

SAVE YOUR SPINE

Guidelines for
Safe lifting and carrying

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The human spine is made up of vertebrae and soft discs arranged alternatively. These soft discs act as buffer against shocks and prevent the vertebrae from grinding together. Carrying of heavy weights can squash the discs, distort the vertebrae, move the vertebrae out of position or damage the nerves and gradually does damage to the spine. Sometimes lifting heavy weight can tear the muscle attachments (ligaments) and results in a major injury. **Therefore, you should avoid carrying heavy weights as much as possible.**

Signs & symptoms of back pain:

- Pain or deep ache of the lower back or buttocks. It may be burning or tingling of the leg or foot. Pain is generally increased with prolonged sitting or standing.
- Stiffness of the back and hip muscles.
- Limited range of motion.

Guidelines provided by the National Code of Practice to prevent back injury:

- It is advisable not to lift loads in excess of 4.5 kg when seated
- It is advisable not to lift loads in excess of 16-20 kg when standing
- Generally, no person should be required to lift a mass of 55 kg or more
- Lifting is least likely to result in injury if the starting and finishing positions are between knee and shoulder height
- Avoid twisting movements, which require unbalanced use of muscles

Holding heavy objects:

Holding weight close to the spine and keeping the spine as erect as possible (maintaining good posture, which involves keeping the spine as erect as possible) reduce the chances of injury. Do not bend over or swivel around while holding a heavy weight.

Moving heavy objects:

Think and Plan before moving heavy objects.

- Lift and carry with your brain more than your body.
- Perform moving in simple operations from one point to another by stopping in between.
- Use your legs to move, as the leg bones are stronger than the spinal bones.
- To move horizontally, walk slowly forwards with small steps, while keeping the spine erect. To turn, take small sideways steps. Do not turn the upper body while holding something heavy.
- To lift a weight up or down, squat down while keeping the upper body erects. Move slowly so that you keep your balance.
- The best way of carrying something heavy is to use a backpack, which is adjusted to take most of the weight on the hips.

Other methods of carrying and moving weight:

- Lying on the back, opposite the object and pushing with the feet can often make small movements of furniture.
- Loads can also be slid along the ground by pushing or dragging. Take care not to bend over to apply force while the spine is bent.
- Carrying a load on the head is efficient, as the weight is taken straight downwards. There is no tilting force on the spine since the center of mass lies on the spinal axis.
- Carrying a heavy object on the shoulder is more comfortable than carrying it in the arms in front of the body. It is best to alternate sides so that the stresses are even.

Safe lifting:

- Assess the load – can you lift it by yourself in order to minimize the chance of injury.
- Check the general environment for safety to avoid slipping on floors while carrying heavy things, or tripping over objects in the way.
- Plan every stage of the lifting process. Decide on which way to face when lifting, the path you will follow, how to put the thing down, and which way it should face.
- Stand erect and as tall as possible. Move the load by sliding it close or move yourself close to the load. If the load is around waist to chest height, this is easy. If the load is on the floor, to get close to it, bend your knees not your back. Squat in front of the load, and move it between the outspread legs.

- Face the load squarely and get a firm grip.
- Lift in a smooth and balanced way holding the load close to your chest.
- When carrying the load move your feet, don't twist your body.
- Occasionally, you can arrange to lift with your back against the object.
- To put a load down, reverse the pickup procedure. Setting down on a waist height surface is relatively easy. To put something down on the floor, squat down with it, keeping the back erect and slowly slide it down the thighs to the ground.
- To lift as a group, planning and communication are important. Lifting big heavy loads with a group of people can be dangerous unless everyone knows what to do.
- Consider using mechanical devices for lifting and carrying.

Exercises to avoid with back pain:

Many common exercises actually increase the risk of lower back pain. Avoid the following:

- Straight leg sit-up.
- Bent leg sit-ups during acute back pain.
- Leg lifts (lifting both legs while lying on back).
- Lifting heavy weights above waist.
- Any stretching done while sitting with legs in a V position.
- Toe touching while standing.

Risk increases with:

- Sitting for long periods.
- Bending over while working - yard work, painting, housework.
- Participation in sports without warming up (stretches).
- Sharp increase in athletic activity (weekend athlete)
- Overweight
- Poor posture with sitting, standing, bending and sleeping.
- Wearing high heels.
