



Injection Therapy for Knee Osteoarthritis

Background:

Osteoarthritis (OA) is the most common type of arthritis, and the knee is the most common joint affected. Knee osteoarthritis is especially prevalent in middle-aged and elderly patients and currently affects approximately 50 million Americans. The symptoms of knee arthritis include pain, joint stiffness, and joint swelling. Risk factors for knee arthritis include increased age, obesity, previous trauma to the joint, joint malalignment, and some genetic characteristics. The process of osteoarthritis is primarily damage to the articular cartilage, underlying bone, and meniscus. This creates inflammation in the joint which leads to pain and further breakdown of cartilage. At this time, there is no cure for osteoarthritis.



Treatment Options:

Current treatment strategies for knee osteoarthritis focus on symptom management to allow patients to remain as active as possible. These include activity modification, low impact exercise, weight loss, physical therapy to strengthen the muscles of the legs, bracing, non-steroidal anti-inflammatories (NSAIDS such as Advil, Aleve), injections into the knee joint, and possibly surgery. This handout focuses on injection therapy for symptomatic knee osteoarthritis. The goal of intra-articular injections is to decrease inflammation in the knee joint. Some of the more recently developed injection options also have the potential to improve the health of the cartilage.

Please review the attached table for more information on the injection options offered by our clinic. Please contact your provider with additional questions or call our office to schedule an evaluation at 303-694-3333.

	What is it?	How does it work?	Pros	Cons	Cost
Corticosteroid (Steroid/cortisone) Dexamethasone, Kenalog, Celestone	Strong anti-inflammatory hormone naturally produced by our bodies	Blocks the inflammatory process that occurs in OA, decreases inflammation and pain	<ul style="list-style-type: none"> Longest history of use Very effective for short-term pain relief and arthritis flare Safe 	<ul style="list-style-type: none"> Can cause cartilage damage with long term use Short term relief (4-6 weeks) Better to wait 3-6 months between injections 	Covered by most insurance plans
Hyaluronic Acid (HA) Orthovisc, Synvisc, Monovisc, Euflexxa, Supartz, Gel-One	Naturally occurring component of joint fluid	Acts as a lubricant and shock absorber, may have pain relieving effect	<ul style="list-style-type: none"> May provide longer relief than corticosteroid Safe 	<ul style="list-style-type: none"> May need for multiple injections Rare inflammatory response after injection 	Covered by most (but not all) insurance plans
Platelet Rich Plasma (PRP)	Concentrated platelets and growth factors isolated from a patient's blood drawn prior to the injection	Platelets release growth factors that stimulate the body's own anti-inflammatory and healing processes	<ul style="list-style-type: none"> Better pain relief and function 1 year after injection (lasts longer) compared to corticosteroid and HA Safe 	<ul style="list-style-type: none"> Involves blood draw May experience increased inflammation and soreness for 1-2 weeks after injection 	\$950 for one knee \$1050 for both knees
Autologous Stem Cells Bone marrow aspirate concentrate (BMAC), Adipose-derived stromal cell therapy (ASC)	Concentrated stem cells isolated from a patient's bone marrow or fat. Harvested from the hip (BMAC) or the abdomen, thigh, or knee (ASC) with the patient under anesthesia	Stem cells stimulate the body's own anti-inflammatory processes and decrease pain. They may have a theoretical ability to become cartilage-like cells, help heal cartilage, and slow damage to cartilage.	<ul style="list-style-type: none"> Decrease pain Anti-inflammatory effect Potential to heal or improve cartilage 	<ul style="list-style-type: none"> Involves surgery to harvest stem cells Pain from donor site Limited scientific evidence 	\$5000 per injection
Amniotic Fluid and Membrane	Amniotic fluid and amniotic membrane that have been preserved by freezing	Unknown. Amniotic derivatives have factors that may stimulate anti-inflammatory processes and decrease pain.	<ul style="list-style-type: none"> Decrease pain 	<ul style="list-style-type: none"> Limited scientific evidence Not all formulations are the same 	\$2000 per injection