

EXERCISES FOR STRONG BACK AND HIPS By Christine Snow Harter, Ph.D.

If you have osteoporosis, you might be wondering if you should exercise. These exercises can safely make your back, hip and stomach muscles stronger and help maintain flexibility. **Caution**: Check with your doctor or physical therapist before starting this or any exercise program to make sure that you won't place too much stress on your bones.

Although information is limited regarding the type of exercise most helpful for bones, we do know that putting stress (from gravity or muscular contraction) on bones at greatest danger of fracture from osteoporosis (spine, hip and wrist) strengthens these bones. These exercises apply proper force, or stress, on the spine through simple and exact back, stomach and hip muscle movement.

The exercises provide maximum benefit, ease and have been tested on more than 1,000 men and women between the ages of 18 and 85. Most had no complaints of pain or soreness, and there were no injuries.

*Important:* Begin with only one set of each exercise, and do all of them slowly. If at any time you feel pain, *stop*, and call your doctor. Most injuries result from an exercise being done too fast. So, be very exact and controlled in your movements.

The 30-second rest between sets may need to be increased depending upon your fitness level. If you are too tired after a 30second rest, increase the rest period to between 1 and 2 minutes. Please note the "goal" refers to the recommended number of repetitions to keep strength gained as you go from one set to the next. After the "goal" has been reached, weights (light) may be added to the arms and legs.

Once the "goal" is reached for each exercise, the program should take only  $\frac{1}{2}$  hour. It is recommended that the exercises be done at least 3 times per week and as much as 6 times per week.

Dr. Harter is an exercise physiologist and Associate Director of the Musculoskeletal Research Laboratory Aging Study Unit at the VA Medical Center, Palo Alto, California.



# EXERCISES

*Notes:* If you have not been involved in an exercise program, check with your doctor before starting this or any exercise program. *\*Chest Lift I, II and III are a series of exercises. Go to the next step when you can do the first one with ease, etc.* 

## PELVIC TILT

- *Position:* Lying on back, arms on floor with hands next to hips, knees bent and slightly apart, feet flat on the floor.
- *Action:* Begin by pressing the waist into the floor, then slowly lifting the vertebrae off the floor, starting with the lower back, then the middle and, finally, the upper back. Hold lift for 10 seconds, pressing the buttocks together tightly, and then roll down one vertebra at a time, starting with the upper back, the middle, and finally the lower back.
- *Goal*: 3 sets of repetitions each with a 30-second rest between sets.

*Purpose:* Strengthens hip and low back muscles.

#### LEG & ARM LIFT

- *Position:* Lying face down, legs together, right arm stretched out on the floor over the head, left arm relaxed on the floor by the left hip.
- *Action:* Lift head, right and left arms and left leg slowly off the floor. Hold for 5 seconds, then release. Repeat lifting right leg.
- *Goal:* 3 sets of 8 each with a 30-second rest between sets.
- Purpose: Strengthens back, hip and arm muscles.

#### CHEST LIFT I\*

- *Position:* Lying face down, legs slightly apart, chin on the floor, hands next to hips with palms turned upward.
- *Action:* Slowly lift the head and chest off the floor as high as possible, pressing the palms toward the ceiling and keeping the feet and thighs on the floor. Hold for 5 seconds, then release.
- *Goal:* 3 sets of 8 with a 30-second rest between sets. *Purpose:* Strengthens back, hip and arm muscles.

#### CHEST LIFT II\*

- *Position:* As in Chest Lift I, but rest tops of hands on either side of the middle back.
- *Action:* Slowly lift elbows, chest and head from the floor as high as possible, keeping the feet and thighs on the floor. Hold the arch for 5 seconds, then release.

*Goal:* 3 sets of 8 each with a 30-second rest between sets.

*Purpose:* Strengthen back and hip muscles.

### CHEST LIFT III\*

Position: Chest Lift I, but with hands behind the head.

*Action:* Slowly lift head and chest from the floor as high as possible, keeping the feet and thighs in contact with the floor.

- *Goal:* 3 sets of 8 each with a 30-second rest between sets.
- Purpose: Strengthens back and hip muscles.

#### **DIAGONAL LIFT**

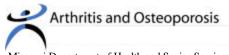
- *Position:* Lying on the right side, right knee bent, resting the weight of the upper trunk on the right forearm. The left leg is extended back and the left arm is reaching forward as far as possible, chest and head rotated toward the floor.
- *Action:* Lift the head, chest, left arm and leg together, using the right arm to help press the chest up. Hold 10 seconds, then release. Repeat on other side.
- *Goal*: 3 sets of 8 each with a 30-second rest between sets.
- *Purpose:* Strengthens back, shoulder and hip muscles.

#### **HEAD PRESS**

- *Position:* Sit in an upright chair, place hands on the back of the head (**not neck**) with fingers laced.
- *Action:* Resisting with hands, slowly press the head back against the hands while opening the elbows and looking toward the ceiling. Hold for 5 seconds.

Goal: 1 set of 8 repetitions.

#### Distributed By:



Missouri Department of Health and Senior Services P.O. Box 570; Jefferson City, Missouri 65102

#### National Osteoporosis Foundation

*Purpose:* Strengthens neck and middle back muscles.