

## **Exercise and Osteoporosis**

### *Reduce Your Fracture Risk*

#### **Why is exercise important?**

Exercise that is appropriate, regular and includes weight bearing is an important part of managing osteoporosis. Exercise has been shown to reduce the risk of fracture from osteoporosis. It can also positively affect many of the complications of osteoporosis.

Exercise can:

- Improve posture
- Decrease pain
- Improve mobility
- Strengthen muscles
- Improve balance
- Improve bone density or slow the loss of bone density
- Maintain and/or improve range of motion

#### **What type and how much exercise should you do?**

Exercise programs should be initiated after consultation with a physician. For people with osteoporosis or low bone density, a physical therapist can recommend an appropriate exercise program. Exercise programs may include postural exercises, aerobic activity (with a warm-up and cool-down period), weight bearing activity, stretching, balance training and strengthening.

- Start with the amount of exercise set up for you by your physical therapist and *gradually* increase as recommended.
- Perform an exercise program three to five days a week.
- Work up to 30 minutes of nonstop weight bearing exercise such as walking.
- Perform strengthening exercises for 10 repetitions or as prescribed by your therapist.
- Hold stretches for 20 to 30 seconds each and perform two to three repetitions or as specified by your therapist.
- If pain occurs with exercise or stretch, stop and consult a medical professional.

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## **Which Exercise is best for Building Bone Mass?**

The activities in Group 1 are the most effective for building bone. If you already have low bone mass, osteoporosis or are frail, choose safer options from Groups 2, 3 and 4.

### **Group 1: Weight Bearing High-Impact/Resistance Activities**

Aerobic Dancing	Lacrosse
Basketball	Racquet Sports
Dancing	Soccer
Field Hockey	Stair Climbing
Gymnastics	Tennis
Hiking	Volleyball
Jogging or Running	Weight Lifting or Resistance training
Jumping Rope	

### **Group 2: Weight Bearing Low-Impact Activities**

Cross-Country Ski Machines (avoid if you have balance problems and are at risk of falls)  
Downhill and Cross-Country Skiing (avoid if you have balance problems and are at risk of falls)  
Elliptical Training  
Low Impact Aerobics  
Stair-Step Machines  
Treadmill Walking  
Walking

### **Group 3: Non-Impact/Balance/Posture/Functional Activities**

Balance Training Exercises  
Functional Exercises  
Pilates (avoid forward-bending exercises)  
Posture Exercises  
Tai Chi  
Yoga (avoid forward-bending exercises)

### **Group 4: Non-weight bearing non-impact activities**

Bicycling and Indoor Cycling  
Deep Water Walking  
Stretching and Flexibility Exercises (avoid forward-bending exercises)  
Swimming  
Water Aerobics

**Note: All exercise should be completed with proper postural alignment.**

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### Exercises to avoid

Exercises where you bend forward (flexion exercise) or twist from the spine should be avoided. The pictures below show examples of these exercises.



These exercises compress the vertebral bodies which may cause compression fractures.

The figure at right shows spine changes that may occur with compression and wedging of the vertebra.

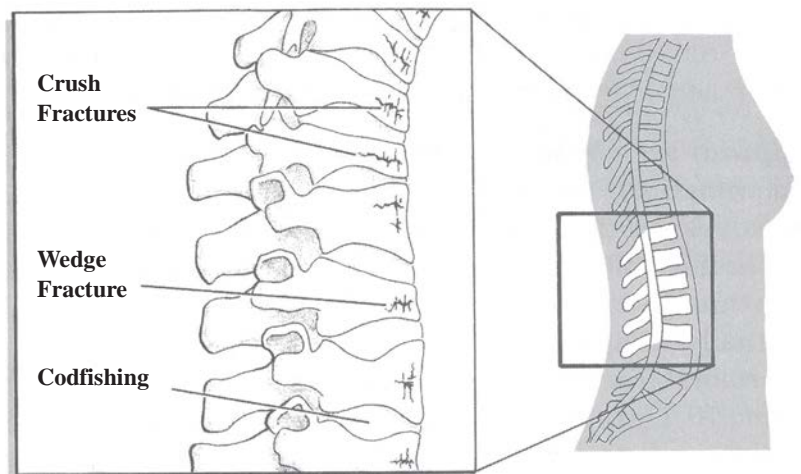


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## Exercises to perform

Your physical therapist has provided you with exercises that are appropriate for you at this time. Exercises that emphasize backward bending (extension) of the spine improve flexibility and allow for improved posture and good joint motion. Below are some examples of these exercises.



Other appropriate exercises include weight bearing through the arms and legs, flexibility and strengthening exercises, and activities to improve balance.



## Other exercise tips

- Stay active! Inactivity is the worst thing for osteoporosis.
- Exercise every part of the body.
- Move smoothly and gently, with slow speed.
- Count out loud to avoid holding your breath while exercising.
- Be aware of proper posture when exercising and walking.
- Your bones are alive and changing as long as you are. Proper exercise and diet **will** make a difference.