

# Osteoarthritis

## Treatment through Exercise

**P**roper treatment for osteoarthritis will help control pain and other symptoms, and let you live a more vigorous, satisfying life. Exercise is a vital part of osteoarthritis treatment: It's a scientifically proven way for you to help yourself. The right kind of exercise will benefit the joints that have been damaged by osteoarthritis, and it will boost your overall energy and ability to enjoy your favorite activities. Different kinds of exercise – aerobic, strengthening, flexibility, and specific joint exercises – can improve your health in different ways.

### Aerobic Exercise

Raising your heart rate strengthens your heart and lung power. It gives you energy and increases your endurance, letting you do the things you want to do. It helps break the vicious cycle of pain, stiffness, and inactivity that can lead to disability.

Depending on the joints involved, swimming, walking and cycling (perhaps on a stationary exercise bicycle) are often the best exercises for people with osteoarthritis. The goal: 30 minutes of activity, most days of the week. However...

- **Start Slowly.** If you're out of shape, walk (or swim or cycle) for no more than five minutes at a time. (Even two minutes is fine.) Do this several times per day if you can.
- **Build Up Gradually.** Increase the length of your sessions by 10%

each week. (If you are walking for 10 minutes a day, make it 11 minutes.

- **Challenge Yourself.** But don't push too hard. The idea is to get your heart pumping harder than usual, even to break a sweat. You may be a little out of breath, but you should be able to carry on a conversation while you work out.
- **Maintain A Healthy Body Weight.** Carrying extra body weight can make your joints wear out faster. Even losing a few pounds leads to much less force and pressure across the arthritic joint. Exercise, combined with healthy eating, is the best strategy for successful, permanent weight loss.

### Strength & Flexibility Training

Lifting light weights or using an exercise machine builds muscle throughout the body. Stretching keeps you limber. As your doctor or physical therapist about a full-body strength and flexibility workout. You will also need specific exercises for affected joints. (Next section.)

### Joint Exercises

A workout for arthritic joints can reduce pain and stiffness, improve motion of the joint, and prevent further damage. Dr. Re, or a physical therapist can prescribe a routine tailor-made for you. For a sample pro-

gram for patients who have arthritis of the knee joint, see "Knee Exercises," on the reverse side of this brochure.

### Precautions

Common sense safety precautions will help you succeed.

- **Warm Up.** Begin by warming up (with walking or other light aerobics) just before a stretching and strengthening workout session.
- **Pain Relief.** You may be advised to take a pain-relieving medication for greater comfort.
- **Ice.** Applying ice to your knee or other other arthritic joint for 15 to 20 minutes after a workout will reduce soreness and help prevent swelling.
- **Continuing Pain.** Some muscle ache or minor, tolerable, joint discomfort after exercise is normal. But if your joints are more painful that night or during the next few days, suspend your workouts until consulting our office. Small changes in your program can usually get you back on track.



# Knee Exercises

A sample workout is illustrated for the knee, the joint most often affected by by osteoarthritis.

## Strengthening Exercises

(Figures 1-3): These build the muscles that support and protect the knee.

To strengthen the quadriceps muscles at the front of the thigh (Figure 1), lie on your back on a firm, flat surface. Keep one leg straight and the other bent. Working the straight leg, tighten the muscles at the front of the thigh, and slowly lift the leg 6 to 8 inches. Hold 5 to 7 seconds. Repeat 12 times, then work the other leg. When this is comfortable, add a 2-pound ankle weight. Work up to three sets of 12 repetitions.

To strengthen the hamstring muscles at the back of the thigh (Figure 2), lie on your stomach. Lift one leg slowly 2 to 4 inches. Hold 5 to 7 seconds. Build up to three sets of 12 repetitions with each leg.

To build calf strength (Figure 3), stand leaning lightly against a countertop, then slowly rise on your toes. Build to two sets of 12 repetitions.

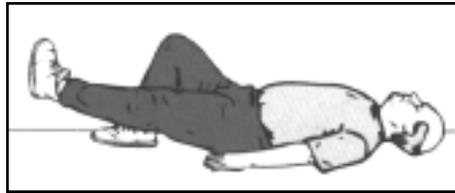
## Flexibility Exercises

(Figures 4-5) These movements are designed to fight stiffness and muscle tightness.

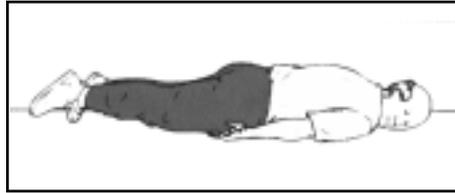
To stretch the hamstrings (Figure 4), sit on the floor with one leg forward and the other bent so the foot rests inside the knee. Lean toward your toes, until you feel stretch but not pain behind your knee. Relax and breathe easily as you hold for 15 to 20 seconds. Do not bounce. Repeat 5 to 7 times on each side.

To stretch the quadriceps muscles (Figure 5), hold onto a countertop for support, then raise your foot to the rear, bending at the knee. With your hand, gently pull you foot toward your buttocks until you feel a gentle stretch in the front of your upper leg. Repeat 5 to 7 times.

## Strengthening



1. **Quadriceps Strengthening**



2. **Hamstring Strengthening**



3. **Calf Strengthening**

## Flexibility

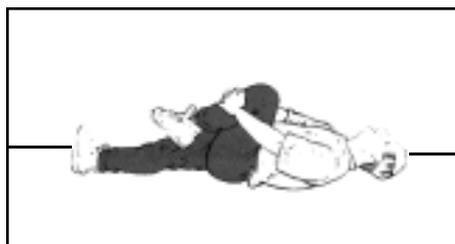


4. **Hamstring Stretch**



5. **Quadriceps Stretch**

## Range of Motion



6. **Knee Bending**



7. **Knee Straightening**

## Knee Range-of-Motion Exercises

(Figures 6-7): The remaining exercises improve or maintain knee motion and reduce knee stiffness.

Lie on your back (Figure 6) and bring your knee toward your chest. Grasp your shin and gently bring your heel toward your buttocks as far as

the knee allows. Hold 5 to 7 seconds. Repeat the exercise five times.

Carefully sit up and straighten the leg as much as possible (Figure 7: resting the heel on a phone book can help). Gently press on the knee, trying to fully straighten the leg. Hold 5 to 7 seconds.