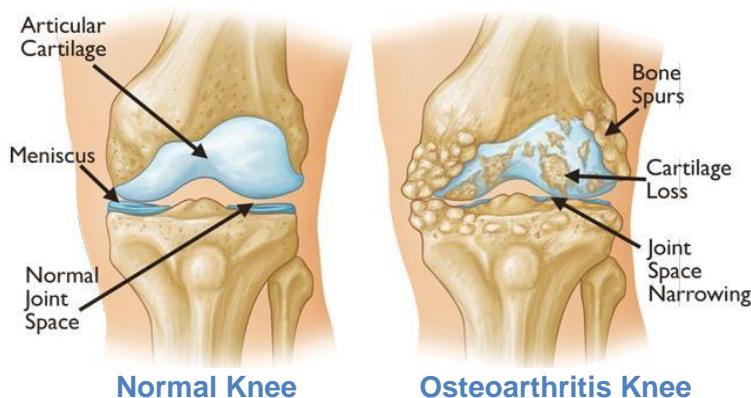


Non-Surgical Treatments for Knee Osteoarthritis

WHAT IS KNEE OSTEOARTHRITIS?

Osteoarthritis (OA) is the most common type of arthritis and can affect any joint though is most common in the hands, knee, hip, and spine. Knee OA is the gradual wearing away of the articular cartilage that helps to cushion the knee during normal daily activity. OA is a destructive process of the knee and the adjacent structures and tissues. It is sometimes accompanied by swelling, stiffness, osteophytes (spurs), and loss of motion within the knee joint. It is a progressive disorder, which means that it typically worsens as time goes on.



SHOULD I HAVE MY KNEE REPLACED?

Although most people who have had their knees replaced are very happy with their results, knee replacement should be reserved for “older” individuals with advanced disease. This is for many reasons including the difficulty of recovery, recommended limitations following surgery, and the longevity of the implants. Conservative treatment is recommended over replacement for those with mild to moderate OA of the knee.

SO, WHAT CAN I DO?

Activity: Studies support moderate physical activity and weight loss to help reduce pain and improve function in individuals with knee OA. An appropriate exercise program would include both aerobic exercise AND strength training. People with knee OA frequently have weakness and imbalance of the quads, hamstrings, and gluteal muscles, which can be addressed in strengthening programs. Aerobic exercises should be modified based on each individual’s symptoms, but can include walking, biking, and swimming. Water exercises can be beneficial as they decrease the weight-bearing stress on the joint as well as providing light resistance. Yoga, Pilates, and Tai Chi can also be beneficial. Activities that increase pain should be modified or avoided.

Weight loss: Excessive weight can increase the symptoms of knee OA by increasing the load on the joint, reducing the supportive strength, and by increasing inflammation within the joint. Multiple studies have shown significant improvement in pain, function, and mobility with just a 10% reduction in weight.

Ice: Cryotherapy, applying ice to the affected region, can be beneficial in managing the symptoms associated with knee OA. The use of ice on a routine daily basis for 15-20 minutes can help modify the symptoms of knee OA.

Medications: Both topical (creams and gels) and oral medications can be effective in reducing pain and improving function in individuals with knee OA. Tylenol (acetaminophen) is a good medication for OA with less risk to your other organ systems and medication interactions. If Tylenol alone is not effective, either oral or topical non-steroidal anti-inflammatory drugs (NSAIDs) can be used to reduce inflammation within the joint. NSAIDs include over-the-counter medications such as: Advil or Motrin (ibuprofen), Aleve (naproxen sodium), and aspirin. There are also prescription NSAIDs such as: diclofenac, nabumetone, piroxicam, meloxicam, and Celebrex. Capsaicin is a topical medication that also has some evidence to improve OA symptoms, though many people describe a burning sensation after it has been applied. Voltaren gel is another topical medication that is now available over-the-counter that can improve OA symptoms. Narcotic pain medications are NOT indicated and should rarely be used to treat the symptoms of knee OA. You should talk to your doctor before starting any new medication as they can affect other body systems and interact with other medications.

Bracing: Braces/sleeves, orthotics, or more supportive shoes can be beneficial in some patients, though are not well supported in the literature. In the right patient, prescription braces can offload the more worn away portions of the knee and more effectively use the healthier parts of the knee.

Supplements: Supplements may provide additional benefit and symptom relief for individuals with knee OA. The most frequently used supplements are glucosamine and chondroitin (sometimes with MSM) as they are most consistent with symptom reduction. Some natural antioxidants including curcumin (turmeric), avocado and soybean oils, and Boswellia are thought to reduce inflammation in individuals with knee OA with curcumin showing the most positive effects. One study showed that curcumin can be equally beneficial as ibuprofen in improving function in individuals with knee OA, but the effect was not amplified when taking both curcumin and NSAIDs. Finally, there are some small studies that show some effectiveness of using alternative medicines including Zingiber officinale (ginger root) and various algae extracts have been studied with some benefit for individuals with osteoarthritis. Though all of these supplements have questionable improvements on knee OA symptoms, they appear to be rather safe with few side effects. You should talk to your doctor before starting any new supplements as they can affect other body systems and interact with medications.

Acupuncture: There has been some positive benefit to knee OA symptoms following acupuncture, which may be at least partially due to a placebo effect. There is variability of needle placement secondary to training and geographical location, which makes it difficult to validate.

WHAT ELSE CAN BE DONE?

Individuals experiencing continued pain despite incorporating some of the above changes to manage their symptoms should talk to their provider about injection therapy. Two classes of injection therapy are routinely used for individuals with knee osteoarthritis: corticosteroids and viscosupplementation, though other options are currently being studied.

Corticosteroid injections: Also called “steroids” or “cortisone,” corticosteroids are potent anti-inflammatory medications. They are injected directly into the joint to reduce inflammation, which is thought to be a large source of the pain. They can provide short term improvement in individuals

with acute flairs of their symptoms. They should be used in caution in individuals with diabetes, as they can cause significant increases in blood sugar levels. They do come with risks, such as developing an infection in the joint or having a flare of symptoms.

Viscosupplementation injections: The primary ingredient is hyaluronic acid or HA, which is a primary component of our healthy joint fluid. It works as a lubricant to decrease the pain from OA. HA injections can provide benefit for moderate term improvement in symptoms. They are given as a single injection or a series of 3-5 injections given one week apart. They should be used with caution in individuals with allergies to birds.

Biologic injections: The use of other injections, which can be taken from the patient to try and harness the body's ability to heal itself are also in the experimental stage. These often involve taking blood, bone marrow, or fat from the patient and then injecting it into the affected joint to help "heal" the arthritis. These treatments remain experimental and are not routinely covered by insurance.