- When bending forward you must avoid bending your spine and low back.



Think of your back as a lever



### Straight back - Hip/hinge-Bend Technique

- Follow this technique while working in front of desks and counters, using vacuum cleaners, etc.
- Even when brushing your teeth and doing dishes.
- You maintain a neutral spine and pivot forward from the hips (top of the legs), not the waist (i.e., low back).
- It often helps to bend the knees slightly bent.



### Lifting Overhead

If you are lifting items over your head...you are already asking for trouble. As a rule, do not lift anything above your ears. Hopefully the load is very light and you are able to position your body so your lower back is protected and your spine is not bent: place one foot behind your body to add the neutral curve to your low back.

#### Carrying the load:

- Change direction by turning your feet, not your back.
- Your nose and your toes should always be pointing in the same direction.
- Any sudden twisting can result in taking out your back.
- Rest if you fatigue. Set the load down and rest for a few minutes.

#### Setting the load down:

- Bend your knees. Squat down and let your legs do the work. Keep your back curves. Remember not to twist your body while setting down a load, and keep your head up.
- Keep the load close. Plan your release. Once the load is where you want it, release your grip. Never release your grip until the load is secure.

### Using hand trucks and pushcarts

Push rather than pull. It is easier and safer to push than to pull. You can use your body weight to assist when pushing. Keep close and lock your arms. Stay close to the load, try not to lean over and keep your back in its natural arches. Use both hands. Carts are easier to push and control using both hands. Use tie-downs, if necessary, to secure the load.



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### Cervical



**Straight Leg Raise**- This strengthens your legs and abdominal muscles. Lie on your back with one knee bent so the foot is flat on the floor; keep the other leg straight and slowly raise it 8" off the floor. Hold for five seconds, lower and relax; repeat five times then change legs.

**Leg Lifts** - Lie on your right side (on the floor) with your right leg bent slightly. Stretch your right arm flat in front of you and use it for balance. Align your shoulder and hips. Slowly lift your left leg 8-10 inches then lower slowly. Repeat five times. Turn over and repeat on your left side, raising your right leg.



**Neck Press** - This is an isometric exercise to strengthen your neck. Press your palm against your forehead, then use your neck muscles to push against your palm. Hold for ten seconds and repeat six times. Then press your palm against your temple and use your neck muscles to push against your palm, holding for ten seconds and repeating six times on each side. Then cup both hands behind your head and use your neck muscles to press back into your hands. Hold for ten seconds, and repeat six times.



**Isometric Abs** - This easy way to strengthen your stomach muscles can be done standing or sitting. Exhale and pull your abdominal muscles in as tightly as possible. Hold for five seconds then release; repeat ten times.

**Aerobic Exercise** - Aerobic exercise raises your heart rate with continuous, rhythmic movement and, done regularly, can increase your stamina and strengthen your heart and lungs. It should be done 3-5 times per week for at least 20 minutes. Walking is the best place to start, but bicycling, jogging and swimming are good options, too.



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**Stretching** - Stretch throughout the day to keep your muscles flexible and avoid injury.



**Low Back Stretch:** Standing or lying flat on your back, slowly bring one knee toward your chest and grasp it with your hands. Hold for a count of three, then relax and repeat with the other leg.



**Reverse or Extension Stretch:** If you have been sitting or bent over for a while, simply stand, bend your knees slightly, place your hands on the back of your waist and stretch backward while looking at the ceiling. Hold for a count of five then slowly stand up.

**Neck Stretches:** (no picture) Nod your head slowly forward, bringing your chin toward your chest. Repeat five times. Turn your head from side to side very slowly until you can align your chin with your shoulder. Repeat five times. Tilt your head slowly from side to side, bringing your ear over your shoulder. This is good if you spend a lot of time at a computer.

**Shoulder Rolls:** (no picture) Roll your shoulders forward, then backward in a circle. Do this for 10-15 seconds to start. Begin with little circles and progress to large circles. Do this several times during the day to relieve tension. This is also good if you spend a lot of time at a computer.

mild stretch under the thigh of the raised leg. Hold for a count of three. **Sitting** - Sit on the floor with one leg straight in front of you, and the other bent with your foot flat on the floor. Lean forward slowly over the bent leg until you feel a mild stretch under the other thigh. **Lying down** - Lie on your back with your knees bent so your feet are flat on the floor. Raise one leg slowly, clasp your hands behind your knee to support it. Slowly straighten your leg and feel the stretch in the back of your thigh. Hold for a count of three then relax.



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THE END