

# Effects of Aging & Staying Active

It's no secret that our bodies change as we age. Some changes are obvious, while others are more subtle. Many people age comfortably and remain active, alert, and vibrant throughout their lives. Others may experience the effects of osteoporosis, osteoarthritis or other conditions, which can gradually diminish their abilities to participate fully in activities. People are living longer these days and their quality of life depends on being healthy and remaining independent. Knowing what to expect and taking steps to counterbalance the effects of aging can help you maintain a young spirit and an independent life. A healthy diet, regular exercise program, and positive attitude can help delay the onset and slow the progression of many age-related changes.

**Aging Muscles:** As muscles age, they begin to shrink and lose mass. This is a natural process, but a sedentary lifestyle can accelerate it.

- The number and size of muscle fibers also decrease. Thus, it takes muscles longer to respond in our 50s than they did in our 20s.
- The water content of tendons, the cord-like tissues that attach muscles to bones, decreases as we age. This makes the tissues stiffer and less able to tolerate stress.
- Handgrip strength decreases, making it more difficult to accomplish routine activities such as opening a jar or turning a key.
- The heart muscle becomes less able to propel large quantities of blood quickly to the body. We tire more quickly and take longer to recover.
- The body's metabolic rate (how quickly the body converts food into energy) slows. This can lead to obesity and an increase in "bad" cholesterol levels.



**Aging Bones:** Throughout life, bones constantly change through a process of absorption and formation called "remodeling." As we age, the balance between bone absorption and bone formation changes, resulting in a loss of bone tissue.

- The mineral content of bones decreases, so that bones become less dense and more fragile.
  - As bones lose mass, osteoporosis develops, affecting both women and men. In the spine, osteoporosis can lead to crush fractures of the vertebrae, resulting in a "dowager's hump." Osteoporosis is also responsible for almost all hip fractures in older men and women.
  - The chemistry of cartilage, which provides cushioning between bones, changes. With less water content, the cartilage becomes more susceptible to stress. As cartilage degenerates, arthritis can develop.
- Ligaments, connective tissues between bones, become less elastic, reducing flexibility.

**Aging Joints:** Joint motion becomes more restricted and flexibility decreases with age because loss of elasticity in tendons and ligaments, making it easy to get overuse injuries.

- As the cushioning cartilage begins to break down from a lifetime of use, joints become inflamed and arthritic.

## Counteract the Effects of Aging Through Exercise!

Many of the changes in our musculoskeletal system result more from disuse than from simple aging. More older people than ever before are involved in exercise and sports. Just 30 minutes of moderate activity, incorporated into your daily routine, can provide health benefits. Being physically fit does not have to mean

aching muscles from workouts and hard-to-maintain exercise schedules. The 30 minutes of moderate activity can be broken up into shorter periods. For example, you might spend 15 minutes working in the garden in the morning and 15 minutes walking in the afternoon. It all adds up. Many people are getting their exercise in active pastimes such as biking, skiing, and tennis. Others prefer less active recreation, such as walking, gardening or golf.

Even moderate amounts of physical activity can reduce your risk of developing high blood pressure, heart disease, and some forms of cancer. Regular exercise may slow the loss of muscle mass and prevent age-associated increases in body fat. Exercise also helps maintain the body's response time, as well as its ability to deliver and use oxygen efficiently. Staying active can lower your risk for many common diseases, relieve the pain of arthritis, and help you to recover faster when you do get sick.

**Here are some tips developed by the American Orthopaedic Society for Sports Medicine and American Academy of Orthopaedic Surgeons that can help you exercise safely.**

**Warm Up:** Always take time to warm up and stretch before physical activity. Research studies have shown that cold muscles are more prone to injury. Warm up with jumping jacks, stationary cycling or running or walking in place for 3 to 5 minutes. Then slowly and gently stretch, holding each stretch for 30 seconds.

**Be Consistent:** Don't succumb to the "weekend warrior" syndrome. Compressing your physical activity into two days sets you up for trouble and doesn't increase your fitness level. Try to get at least 30 minutes of moderate physical activity every day. If you're truly pressed for time, you can break it up into 10 minute chunks. Remember that moderate physical activity can include walking the dog, working in the gardening, playing with the kids and taking the stairs instead of an elevator.

**Be Prepared:** Take lessons and invest in good equipment. Whether you're a beginner or have been playing a sport for a long time, lessons are a worthwhile investment. Proper form and instruction reduce the chance of developing an "overuse" injury like tendonitis or stress fractures. Lessons at varying levels of play for many sports are offered by local park districts and athletic clubs. Select the proper shoes for your sport and use them only for that sport. When the treads start to look worn or the shoes are no longer as supportive, it is time to replace them.

**Listen to Your Body:** As you age, you may find that you are not as flexible as you once were or that you cannot tolerate the same types of activities that you did years ago. While no one is happy about getting older, you will be able to prevent injury by modifying your activity to accommodate your body's needs.

**Use the 10 Percent Rule:** When changing your activity level, increase it in increments of no more than 10 percent per week. If you normally walk 2 miles a day and want to increase your fitness level, don't try to suddenly walk 4 miles. Slowly build up to more miles each week until you reach your higher goal. Also use the 10 percent rule as your guide for strength training and increase your weights gradually.

**Balanced Fitness:** Develop a balanced fitness program that incorporates cardiovascular exercise, strength training, and flexibility. In addition to providing a total body workout, a balanced program will keep you from getting bored and lessen your chances of injury. While it is important to stay active, it is also important to play it safe. Add activities and new exercises cautiously. No matter if you've been sedentary or are in good physical shape, do not try to take on too many activities at one time. It is best to add no more than one or two new activities per workout.

If you have or have had a sports or orthopaedic injury like tendonitis, arthritis, stress fracture or low back pain, consult an orthopaedic surgeon who can help design a fitness routine to promote wellness and minimize the chance of injury.