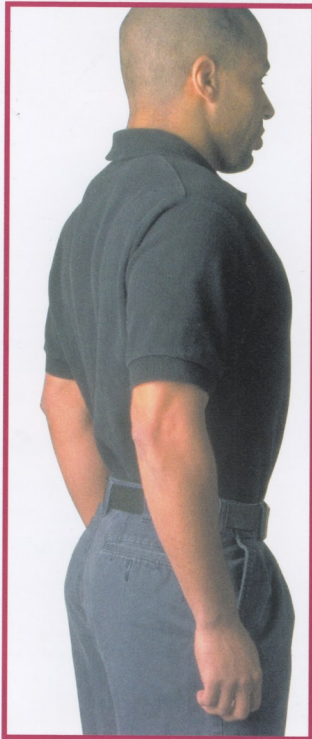


SAVE A BACK^{INC.}

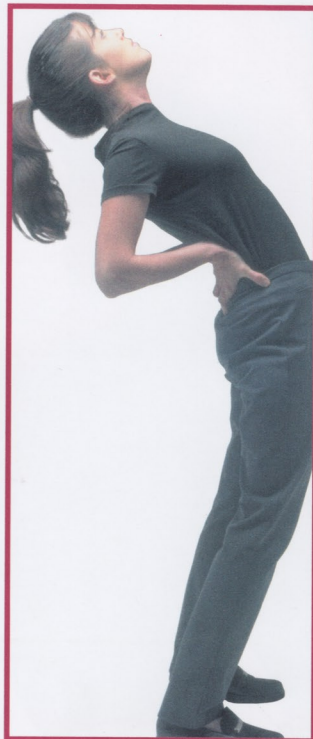
Eliminating Injuries Through Education



posture



mechanics



flexibility



fitness

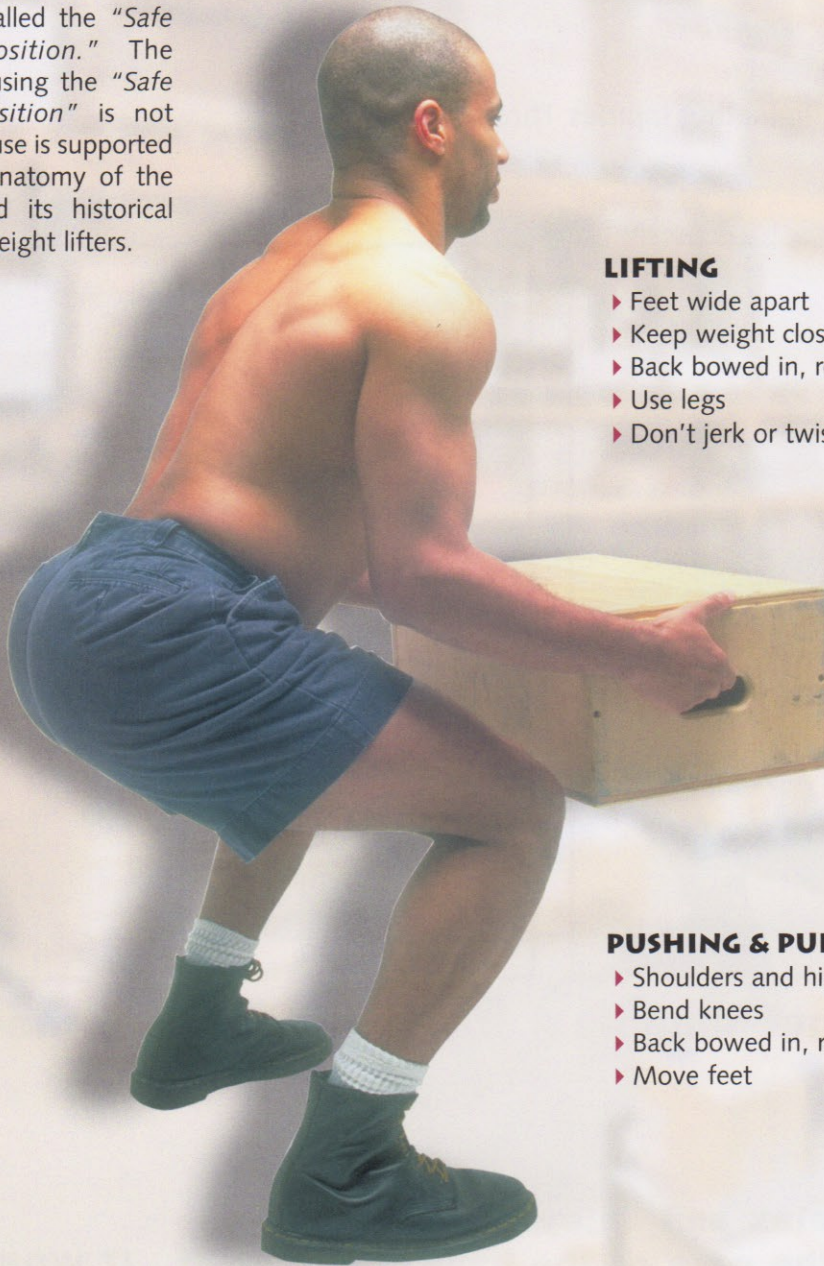
**Relax and Enjoy as You Learn!
This Program for the care of the back is different...IT WORKS!**

ClassNotes

▶ **SAVE A BACK**

recommends that the best position to use while lifting, pushing, and pulling is "Rear Out and Back Bowed In." This is called the "Safe Back Position." The idea of using the "Safe Back Position" is not new; its use is supported by the anatomy of the back and its historical use by weight lifters.

With **SAVE A BACK** you can learn to protect your back when you safely and responsibly follow the techniques described in the **SAVE A BACK** program.



LIFTING

- ▶ Feet wide apart
- ▶ Keep weight close
- ▶ Back bowed in, rear out
- ▶ Use legs
- ▶ Don't jerk or twist

PUSHING & PULLING

- ▶ Shoulders and hips facing in the same direction
- ▶ Bend knees
- ▶ Back bowed in, rear out
- ▶ Move feet

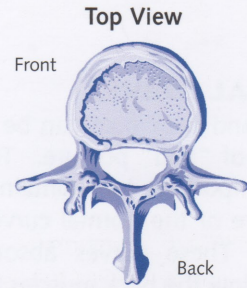
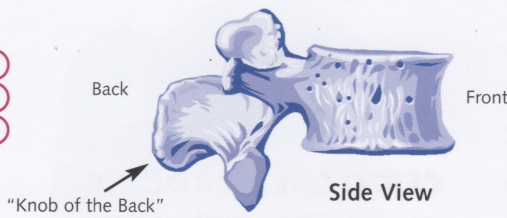
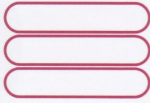
KEEP THE BACK BOWED IN AND THE REAR STICKING OUT WHILE LIFTING, PUSHING, AND PULLING.

MOVE FEET AND BODY IN THE DIRECTION OF THE LIFT, PUSH, OR PULL.

Anatomy Structure of the Spine

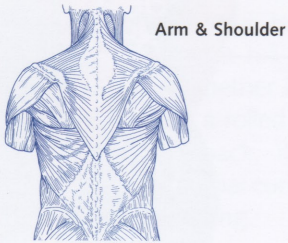
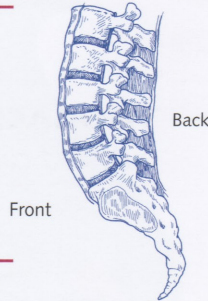
VERTEBRAE

- ▶ Cervical - neck
- ▶ Thoracic - mid back
- ▶ Lumbar - low back



LIGAMENTS

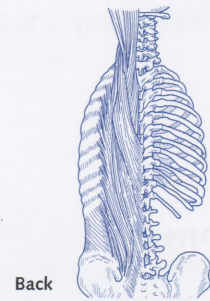
- ▶ Front - Thick
- ▶ Back - Thin
- ▶ Connect bone to bone
- ▶ Restrictive "plastic coating"



Arm & Shoulder

MUSCLES

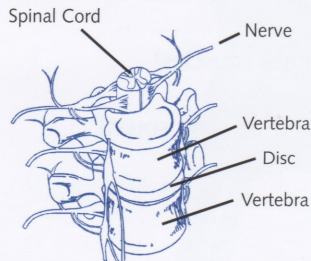
- ▶ Arm and Shoulder
 - ▶ Back
- Strong structures
Don't get hurt unless there is violence



Back

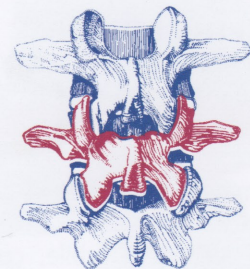
NERVES

- ▶ Cause muscles to work
- ▶ Pain and Sensation
- ▶ "The Pinched Nerve"



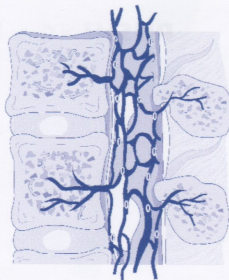
FACET JOINTS

- ▶ Where 2 vertebrae come together in the back of the spine
- ▶ Can be sprained



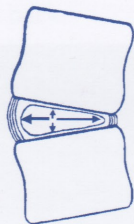
BLOOD SUPPLY

- ▶ Arteries & Veins
- ▶ Good supply to bone
- ▶ No direct supply to disc

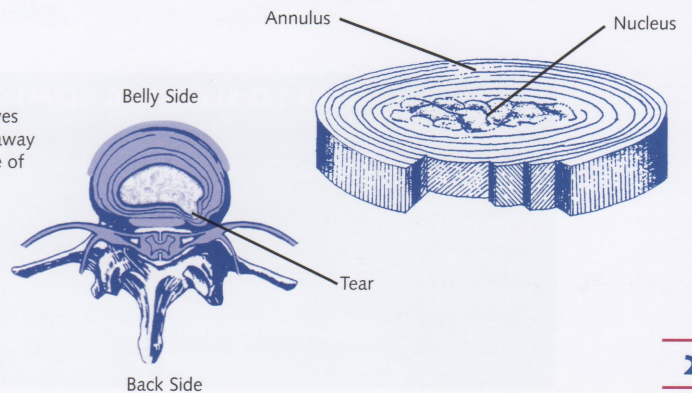


DISCS

- ▶ Annular Rings
- ▶ Fibers are at different angles
- ▶ Thick in the front and sides
- ▶ Thin in the back
- ▶ Nucleus Pulposus or
- ▶ Under great pressure
- ▶ Allows for movement
- ▶ Can be injured



Bending moves the nucleus away from the side of the bend.



Posture Standing & Sleeping

▶ SPINAL CURVES

Back and neck pain can be a simple result of “bad” posture. Therefore, it is important to maintain “good” posture or the normal curves of the spine. These curves absorb shock and allow the back muscles to have a mechanical advantage. Bad posture puts more stress on the joints and discs of the spine. It also requires the muscles to work harder to hold the body up against gravity. When the muscles work harder over time, the tension increases and may lead to back pain and injury. To prevent injury and discomfort, keep good posture during daily activities.

CERVICAL LORDOSIS

inward curve of the neck

THORACIC KYPHOSIS

outward curve of the mid back

LUMBAR LORDOSIS

inward curve of the low back



▶ STANDING

Tips to remember with standing jobs.

- ▶ Wear supportive/comfortable shoes.
- ▶ Keep weight at the middle of both feet with toes pointing relatively forward.
- ▶ Slight bend in the knees.
- ▶ Hold chest up against gravity—use stomach and back muscles!
- ▶ Hold shoulder blades down and back.
- ▶ When standing for any length of time, stop, break it up, and squat!

▶ SLEEPING POSTURES

There is no “right” posture for sleeping, and there is no “right” mattress for everyone. If your spine is healthy and flexible, you can sleep in any position. You may even be able to sleep on your stomach. If your back is uncomfortable after sleeping a while, consider these things:

1. How flexible are you?
2. Is your mattress too hard or too soft?
3. Do you use a large pillow?

TIPS TO SLEEPING COMFORTABLY

- ▶ Mattresses:
Should allow the rear and the shoulders to sink and support the low back curve.
- ▶ Waterbeds:
Fill them up to give support to the curves of the spine.
- ▶ Pillows:
Use a small pillow under the head when sleeping on the back and a medium pillow when sleeping on your side.



▶ **LUMBAR ROLL OR SUPPORT**

Most chairs come with some type of back support. However, people come in different sizes and would benefit from different support. If your back hurts while sitting, try using a roll for support of the low back. Whether it is a McKenzie Lumbar Roll or a rolled up towel placed at the low back, it is important to support the normal curves of your lower spine while sitting.

▶ **SITTING**

Tips to remember with sitting jobs.

- ▶ Weight on feet.
- ▶ Hips all of the way back in chair.
- ▶ Hips slightly higher than knees.
- ▶ Back bowed in with support.
- ▶ Hold chest up against gravity — use stomach and back muscles.
- ▶ Hold the shoulder blades down and back.
- ▶ Maintain spinal curves and head on top of the shoulders.
- ▶ Forearms supported, elbows at right angles.
- ▶ Wrists straight.
- ▶ When sitting for any length of time, stop, break it up, and bend back!

Flexibility Backward Bending

▶ BACKWARD BENDING

One of the most important exercises to do to maintain a comfortable back is to bend backwards. People bend forward many times every day; it makes sense to break it up and bend backwards!

If you just hurt your back while bending forward, bending backwards is an exercise to do to help resolve the pain. Start with 6 sets spread throughout the day.

A Set = _____

6 Press-ups

+ 4 more with a sag.

10

Start slowly and progress to a full arm press-up while keeping the pelvis on the floor. If you cannot lie down, try a standing backward bend. If you do not get a satisfactory result, consult your doctor or physical therapist.

Normal healthy back flexibility includes bending backward and bending forward. To loosen stiffness and gain normal movement, do 2 or 3 sets a day. Full normal movement can be obtained by continuing to stretch regularly.

Once there is normal movement in the back, maintain it and prevent back injuries by standing and bending back at least once a day. On days when there is a great deal of bending forward, break it up and bend backward frequently throughout the day!

Repetitions

Pain _____ sets-a-day

Stiffness _____ sets-a-day

Prevention _____ sets-a-day

STANDING BACKWARD BEND

- ▶ Stand with feet shoulder width apart and a slight bend in the knees.
- ▶ Hands on the low back.
- ▶ Bend back.

Repeat _____ Times



PRESS-UPS

- ▶ Lie face down and place the hands on the ground like doing a push-up.
- ▶ Keeping the hips on the ground, press the top half of the body up as far as possible.
- ▶ Lower down to the ground.

Repeat _____ Times

- ▶ Press up until the hips come off the ground, breathe out, letting the low back sag.
- ▶ Lower down to the ground.

Repeat _____ Times



▶ LEG STRETCHES

To maintain a healthy back and prevent injury, it is equally important to keep normal flexibility of the joints and muscles of the legs. If they are not properly stretched, these structures can lead to problems in maintaining good posture and in using good body mechanics.

CALF STRETCH - (back of lower leg)

- ▶ Stand with one foot out in front of the other, toes pointing forward.
- ▶ Bend front knee. Keep back leg straight and heel on floor. Lean forward and hold.
- ▶ Return to standing.
- ▶ Bend front knee. Now, bend back knee keeping heel on floor. Hold.
- ▶ Switch legs.



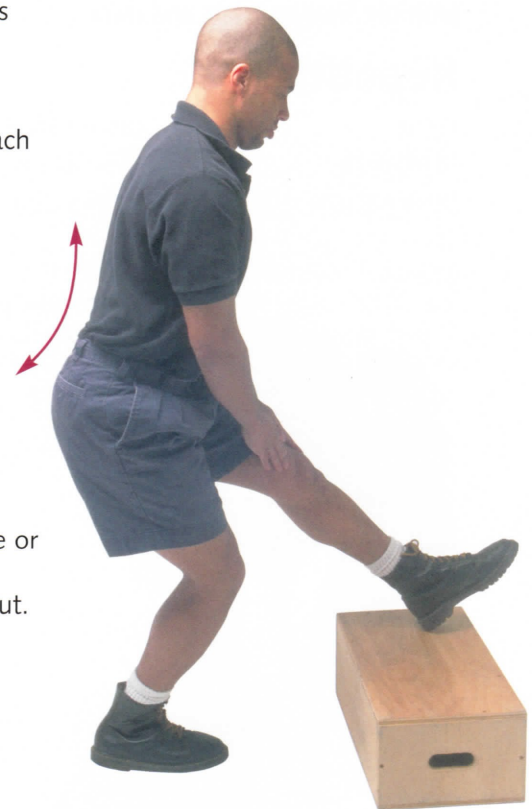
HIP & QUADRICEPS STRETCH - (front of thigh)

- ▶ Stand, bend one knee bringing heel towards buttocks.
- ▶ Reach back, grab foot and gently pull to buttocks.
- ▶ Standing straight keep thighs in line with each other and hold.
- ▶ Switch legs.



HAMSTRING STRETCH - (back of thigh)

- ▶ Stand with one foot up on something stable or in front of other foot.
- ▶ Keep the back bowed in and rear sticking out.
- ▶ Keep a slight bend in both knees.
- ▶ Bend forward at the hips. Hold.
- ▶ Switch legs.



TIPS ON STRETCHING

- ▶ Warm-up before you stretch.
- ▶ Hold for seconds.
- ▶ Repeat times.
- ▶ Start slowly and gradually increase.
- ▶ Stretch to the point of firm tension—not pain.
- ▶ Avoid bouncing.

FlexibilityNeck

▶ NECK CARE

"Bad" posture or a "forward head" causes wear and tear on the joints and discs potentially compromising the nerves. When a nerve is compromised, it can cause symptoms in the shoulder, arm and hand.

A forward head forces the muscles of the neck (including the upper trapezius) to work harder to hold the head up. Prolonged tension in these muscles can lead to pain and/or tension headaches.

Therefore, to relieve neck pain, break up forward head posture by reversing the position with a set of neck exercises.

A Set = _____

10 chin tucks

On #10, look up.

Maintain "good" posture by keeping the "head on top of the shoulders." Do the neck exercise throughout the day to relieve tension stress in the muscles and promote healthy joints and discs.

Repetitions

Pain _____ sets-a-day

Stiffness _____ sets-a-day

Prevention _____ sets-a-day



NECK EXERCISE

- ▶ Sit in good posture with back supported.
- ▶ Keep head level.
- ▶ Tuck your chin (make a double chin), then relax.

Repeat _____ Times

- ▶ On number **10** only, keep the chin tucked, tilt the head back, and look at the ceiling. Gently turn the head like saying "no" for no more than 30 seconds.
- ▶ Tuck chin and bring head back on top of shoulders.



TIPS ON NECK CARE

- ▶ Keep the head balanced "on top of the shoulders!"
- ▶ Maintain normal, natural spinal curves.
- ▶ Hold the chest up against gravity!
- ▶ Relax the neck muscles and hold the shoulder blades down and back.
- ▶ Break up the "bad" neck posture with chin tucks.
- ▶ Break up prolonged sitting by standing up and walking.

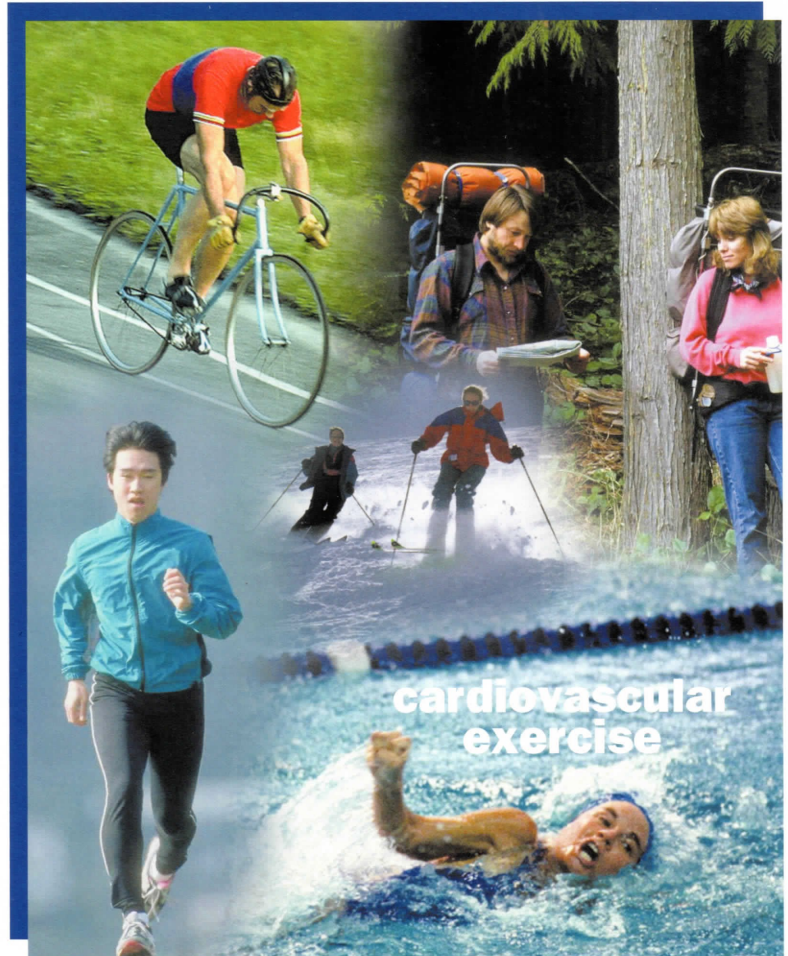
▶ **CARDIOVASCULAR EXERCISE**

In order to improve cardiovascular fitness, exercise vigorously enough to increase your heart rate (H.R.) to a training level.

_____ minutes-a-day,
_____ days a week for the
rest of your life!

This level is referred to as the "Target Heart Rate". Everyone has a different "Target Heart Rate" range which is based on their age. A safe range is between 60% and 80% of your maximum H.R.

Remember... You should consult your physician before you start any exercise program.



▶ **DETERMINE HEART RATE**

To determine your heart rate, feel the beats or your pulse on the front of the wrist near the thumb. Use index and middle fingers when feeling for a pulse. Count the pulse for 6 seconds and add a zero to that number. That gives the H.R. or number of beats per minute.

LOCATE YOUR PULSE



**COUNT FOR 6 SECONDS
THEN ADD A ZERO**

TARGET HEART RATE

220		220
-40	AGE	-
180	MAX H.R.	_____
X .7	70% OF MAX	X .7
126	TARGET	_____
<i>beats per minute</i>		<i>beats per minute</i>

TIPS TO EXERCISING SAFELY!

- ▶ Start slowly and progress as you can tolerate.
- ▶ It is good to vary your exercise program (cross train) to avoid over stressing the same tissues.
- ▶ Drink plenty of water.

▶ NUTRITION

Whether running marathons or taking walks, a balanced diet provides the energy to keep going. This energy is derived from calories. Calories come from food in the form of carbohydrates, protein, and fat. A varied diet that is lower in fat with more of the vitamin and mineral rich fruits, vegetables and whole grains is a great way to get the nutrients needed throughout life.

▶ BODY WEIGHT

Maintaining a healthy body weight by eating sensibly and participating in regular physical activity can lower a range of health risks. Cardiovascular disease and back pain are two health problems that can be reduced. Other benefits include improved strength and endurance for work and play while looking and feeling better!

$$\text{CALORIES IN (food)} - \text{CALORIES USED (physical activity)} = \text{BODY WEIGHT (gain or loss)}$$

Changing body weight is simple math. The calories that are consumed minus the calories that are used equals the body's weight. Taking in more calories than are used results in a weight gain or fat. Body fat is merely storage of excess calories. Using more calories than are taken in results in weight loss. Therefore to lose one pound of fat, use 3500 stored calories or take in 3500 less. Simple.

Many people are looking for a trick to maintaining a healthy body weight. Well, here it is. Muscle uses calories for energy and exercise increases the amount of muscle. Therefore not only do you use calories while exercising, the muscle that the exercise produces uses more calories, even at rest. The human body must move to stay healthy. Good nutrition and exercise are the foundations for a healthy life.



▶ WATER

Don't overlook water! It is an important fuel to keep you going. The body is 80% water. When participating in a physical activity, maintaining hydration is as important as the food you eat. Fluid regulates body temperature, transports glucose (energy) to muscles, and eliminates metabolic waste. Remember, thirst is not always a good indication of when you need to take a drink.

TIPS FOR PROPER NUTRITION

- ▶ Eat more fresh fruits, vegetables, and whole grains!
- ▶ Use lowfat or nonfat milk.
- ▶ Stay away from foods high in fat, sugar, and salt.
- ▶ Eliminate tobacco.
- ▶ Use olive oil or canola oil.

▶ POSTERS

Series of 9 large, colorful posters with excerpts from class education. Mailed every other month.

▶ REVIEW VIDEO

Recaps key points of education, safe body mechanics, and stretching exercises in a 15-minute program. Provided 6 months after class.



▶ "REFRESHER" CLASSES

To help you maintain optimum back health and safety, we suggest refresher education every 2 years. The 2-hour classes are available in 2 formats, either all education or education with additional class participation.

MCKENZIE LITERATURE AND PRODUCTS

Item #	Description
701	The Original McKenzie™ Lumbar Roll
702	The Original McKenzie™ Lumbar Roll-Firm
802-7	"Treat Your Own Back" by Robin McKenzie
803-3	"Treat Your Own Neck" by Robin McKenzie

For more information - Contact:

OPTP • P.O. Box 47009 • Minneapolis, MN 55447-0009
Toll-Free Order Line: 1-800-367-7393



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