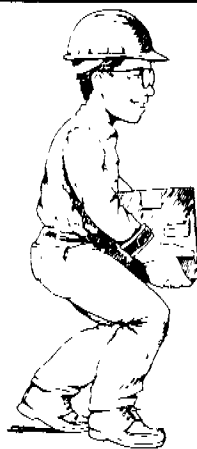


BACK SAFETY



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THE PROBLEM



The Occupational Safety and Health Administration has called back injuries "the nation's number one workplace safety problem."

- Many back injuries are extremely painful.
- They can be very expensive.
- Back injuries can cause long-lasting disability and loss of work.

Fortunately, many spinal injuries are avoidable.



THE GOAL



The goal of this handbook is to help you prevent back injury by showing you:

- How your back works
- How to lift and handle materials safely
- How a healthy lifestyle can protect your back.

Nothing can guarantee you freedom from back pain. But there are many things you can do to help you avoid it.



HOW YOU CAN PROTECT YOUR BACK

Let's look at some of the parts of the spine and what they do.

- The backbones, or vertebrae, support the body and protect the nerves of the spinal chord.

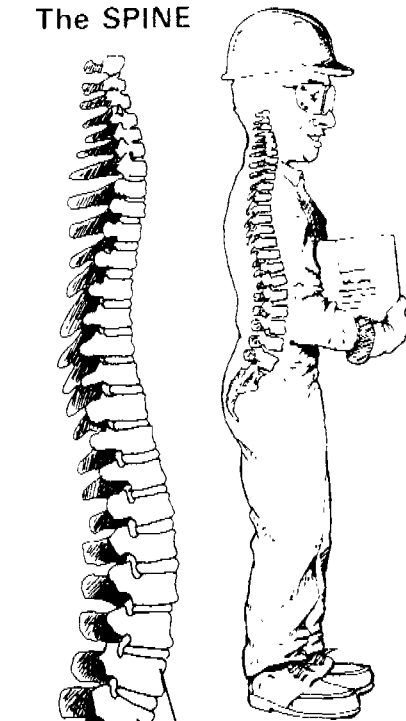
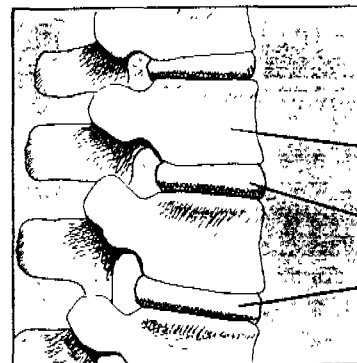
- The spinal discs act as shock absorbers between each pair of vertebrae.

- The leg muscles can provide much of the power for lifting.

- Most important is the mind.

If you plan ahead and use common sense, you'll make things as safe and easy for your back as possible.

The SPINE



Vertebrae

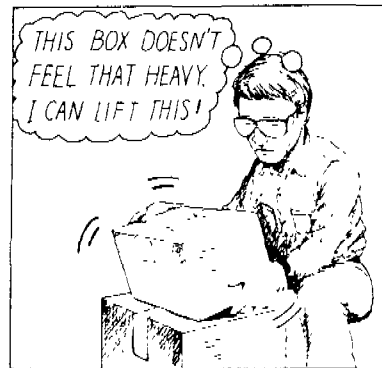
Spinal Discs

LIFTING SAFETY



Preparing for the Lift

- ⚠ Before starting to lift or carry anything, check your entire walk way to make sure your footing will be solid. Your shoes should give you good balance, support and traction.
- ➡ Clear any movable obstacles out of your way, and make sure you know where the unmovable ones are.
- ⚠ Cautiously heft the object you'll be moving, to check its weight and center of gravity.



Alternatives to Lifting

For difficult lifting tasks, keep these options in mind.

- ⚠ Asking a co-worker for help
- ⚠ Using a pushcart or other materials-handling device.



Pushing a load is easier on the back than pulling is. If you *must* pull something:

- ⚠ Face the object squarely, with one foot at least 12 inches in front of the other.
- ⚠ Keep your back straight.
- ⚠ Bend your knees slightly.
- ⚠ Pull with one smooth motion.



Performing the Lift

This is the part that causes most on-the-job back injuries. The keys to safe and easy lifting are:

- Face the object squarely and get as close to it as you can.
- Balance yourself solidly, with one foot slightly in front of the other.

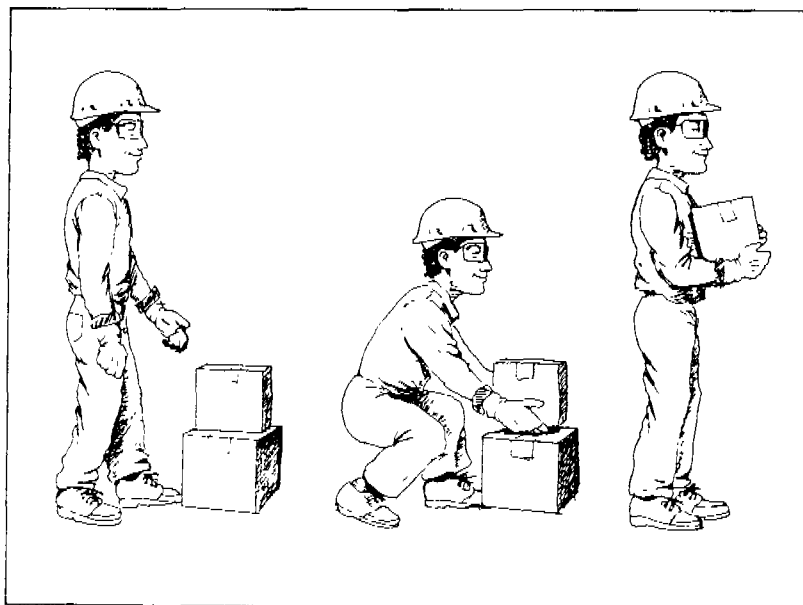
Squat down, bending your knees. Keep your back straight and as nearly upright as possible.

Grip the object firmly.

Take a breath and hold it. Tighten your abdomen.

Keeping your back straight, use your legs to bring you to a standing position.

Make the lift smoothly and under control.



Carrying and Lowering

When carrying an object, grip it firmly and hold it as close to your body as possible.

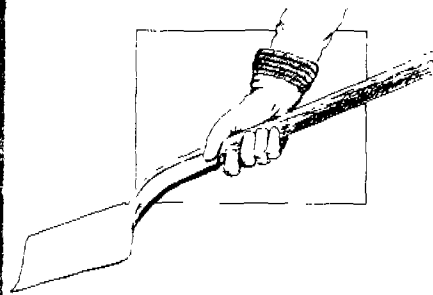
Use a safe technique for setting the load down.

Keep your back straight.

Tighten your abdomen.

Bend at the knees.

Whenever possible, store heavy loads off the floor.



Shoveling

The same guidelines apply to other lifting jobs, such as shoveling.

Make sure your grip and balance are solid.

Tighten your abdomen as you lift.

Keep the shovel close to your body.

Bend your knees, not your back.

Use the strength of your thigh muscles to bring you to an upright position.

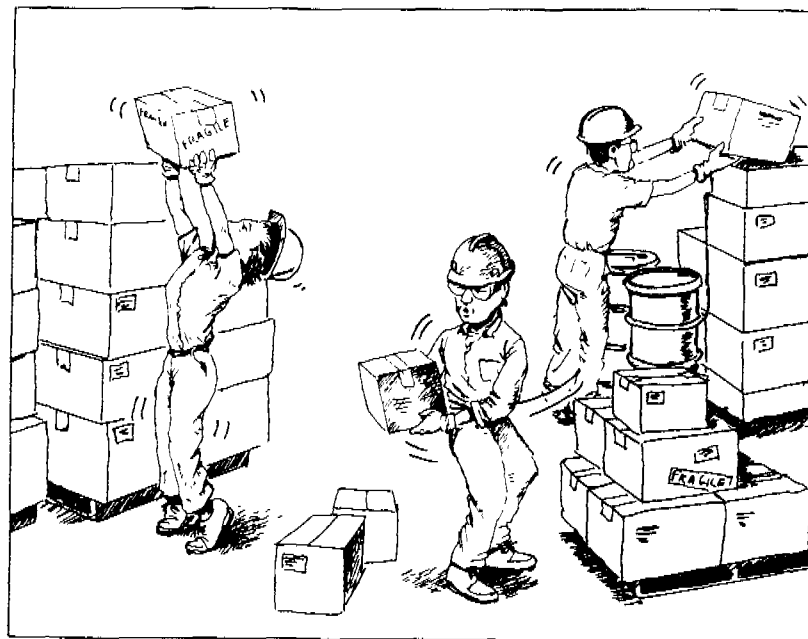
Increase your leverage by keeping your bottom hand low and toward the shovel blade. This allows you to use the strength of your arms and shoulders to take the load.

The biggest danger to your back is in twisting. Use your feet to turn your whole body.



Warning of Special Dangers

- ⚠ Don't lift objects over your head.
- ⚠ Don't twist your body when lifting or setting an object down.
- ⚠ Don't reach over an obstacle to lift a load. Move whatever is in your way or go around it.
- ⚠ Pace yourself to avoid fatigue when doing heavy work for a long period of time.
- ⚠ Follow the safety guidelines of your workplace.





Posture

Standing

* Avoid slouching and an unnaturally stiff posture.

Keep your abdomen, buttocks, and chin tucked in.

Hold your shoulders slightly back and your head high.

When standing for a long time, keep your weight *unevenly* distributed and rest each leg in turn. Use a footrest.



Sitting

* Good sitting requires good support.

* When driving, use a pillow or rolled-up towel to support your lower back. Keep the seat far enough forward to reach instruments and pedals easily.

When driving long distances, stop from time to time to rest.



Diet



Carrying extra body weight puts unnecessary stress on your back. Eat the right type and amount of food to keep your weight under control.

Exercise

A good exercise program can help keep your back healthy by giving key muscle groups *flexibility* and *strength*. Whatever exercise you choose, these hints can help you to perform it safely.

- If you have a history of back problems, *consult your doctor* before beginning any exercise program.

- Exercise regularly.

- Warm up thoroughly before starting any vigorous exercise and cool down afterward.

- Maintain good posture throughout your workout.

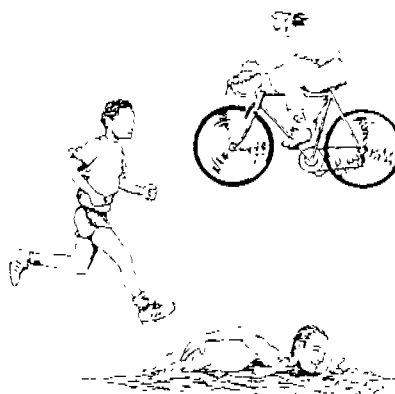
- If the exercise starts to cause pain, stop doing it.

Sports and recreational activities can be an enjoyable way to keep your back healthy.

- Activities that are widely recommended for the back include brisk walking, cycling and swimming.

- Sports that twist or jar the spine can injure it. Approach these activities cautiously.

Here are some simple exercises that can be used in prevention of back problems or recovery from them. If you've had a recent back injury, check with your doctor before beginning these or any other exercises.

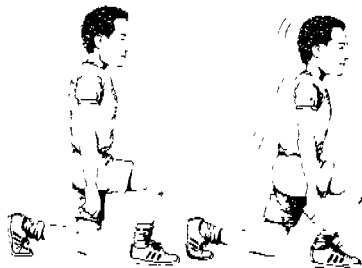
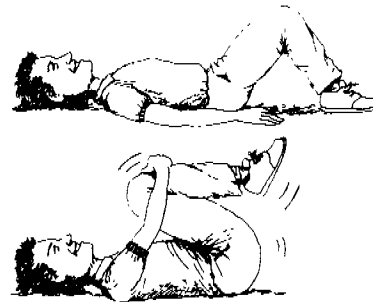


Knee raise, to stretch the lower back muscles

☒ Lie on your back, with your knees bent.

■ Slowly bring your knees up to your chest and hold them there for 5 seconds.

☒ Repeat 5 times.



Hip Stretch

☒ Kneel on one knee, with the other foot in front of you.

■ Tighten your stomach muscles.

☒ Slowly shift your weight onto your front foot, and hold that position.

☒ Switch legs and repeat 5 times.

Side stretch, to stretch the back and side muscles

☒ Place one arm on your head and the other to your side.

☒ Slowly bend to the side opposite your raised arm until you feel your muscles slightly stretching.

☒ Breathe comfortably and hold the stretch position for 15-30 seconds.

☒ Repeat 5-10 times, alternating sides.

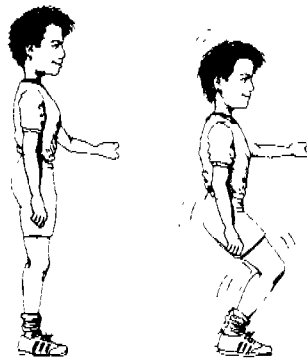
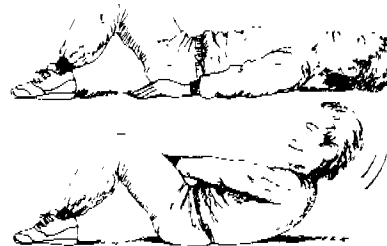


Partial sit-ups, to strengthen the abdominal muscles

☛ Lie down, with your legs bent at the knees and your feet flat on the floor.

☛ Sit up partially, with your arms reaching between your legs until your shoulders are about 4 inches off the ground.

☛ Return to the start position and repeat.



Semi-squat, to strengthen the legs and hips

☛ From a standing position, hold onto a sturdy support and bend your legs to a 45-degree angle.

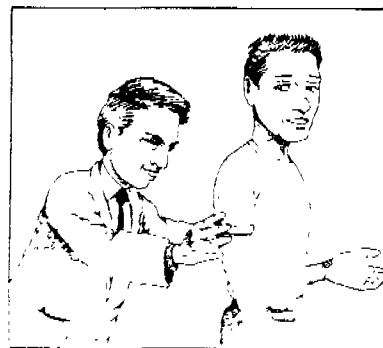
☛ Tighten your buttocks with each squat, to protect your lower back from strain.

☛ Hold the squat position for several seconds.

☛ Return to the start position and repeat several times.

Medical Resources

A wide variety of medical resources are available to people with back problems. If you suffer a back injury, obtain expert medical advice on which form of therapy will be best for you.



QUIZ

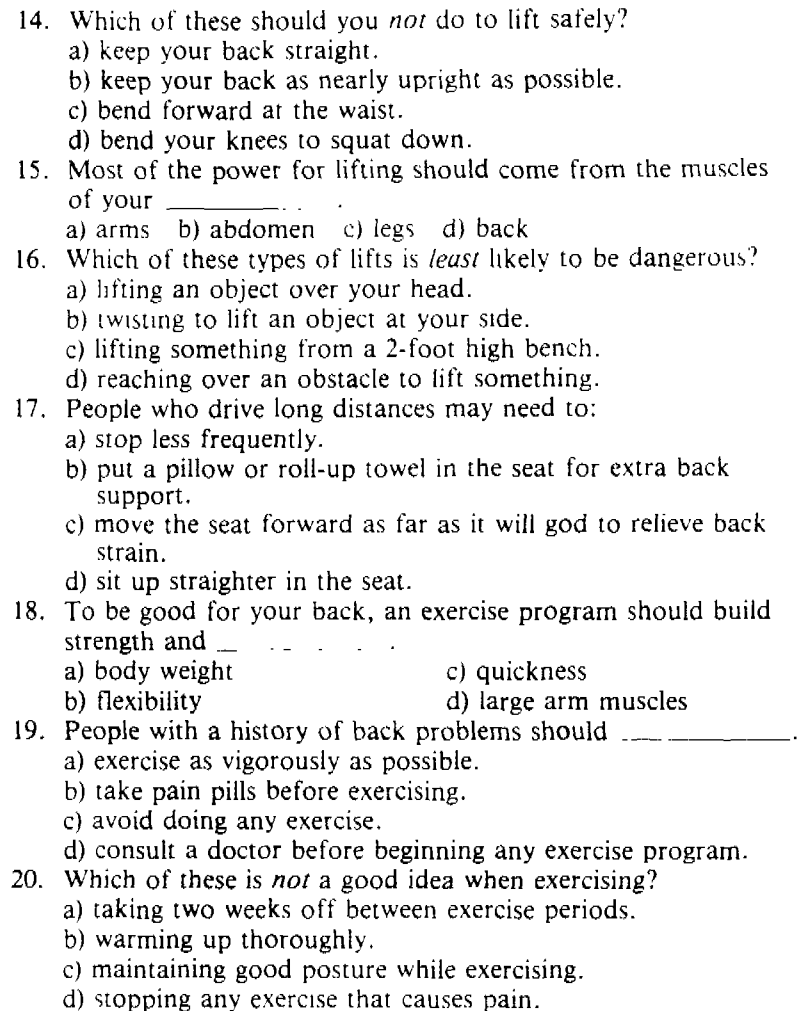


For questions 1 to 10, say whether each statement is *true* or *false*.

1. TF According to OSHA, back injuries are our most serious work place safety problem.
2. TF The muscles of the abdomen help support the back.
3. TF Shoes with raised heels are the safest to wear when lifting.
4. TF Obstacles should be moved out of your path while you are carrying a load.
5. TF You should exhale completely before lifting anything.
6. TF Heavy objects should be stored off the floor when possible.
7. TF To have good posture, stand as stiff as possible.
8. TF The kind and amount of food you eat can affect the health of your back.
9. TF The more strenuous a sport is, the more it will help your back.
10. TF Some forms of therapy might be good for one person's back injury, but harmful for another's.

For items 11 to 20, choose the answer that best fills in the blank or answers the question.

11. The spinal _____ act like shock absorbers between each pair of back bones.
a) ligaments b) discs c) muscles d) nerves
12. When pulling an object, you should bend _____.
a) your knees, but not your waist.
b) your waist, but not your knees.
c) your knees and your waist.
d) neither your knees nor your waist.
13. For a safe lift, where should your load be?
a) to one side of you.
b) as far away from you as possible.
c) about 24 inches away from you.
d) as close to you as possible.



ANSWERS TO QUIZ



1. True
2. True
3. False. The lower the heel of your shoe is, the better balance it will give you.
4. False. It's much safer and easier to move obstacles *before* you load up.
5. False. You should take a breath and hold it, to build up pressure inside your chest and abdomen. This will help support your spine.
6. True
7. False. The best standing posture is erect, but not stiff. The curves of the spine are *naturally* balanced.
8. True
9. False. Some strenuous sports can strain the back or damage it in other ways.
10. True
11. b. discs
12. a. your knee, but not your waist.
13. d. as close to you as possible.
14. c. bend forward at the waist.
15. c. legs.
16. c. lifting from a 2-foot high bench.
17. b. put a pillow or rolled-up towel in the seat for extra back support.
18. b. flexibility.
19. d. Consult a doctor before beginning any exercise program.
20. a. taking two weeks off between exercise periods.

Anhydrous Ammonia
Asbestos
Back Safety
Carpal Tunnel Syndrome
Chemical Process Safety
Chlorine Safety Series
Commercial Driver Series
Confined Space Series
Driving Awareness
Electrical Safety Series
Emergency Planning Series
Ergonomics
Fire in the Workplace
Fly Ash
Forklift Safety
Hand Safety
Hazard Communication
Hazardous Waste
Transportation Series
HAZWOPER Training Series

Hearing Protection
Heat Stress
Indoor Cranes
Lab Safety
Lockout/Tagout
Low-Lift Trucks
Pollution Prevention Series
Respiratory Protection Series
Right-to-Know Series
Safety Orientation
Saving Sight
Slips, Trips & Falls
Smoke-Free Workplace
Stairways & Ladders
Static Electricity
Substance Abuse
Trenching & Shoring
Video Display Terminals
Welding Safety Series

Back Safety
Computer Comfort
Fire (Acute Care)
Fire (Long-Term Care)

HAZWOPER TRAINING SERIES
Hazard Communication
Infectious Medical Waste
Medical Lab Safety
Slips, Trips and Falls