

# Knee Pain in the Aging Athlete



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Dr. Brad Bernardini is the first surgeon in the region to perform both the All-Inside, and Double Bundle ACL reconstruction techniques. He has also been honored as an Associate Masters Instructor of knee surgery by the Arthroscopy Association of North America, where he instructs Orthopaedic Surgeons from across the nation in advanced surgical techniques.

Dr. Bernardini is in his 4th year of practice and has been published in his field and honored for his academic achievement. He is an ex-collegiate athlete and serves as a member of the United States Ski and Snowboard Team Physician Pool Program, as well as the head team physician for Delsea Regional High School. To review a copy of his latest publication in the American Journal of Sports Medicine on Knee Joint Instability, please visit our website at [www.southjerseycenter.com](http://www.southjerseycenter.com).



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There are an increasing number of middle-aged and older athletes who remain active and regularly participate in sports. While remaining physically fit and maintaining athletic capacity into advanced age is possible, it is important to understand the differences in anatomy and physiology as we become older. The knee joint is one of the more common areas of concern in this population. Treatment must be tailored to meet the functional needs of the individual, as well as the musculoskeletal problem, such as osteoarthritis, which affects nearly one third of middle aged and older adults.

## The Musculoskeletal Effects of Aging

### Bone:

Both men and women lose bone mineral density as we age. Women lose bone at a much faster rate, especially after menopause. These changes make bone much more susceptible to stress fractures as a result of exercise, particularly in athletes older than 50. Luckily these fractures are relatively rare in the knee, and are more common in the feet, tibia (shin), hip, and back.

### Meniscus:

The meniscus is an important shock-absorbing cartilage in the knee. With age, the meniscus becomes less pliable, and has a higher rate of injury due to repetitive activity. Further, these degenerative tears rarely have the capacity to heal, and usually require arthroscopic surgery to remove.

### Articular Cartilage:

This is the firm cartilage that caps the bones in the knee, and also acts as a shock absorber. This is the type of cartilage that wears down over time causing painful osteoarthritis. Low impact activity has actually been shown to increase articular cartilage health, and has NOT been shown to cause osteoarthritis in the well aligned knee. However, as we age, joint fluid changes, repetitive injury, and poor alignment may lead to wear and tear of the cartilage, causing it to become damaged over time. As this occurs, the underlying bone is forced to adapt to the increased stress, causing pain and inflammation within the joint.

## Treating Osteoarthritis Without Surgery:

### Oral Agents:

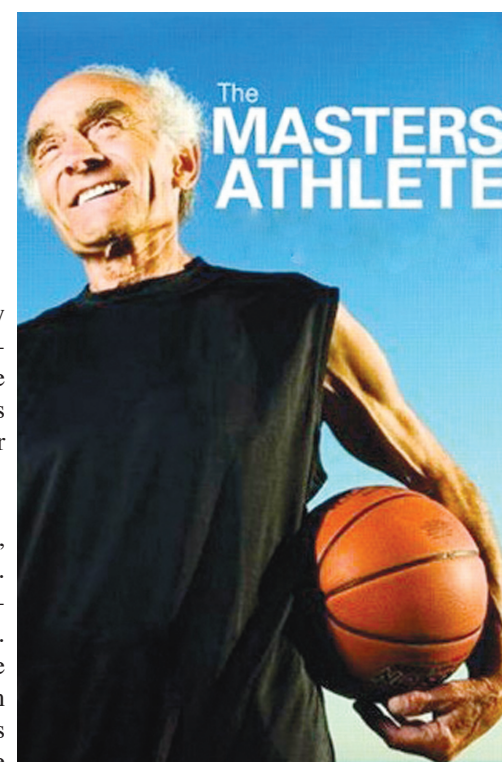
#### Anti-inflammatory medications:

Available without a prescription, they block the pathways in the body that cause inflammation and pain. These medications are associated with several side-effects such as GI upset, and should be discussed with your primary physician prior to being started.

**Oral Glucosamine, Chondroitin, and MSM:** These have gained widespread popularity, and are reported to be cartilage protective. These supplements do not require a prescription and are available at most drug stores. They work in complex ways within the body, and have been shown to improve pain in those with osteoarthritis. Glucosamine is the best studied and proven of these three supplements, and has been shown to decrease pain and inflammation associated with osteoarthritis.

#### Anti-oxidant vitamins:

Vitamin A, E, D, and C are thought to remove dangerous free radicals in the body, thereby decreasing their aging and damaging effect on the body.

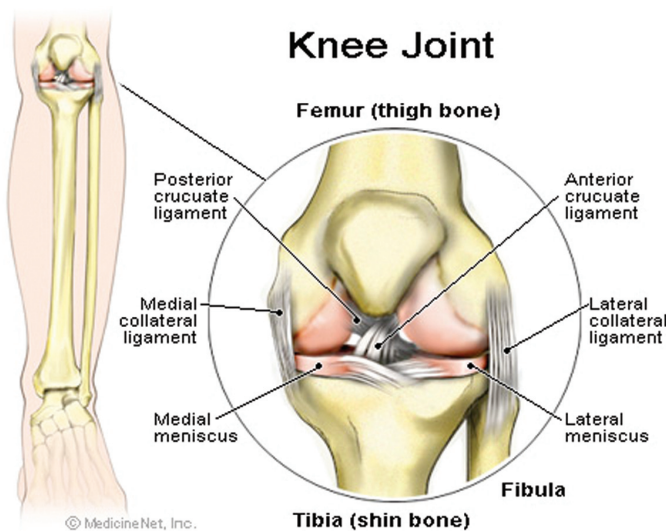


caused by oral anti-inflammatory medications.

#### Hyaluronate Viscosupplementation:

Commonly known as joint fluid replacement or "Chicken juice" injections, this is an injectable form of Hyaluronate, which is an important component of normal and healthy joint fluid. As osteoarthritis progresses, the Hyaluronate concentrations within the knee change, causing pain and progression of cartilage degeneration. Injections restore the healthy concentrations to the knee. These are typically given in series of 3 or 5 injections spaced one week apart and are most effective in patients with mild to moderate osteoarthritis. In the best cases, these injections can provide relief from symptoms for several months to years. Newer forms are using a single dose system, which has also been shown to provide relief.

An active lifestyle is important for the preservation of health and function in an aging population. Many of the adverse effects on the musculoskeletal system can be reduced through regular exercise. Overuse injuries to the knee are common in this population and can contribute to pain caused by underlying osteoarthritis. It is important to know that non-operative treatments options are numerous and effective. Your sports medicine physician can help guide you through the process by developing a safe and effective exercise program, diagnosing the cause of knee joint pain, and applying the multiple treatment options discussed. Good luck, and stay healthy!



### Injectable Agents:

#### Corticosteroid Injections:

Corticosteroid or "Cortisone Injections" as they are better known, act as a strong anti-inflammatory agent in the knee joint. These injections are usually mixed with numbing medicine like novacaine, and placed directly into the knee. Pain relief usually begins within minutes of receiving a single injection, and can last for several months. Their major benefit is that the injection is placed directly where the medication is needed, thereby avoiding many of the side effects