



# Hughston Health Alert

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**THE AGELESS ATHLETE**

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## Activities After Total Hip Replacement

A total hip replacement is one of the most successful procedures available in orthopaedic surgery today. More than 150,000 total hip replacements are performed annually in the United States alone. The primary goal of the hip replacement is pain relief.

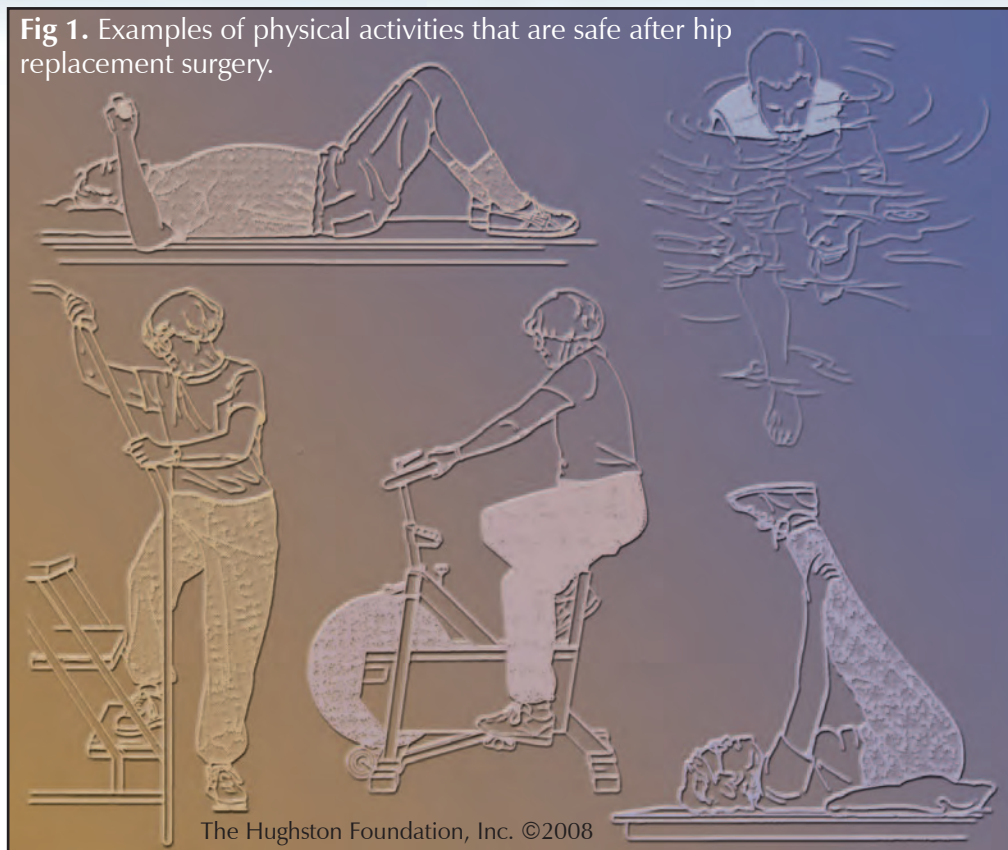
Because this goal is readily achieved in a majority of patients, improvement in function is an additional benefit.

While for many people the ability to walk and carry on routine activities of daily living without pain is enough, more and more total hip patients are asking questions about their limits of physical activity.

There is little actual scientific data to help the surgeon answer the patient's questions about activity limits. What is known is that total hip replacements have a limited life expectancy, which probably varies from patient to patient and depends on many different factors. Breakage and wear of the artificial joint are theoretically potential problems, but they have not been as significant a problem as has loosening of the prosthesis.

The forces generated in a total hip replacement during normal walking are about 1½ to 3 times body weight. With activities such as running and jumping, these forces can reach 4 to 6 times body weight. Because long-term information about total hip replacement in the physically active population is not yet known, most surgeons take a fairly conservative approach to activity following replacement.

**Fig 1.** Examples of physical activities that are safe after hip replacement surgery.



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The sequence of rehabilitation is usually as follows. During the first 6 weeks, most patients are restricted to some sort of partial weightbearing using either crutches or a walker. In the second 6 weeks, a single support, such as a cane or one crutch is recommended. Driving an automobile is usually possible after the first 6 to 8 weeks. Once the patient has advanced to walking without any external supports (usually at about 12 weeks), general walking activities should be increased.

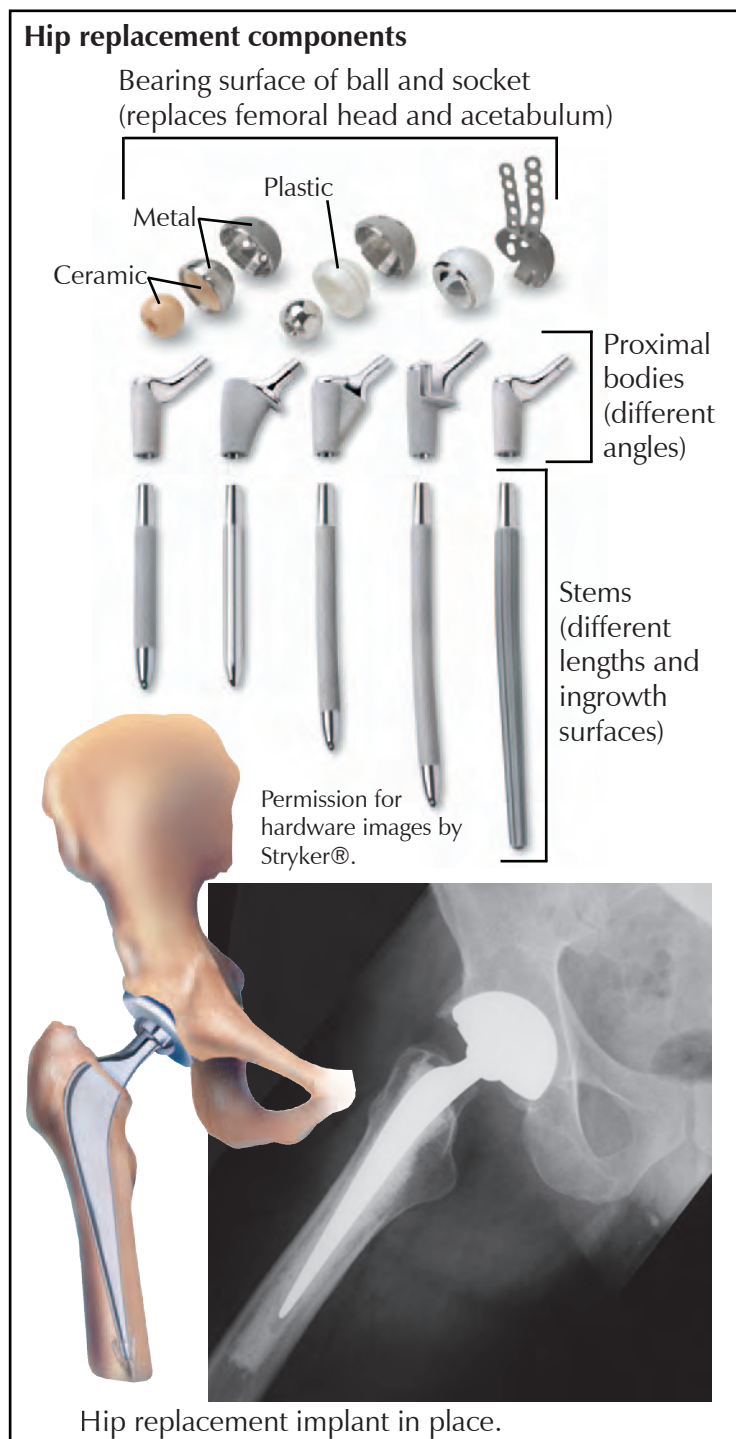
Ultimately, most total hip patients can participate in a number of rewarding recreational physical activities—for example, walking, bicycling, golf, hiking, hunting, swimming, rowing, and cross country skiing (Fig. 1). High impact activities—running, jumping, heavy lifting, and contact sports—should be avoided because they increase the forces across the hip or involve strong bending and twisting forces.

Total hip replacement is an extremely gratifying operation for both the patient and the surgeon in the majority of cases. Particularly in a younger individual, and with

increasing life expectancy, care of the total hip replacement is an important aspect of the patients' overall health. With common sense and careful preparation the patient can return to a full range of recreational and vocational activities well above and beyond the basic activities of daily living.

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## Arthritis — An Overview

Do you have pain, stiffness, or redness in one or more of your joints? Are your fingers swollen and deformed? Is your hip or knee sore and stiff after you've been walking or exercising? Have you ever experienced a sudden attack of pain and swelling in your big toe in the middle of the night?

All of these symptoms may be caused by arthritis, a condition that affects millions of people of all ages and from all walks of life. The questions are what kind of arthritis and what can be done to treat these aches and pains, the stiffness and swelling, and the difficulty in moving fingers, knees (Fig 1), or hips?

The more you know about your disease, the better you will be able to adapt. It is helpful to know that most people with arthritis are able to lead productive lives, although activities may need to be modified to help preserve joint function.

### What is arthritis?

Arthritis is not a single disorder but a general term used to describe a number of different conditions that cause acute or chronic inflammation of one or more joints. These conditions are usually accompanied by pain, swelling, stiffness, redness, and frequently, changes in the joint's physical structure. The most common forms of arthritis are osteoarthritis (Fig 2), rheumatoid arthritis, and gout.

Arthritis affects people in different ways. Depending on its form and severity, one joint or many may be involved. The pain can vary from mild to severe. Some individuals may have long periods of no pain interspersed with episodes of sudden, unexpected attacks. Others may experience long-term mild aches, stiffness, and inconvenience. Some people may suffer severe pain, joint deformity, and difficulty walking or using their fingers.

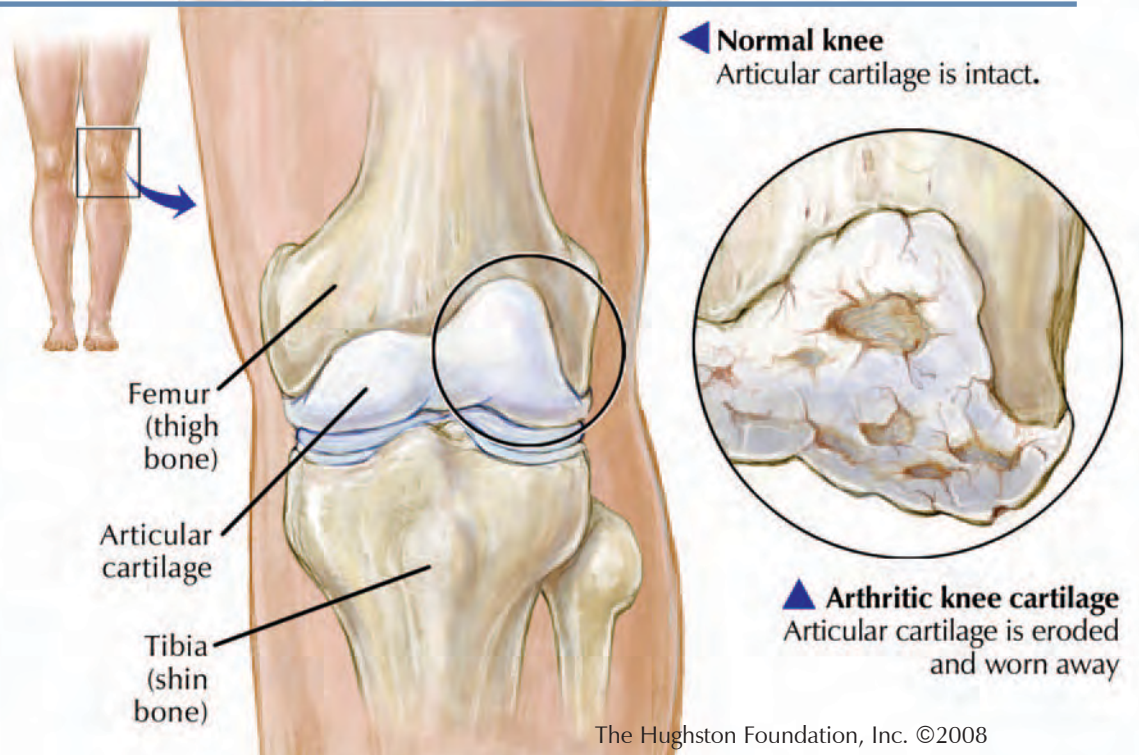
### How can arthritis be treated?

Treatment is tailored to the individual needs of each patient. Although there is no known cure for the primary types of arthritis, early diagnosis can be very important. Treatment can help reduce inflammation, alleviate pain, maintain and improve joint function, correct joint deformity, and minimize subsequent disabilities. A comprehensive treatment program includes medications, diet therapy, physical therapy, and occupational therapy.

Anti-inflammatory drugs are frequently used to provide relief from the pain and to reduce the inflammation associated with osteoarthritis and rheumatoid arthritis. For severe cases of inflammation, a corticosteroid may be injected directly into the affected joint to relieve pain and to restore mobility. However, because these injections can have adverse effects on the joint cartilage, they must



**Fig 1.**  
Comparison of  
a normal and  
arthritic knee.



be used cautiously. Specific medications, along with diet therapy, may be used to control gout.

Physical therapy may include supervised exercises to strengthen your muscles and to help you maintain joint flexibility; various types of heat and cold therapy; guidelines for balancing exercise with rest; and posture rules to assist you in standing, sitting, and lying correctly. People who are obese are advised to lose weight if they have arthritis in any of their weight-bearing joints, such as the hips or knees.

Occupational therapy is directed at helping you adapt to a lifestyle within the limitations of your condition and at minimizing the stresses placed on the involved joints. Special assistive devices can be used to achieve these goals.

For patients whose joints are so badly damaged or unstable that their pain cannot

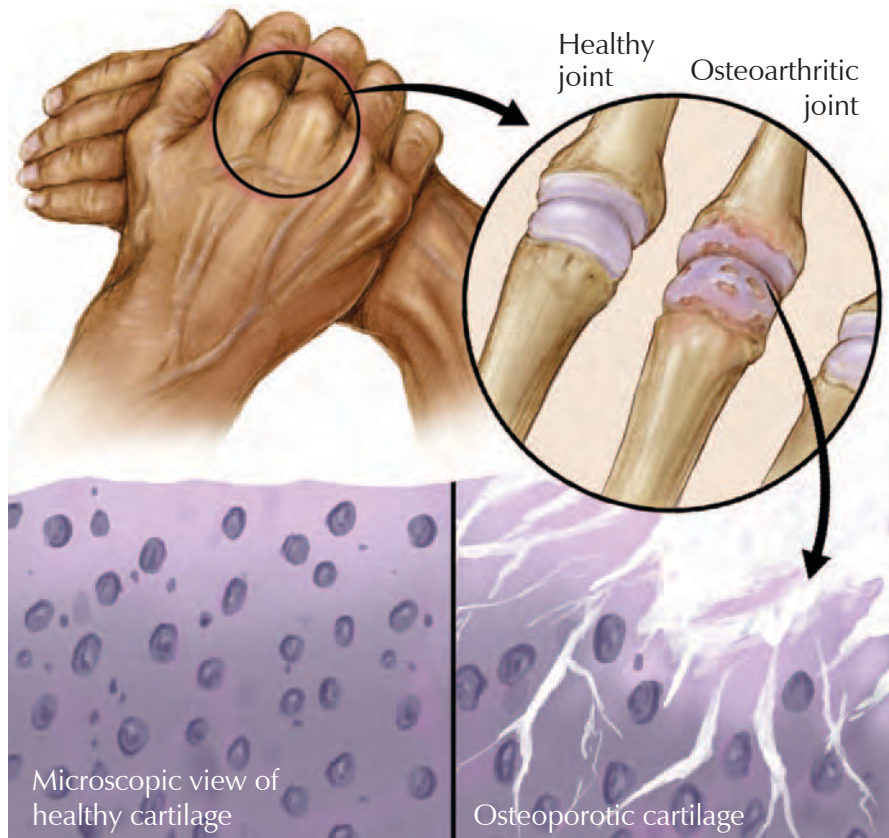
be controlled or their disabilities cannot be corrected by nonsurgical methods, orthopaedic surgery may be necessary. Surgical techniques have advanced greatly in the past 10 years and are very effective in relieving debilitating pain and in improving the patient's level of activity. The type of surgery

that is selected depends on the patient's individual condition. Diseased tissue may be removed from the arthritic joints, bones in the joint may be fused together (arthrodesis), or the joint may be replaced with an artificial substitute (arthroplasty).

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**Fig 2.** Osteoarthritis



# Walking for Aerobic Exercise

## FUN OR FITNESS?

### WHAT'S THE BOTTOM LINE?

Increasing numbers of persons are engaging in fitness activities such as walking, jogging, swimming, bike riding, etc. We have become familiar with the idea that the best exercise is aerobic exercise or activity that requires the body to improve its capacity for handling oxygen. Aerobic exercise results in beneficial changes in the lungs and cardiovascular system.

#### Basic guidelines

The several factors to consider before selecting a cardiovascular or cardiorespiratory fitness activity all revolve around the quality and quantity of exercise. Probably most important is to never embark on such an exercise program without the advice or monitoring of your personal physician.

The American College of Sports Medicine makes the following recommendations for individual wishing to engage in a cardiovascular fitness program. While a program such as this is the goal, each individual should build up to this level at his or her own comfortable pace.

1. Frequency:  
3 to 5 days per week
2. Intensity:  
60% to 90% of maximum heart rate  
(max HR = 220 – age)
3. Duration:  
15 to 60m minutes
4. Mode of activity:  
Any activity that uses large muscle groups, that can be maintained continuously, and is rhythmic in nature.

Obviously, duration depends on intensity of activity; a person working at 90% maximum heart rate will probably tire quicker than a person working at 60%. We recommend that the non-athletic exercising adult work at lower intensities for longer durations; for example, 70% to 75% intensity for 45 minutes. We believe that there are fewer hazards and high compliance associated with lower intensity training.

#### Walking aerobically

Walking has emerged as a popular form of aerobic exercise because it is convenient, it requires no special equipment except a good pair of shoes, and it is probably the safest activity for the older individual, the cardiovascularly impaired, and those individuals predisposed to orthopaedic injury.

Using “heavy hands” has recently become popular in

conjunction with aerobic walking. Research by the Committed Fitness staff indicates that heavy hands may not be as helpful as claimed, however. While there is a greater amount of work performed using a “vigorous” arm swing, using hand weights does not appear to change energy cost as much as proponents claim. The true effectiveness of using hand weights, ankle weights, and hip weights while performing aerobic activities is still under study. More research is needed to evaluate different combinations of weight carried and to examine any gait abnormalities due to the excess load. Our current opinion is that research is not conclusive enough to recommend hand weight use as a necessary part of aerobic training process.



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**Fig 1. Standing back extension:** Stand with your hands in the small of your back and feet apart. Gently lean backward, keeping your knees straight. Hold this position briefly. Return to an upright position. Repeat 15 times.



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**Fig 2. Heelcord stretching:** Lean into a wall (or chair) with your weight on your heel, your knee straight, and your foot slightly pigeon-toed. Lean in far enough to feel the stretch in the back of your calf. Hold for 10 counts. Relax. Repeat 15 times.



We further recommend that individual with a history of heart disease abstain from hand weight use.

Stride length when walking is another consideration. Walk in a manner that is within your normal stride, in which the horizon stays level. Refrain from an excessive stride length; instead, vary your stride frequency, or pace (the number of steps you take per minute).

A good flexibility program should be included in any walking program and should consist of standing back extensions and some form of heelcord and hamstring stretching (Figs. 1-3).

### The bottom line

Is walking a good cardiorespiratory fitness activity? The answer is yes, if it is performed according to appropriate guidelines. A casual stroll is probably not sufficient exercise for an average individual. Walking is definitely a great activity for initiating a fitness program. Many walkers may,



**Fig 3. Hamstring stretching:** Sit along the edge of a bench with one leg stretched out in front of you and the other dangling over the edge. Or sit on the ground with one leg out in front of you and the other bent and relaxed. Lean forward with your chin aimed toward your toes. Your knee should be straight from your hip. (No bouncing.) Stretch for 3-5 minutes.

as time progresses, advance to more strenuous activities, such as jogging, once heart rate goals are no longer attainable through a walking program. For others, simply walking aerobically can remain an adequate program. In essence, "the race is not always to the swift, but to those who keep moving..."

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## Osteoporosis

### AM I AT RISK?

#### What is osteoporosis?

Osteoporosis, or "thin" bones, is a disease that gradually weakens bones, making them more fragile and likely to break. It is not a form of arthritis. Osteoporosis leads to an increase in certain types of fractures (broken bones), such as hip fractures, wrist fractures, and compression fractures of the spinal vertebrae (back bones) (Fig. 1) Although it can occur in men or women at any age, this condition most commonly affects women after menopause.

Our bones are dynamic tissues; new bone is constantly growing to replace old bone. The rate of new bone growth changes as we age. Bones grow quickly during childhood and adolescence and thicken during early adulthood. Between ages 25 and 35, our bones reach their maximum thickness, which is considered "peak bone mass." After early adulthood, bones begin to lose mass faster than they can replace it. In women, the rate of bone loss increases as estrogen levels decrease after menopause. Left unchecked, this bone loss can lead to osteoporosis.

Age-related bone loss in men occurs almost as rapidly as in women. However, men develop a greater bone mass while they are growing and do not experience the accelerated phase of bone loss that women have in their early menopausal years. Therefore, osteoporosis generally occurs less frequently in men.

#### Risk factors

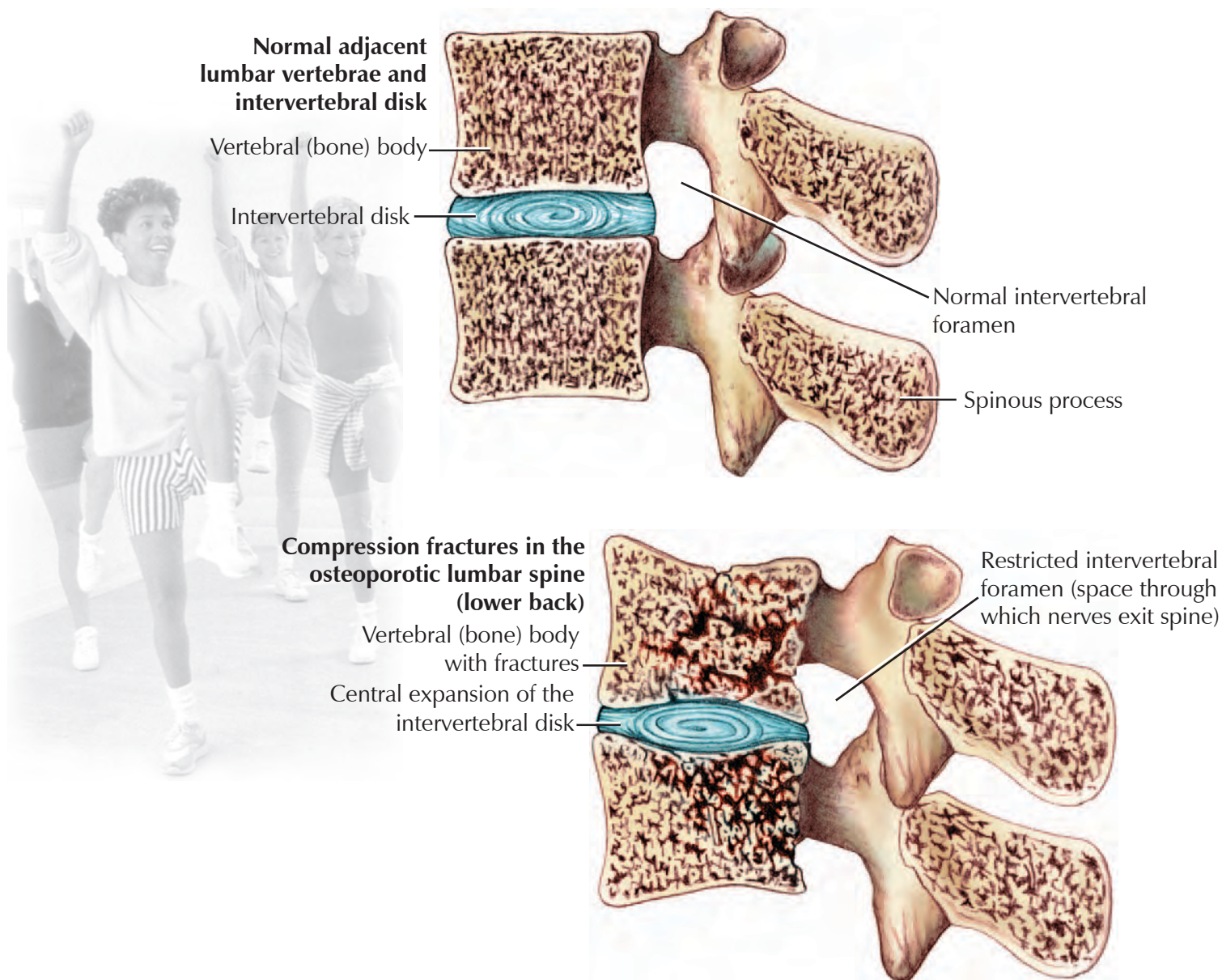
Several factors increase the risk of developing osteoporosis. They include hormonal status, heredity, lifestyle choices, use of certain medications, physical activity level, and associated disease states.

In women, menopause, which can occur naturally or as a result of surgery (removal of ovaries), is the most common risk factor. The chance of developing osteoporosis can be more problematic for women who have an early menopause because they prematurely lose estrogen. Men with a low testosterone level are also at risk for osteoporosis.

You are at increased risk if you have older relatives who have sustained certain fractures (e.g., hip, wrist, and spine), are hunched over, or have lost height because of osteoporosis. Women of all ethnic backgrounds are at risk for developing osteoporosis; however, white and Asian women are at a higher risk than other women are. Thin, petite, small-muscle women are at higher risk than other women are.

Beginning in your late teenage years, lifestyle choices affect the strength of bone and rate of bone loss. For example, alcohol is toxic to bones. Heavy drinking (i.e., more than two alcoholic drinks each day) can cause

**Fig 1.** Normal (healthy) spine compared to a spine with osteoporosis.



osteoporosis even if you do not have other risk factors. Smoking reduces bone mass and can interfere with estrogen function. You are at increased risk of developing osteoporosis if your diet has always been low in vitamin D and calcium, which are the substances that help the body build bone. When eaten in large amounts, protein-rich or salty foods may cause your body to lose calcium. Caffeine and certain medications, such as cortisone or excess thyroid hormone, increase calcium loss. (However, do not stop taking any prescribed medication without your doctor's approval.) Inactivity weakens bones. Over time, these weakened bones can become thinner and can break.

Bone loss is associated with a variety of diseases and conditions, such as Paget disease, multiple myeloma, anorexia nervosa, diseases treated with steroids, and malabsorption of calcium or vitamin D. Advanced kidney

and liver disease can contribute to an acceleration in osteoporosis. Osteoporosis is a characteristic of several endocrine (glandular) diseases, such as overactivity of the thyroid or parathyroid glands, excess production of growth hormone, Cushing syndrome, and hyperprolactinemia.

Osteoporosis can affect the quality of your life. Talk with your doctor about the factors that may put you at risk for this condition and about what you can do to prevent or treat it.

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## Are You Ready for Golf?

Golf has been one of the fastest growing sports for the past 5 years. It attracts men and women of all ages. Golf once was considered a very easy, nondemanding sport that required no preparation, only practice. In reality, however, golf demands output from some of your body's major systems, including the cardiovascular (heart) system, musculoskeletal (muscle and bones) system, and the neurologic (brain and nerves) system. These are the same systems that are challenged in football, soccer, basketball, and many other high-impact sports. Now ask yourself: do the athletes who play these sports have to warm-up and train? The answer is yes, for all these sports as well as for golf. Many quick and easy programs have been developed for golfers to warm-up once they reach the practice tee, but to reach your maximum potential while preventing injury, readiness must occur before you reach the golf course.

An average golf game takes 4 hours a round, which means you need the cardiovascular endurance to maintain your stamina and strength to finish the back nine as strong as the front nine (although maybe not on the score card!). For cardiovascular training, simply walking 20 to 30 minutes, 2 to 3 days a week, is sufficient. As always, before beginning any exercise program, you should see your physician. Once your doctor gives you the go ahead,

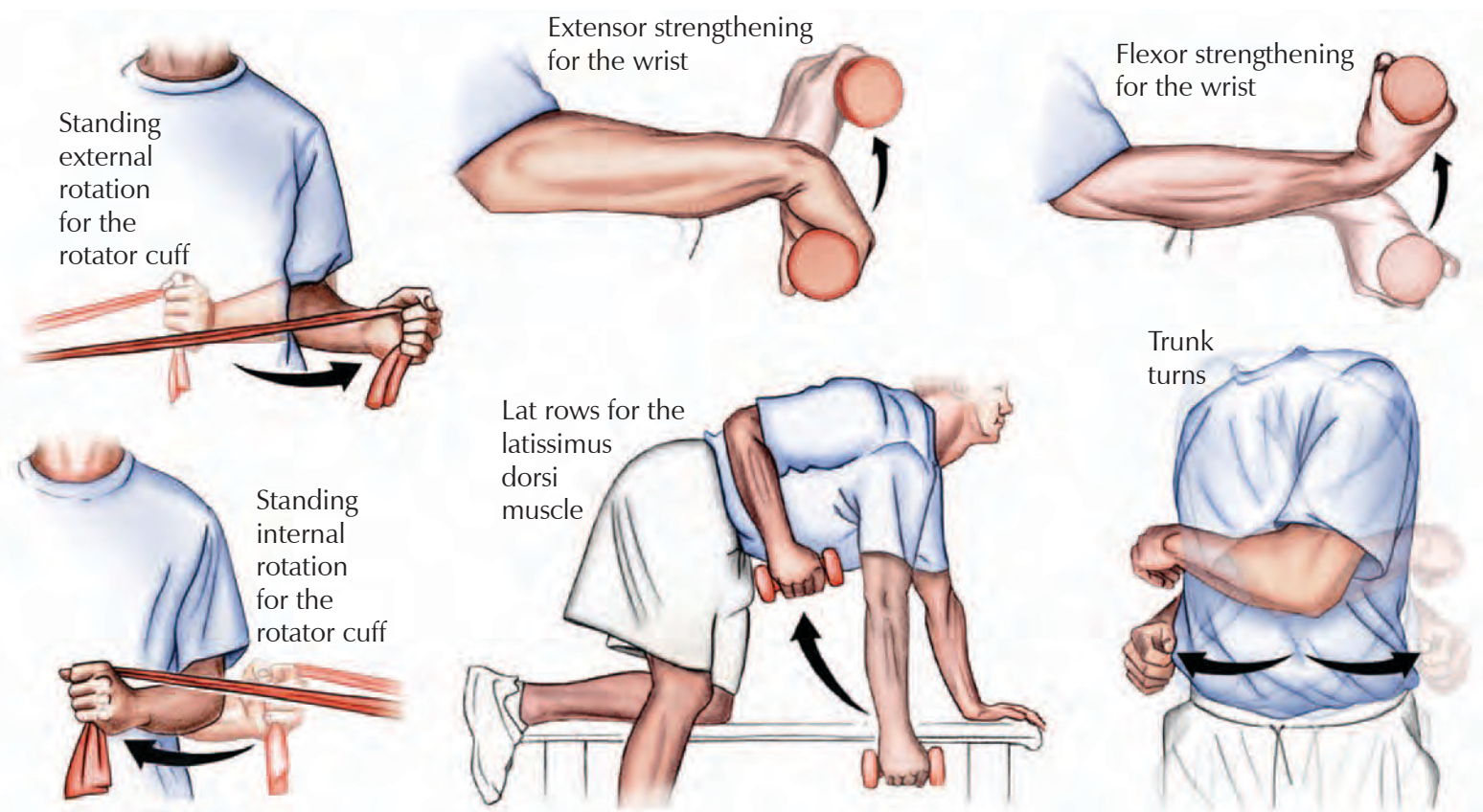
start by timing yourself for 1 mile at a comfortable pace for 30 minutes. By walking 3 days a week, you progress by decreasing the time it initially took for the first mile. When you finish your walk in less time, continue at your new pace for 30 minutes, 3 days a week.

It is equally important to train your musculoskeletal system, which gives you the strength and muscle power you need for golf. The exercises below should be performed for 3 sets of 10 repetitions, with a 3-second hold after each repetition and a 30- to 60-second rest between sets. The resistance can come from weights or resistance bands such as Theraband or Theratubing. If you are allergic to latex, use a latex-free device (Theraband and Theratubing can be made of latex).

If you practice this exercise program consistently, it will dramatically increase the strength and endurance you have to complete a round of golf. You will also feel better and, less stressed, and you will be less prone to injury. If you do pre-golf stretching and hit balls on the practice tee, continue with your warm-up program, but remember, real golf readiness occurs before you arrive at the course.

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## Expanding Dr. Hughston's Vision

Built in 2006, The Jack Hughston Memorial Hospital is a beautiful 110,000 square-foot facility. All of our patient rooms are spacious and private, and equipped with a 27-inch flat screen television. Only minutes separate The Hughston Clinic and the Jack Hughston Memorial Hospital; but, our electronic medical records system links the two instantly. Wireless Internet throughout, a dining hall with outdoor terrace, and floor-to-ceiling windows are all designed to make our patients and their families feel welcome. Additionally, our outpatient services, paper-free admissions process, and digital x-rays reduce tension, save time, and enhance our stress-free atmosphere. We offer all the high-tech equipment, professional staff, and the specialists you have come to expect from Hughston. Patients, of course, will receive world-class orthopaedic care, but the Jack Hughston Memorial Hospital also offers the Chattahoochee Valley an intensive care unit, emergency services, and a state-of-the-art diagnostic imaging department.



The *Hughston Health Alert* is a quarterly publication of The Hughston Foundation, Inc. The Foundation's mission is to help people of all ages attain the highest possible standards of musculoskeletal health, fitness, and athletic prowess. Information in the *Hughston Health Alert* reflects the experience and training of physicians at The Hughston Clinic, P.C., of physical therapists and athletic trainers at Hughston Rehabilitation, of physicians who trained as residents and fellows under the auspices of The Hughston Foundation, Inc., and of research scientists and other professional staff at The Hughston Foundation, Inc. The information in the *Hughston Health Alert* is intended to supplement the advice of your personal physician and should not be relied on for the treatment of an individual's specific medical problems.

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