

Orthopedic Center of Excellence

**Good Samaritan
Medical Center**
A STEWARD FAMILY HOSPITAL

Steward



The Aging Body: How to Cope with Musculoskeletal Maturity

Aging America: a New Orthopaedic Challenge

We live in a time when medical advances for various medical conditions have decreased disease and increased the age of the American population. The Baby Boom is fast becoming the Senior Boom and The American Academy of Orthopaedic Surgeons has found a need to seek solutions for the concerns of this aging population. Specifically, the challenge is finding the ability of the population to remain physically active while avoiding age-related injuries and diseases of the musculoskeletal system. Much of that depends on a better understanding of aging, and improved prevention and treatment.

This need for increased attention to activity in aging can be a Double-Edged Sword. Aging will have an effect on all organ systems including heart, lungs, and blood vessels. In addition, other illness can create obstacles to exercise and activity including bad habits, which can lead to disease. For example, inactivity can lead to obesity, which can worsen most medical conditions and accelerate musculoskeletal decline, leaving a patient in a classic conundrum: "My knees would feel better if I lost some weight, but I can't exercise because my knees hurt!"

Primarily physicians are treating Musculoskeletal Changes which can occur in four areas; Bone, Ligaments & Tendons, Muscle, and Cartilage. Each of these areas presents their own unique set of symptoms for diagnosis and treatment and can often occur simultaneously.

However, years of medical research shows just what affect aging has on all organ systems in a physiologically predictable and well-documented manner – and that knowledge is really our best first line of defense. Some declines may be unavoidable, but activity can help limit or slow them – reports suggest that regular exercise can benefit people of all ages both male and female and may reduce premature death from strokes, coronary artery disease, hypertension, diabetes, and some forms of cancer. Doctors keep prescribing an active lifestyle to promote longevity as it is important for both physical and mental well-being.

Bone Density and Osteoporosis

Osteoporosis is the loss of bone density. Bone reaches its maximal density in our mid 20's where it remains steady for most of our adult lives. However, Osteoporosis can be a problem for both men and women as men lose 0.5%-0.75% per year of bone mass after the age of 40 where women lose more than twice that rate before

menopause and up to 3% per year after menopause. This loss can lead to “fragility” fractures of the elderly including the hip, distal radius (wrist), pelvis, and spine.

Difficult to detect, it is often referred to as ‘the silent assassin’ as it rarely causes symptoms. Often it is detected too late even though it can be seen on x-rays – but it usually takes a fragility fracture to diagnose. We recommend Bone Density Scans for women age 65 and over as a valuable screening tool that can help prevent fractures from occurring by introducing preventative treatment measures.

Weight-bearing exercise stimulates bone formation in the young and limits bone resorption in the older individuals. In addition, changes to diet can affect bone density as well. Consider an increase in foods high in Calcium and Vitamin D, or adding supplements.

As individuals age it’s important to take precautions to avoid injury – rearranging obstacles in the home, reevaluating medications and when you take them, and using assisted devices will lead to fall prevention as well as working on balance and strength training.

Ligaments and Tendons

Aging also causes stiffness and degenerative changes in the soft tissues. It is likely we begin to feel some soreness after daily activity as well as exertion. This is when we are at an increased risk for rupture of tendons like the rotator cuff, quadriceps, or Achilles.

Stretching is important for all age groups – of course for athletes, but also for those less athletic. Our joint mobility depends on the soft tissues being well maintained through basic movement and stretch. We want to change what we can as we may not be able to avoid arthritis, but can strive for improved flexibility. That flexibility promotes balance and helps avoid falls and other injuries.

Muscle

Loss of muscle mass is the major cause for the age related loss of strength. Between ages 30 and 80, the strength in the arms, back, and legs decreases by as much as 60%.” Believed to be due to hormonal changes, nerve changes, and decreased exercise. Muscle strength can continue to decline 30% per decade after age 70. This increased weakness can lead to more serious injury from falls. The effects of exercise on your muscles can slow down the aging process from increased oxygen consumption or increased endurance. Arms and legs can become 2-3 times stronger in 3-4 months of resistive exercises with greater gains possible with time. As few as two exercise sessions weekly can create notable strength gains which will have long term effects on your musculoskeletal system.

Cartilage

The degeneration of joint cartilage is also known as arthritis and there is no current method of restoring native joint cartilage. Age causes changes in the concentration of protein in joint cartilage which can lead to softening, fissuring, and fibrillation of cartilage. Age also causes changes in meniscal cartilage which can lead to tearing of the meniscus and negative affectation of the discs in the spine.

Motion and loading of cartilage is useful in the nutrition and health of cartilage, however, excess or high-impact loading of unhealthy cartilage can accelerate the degenerative process of arthritis. It is important to find a healthy balance of activities that won't aggravate the affected areas.

Many patients find that swimming is excellent as it has an anti-gravity feel that takes weight and pressure off joints and bones. Orthopedic physicians also recommend biking and walking for low impact and manageable distribution of weight. Arthritis can cause joint stiffness or motion restriction which is why low impact, ease of motion exercises work best.

Regardless of which musculoskeletal system is causing your discomfort, it is important to find an effective treatment. Exercise and athletics should be lifelong activities that are practiced safely and within each individual's limits. What one could do at 30 you might not be able to do with the same ease or endurance at 50, 60, or 70. Exercise should be tailored to each person based on limits to avoid injury and cardiovascular risk. In addition, exercise for prevention should be approached differently than exercise for recovery.

If you are experiencing pain in the muscles, joints, or bones – seek out a board certified orthopedic doctor to help you assess the causes of your discomfort and put a care plan in place to ease symptoms and get you on the road to recovery.

CONTACT US

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