



Accurate Clinic

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www.AccurateClinic.com

Osteoarthritis (OA) is a condition that affects approximately 15% of the world's population. It is three times more common in women than in men. It involves progressive destruction of the cartilage on the joint surfaces which results in impaired joint function, swelling, pain, and disability. While osteoarthritis commonly affects the knees, hips, hands and shoulders it is also a major contributor to neck and back pain.

Surgery has little to offer for most people with arthritis and is generally not recommended. Acupuncture may offer some benefits to some but does not provide a cure.

Stem cells

Mesenchymal stem cells (MSCs) are cells that can be isolated from human tissues. Stem cell therapy is thought to provide tissue repair and anti-inflammatory benefits in OA. Research is still preliminary, however, as their affect on the immune system is not yet fully understood and there remain safety concerns regarding their use.

Neuromodulators

Neuromodulators are drugs that modify the function of nerves. Medications such as gabapentin, Lyrica, Topamax, Cymbalta and others typically directed at improving nerve pain are also be effective in OA pain due to the role of nerve damage in OA.

Knee braces, knee sleeves, shoe inserts

Studies suggest there are potential benefit from knee braces, knee sleeves, foot pads, and biomechanical training programs. To learn more about your potential benefits from these options, please discuss with our physical therapist or your orthopedist.

Because the medical field unfortunately has nothing to offer in the way of a cure for OA, people offer turn to supplements and home remedies in an effort to relieve pain. This handout aims to provide an update on what is known about treating OA. The mainstay of treatment has been the use of anti-inflammatories including cortisone (steroid) for severe, acute flair-ups and non-steroids (NSAIDs) such as ibuprofen, naproxen and a handful of prescription NSAIDs. Unfortunately, NSAIDs do nothing to slow the progression of OA or reverse the damages associated with OA and they have significant safety issues of their own, especially the steroids.

To find ways to slow the progression of OA and repair the damages it is necessary to look beyond NSAIDs and cortisone.

OA involves the destruction of cartilage and damage to bone and nerves as well as inflammation. The pain is a result of all of these conditions and severity is largely determined by the forces associated with compressing the arthritic joint.

NSAIDs

NSAIDs do offer temporary pain relief in OA by reducing inflammation, but they also offer significant risk for serious complications. For further advice regarding your use of NSAIDs, please talk to your physician who can provide guidance based on your individual condition and your genetic testing. There are alternative ways to reduce inflammation – see below.

Weight Loss and Exercise

Since the pain of arthritis is associated with compressing the joint, weight-bearing joints such as the knees and hips are most severely affected but so are the joints in the spine. The hallmark of treatment therefore is to lose excess weight. Studies have shown that obese individuals without significant knee arthritis who lose 10lbs will reduce their risk of developing symptoms of knee arthritis by 50%. For those with knee arthritis, a weight loss of only 5-10% of body weight provides significant, easily noticeable improvement in pain and function. So it is not necessary to reach your ideal weight before benefitting from weight loss. Exercise is also very important and most people – though not everyone – will improve their pain and function with modest exercise just a few times a week. Our physical therapist will guide you in a home exercise tailored to your specific needs.



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Obesity also contributes to arthritis besides just mechanical stress on your joints. Obesity is associated with an increase in a number of chemicals manufactured in your body that promote inflammation and pain; so weight loss reduces inflammation.

Diet

Aside from adjusting your diet to maintain or approach your ideal body weight, it is important to include substances that will protect against further joint damage. These substances include anti-inflammatories and anti-oxidants which are commonly found in high concentrations in grapes, berries, cherries, pomegranates and peanuts as well as ginger and green tea. Fish and chia seeds are high in omega-3 fatty acids which are powerful anti-inflammatories.

Foods high in fat and sugar are known to promote oxidation and inflammation and should be avoided in those with arthritis.

Supplements – Complementary and Alternative Medications (CAM)

Research regarding CAM treatments are limited due to the high costs of performing research studies, especially on substances that cannot be patented. Therefore the following substances are advised based on limited research.

Likely to be effective for improving the damage and pain associated with OA:

1. Glucosamine and Chondroitin (G&C)

Glucosamine promotes cartilage repair by stimulating new growth. Chondroitin helps to maintain the viscosity in joint fluids, stimulates cartilage repair and inhibits enzymes that lead to degeneration of cartilage. They require 3-6 months of use before definitive benefits are seen. If one does not see benefits by 6 months, discontinue use.

Recommended doses: Glucosamine 500mg 3x/day Chondroitin: 400mg 3x/day

Warning: As a product of lobster, crab, and shrimp shells, glucosamine may cause allergic reactions in patients with seafood allergies. Also, glucosamine can block warfarin (coumadin) so it should be avoided if you are taking this medication and it may cause an increase blood sugar in diabetics.

2. Strontium Ranelate

Strontium Ranelate is able to reduce the damage to bone associated with OA and increase cartilage formation.

Recommended dose: 2gms/day

3. ASU (Avocado/Soybean Unsaponifiables)

ASU is composed of one third avocado and two thirds soybean unsaponifiables (natural vegetable extracts)

ASU inhibits the breakdown of cartilage and promotes cartilage repair by stimulating collagen synthesis and reducing inflammation. It has been shown to reduce pain and stiffness while improving joint function, resulting in decreased dependence on other pain medications.

Recommended dose: (2:1 ratio Avocado:Soy) 300-600mg/day *Suggested brand:* Piasclidine®

4. **Vitamin C** supplements (including rose hips) are antioxidants - they may slow damage to the joints and are associated with reduced risk of cartilage loss in OA. They may also stimulate collagen synthesis and improve viscosity in joint fluid.

Possibly Effective for improving the pain associated with OA:

SAMe

S-adenosylmethionine (SAMe) has anti-inflammatory and analgesic effects and has been reported to reduce the pain and dysfunction of OA.

Recommended dose: 400mg 3x/day



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Anti-inflammatory Agents

These substances all have limited research indicating benefits in OA related to reducing inflammation.

Curcumin (Meriva®)

Curcumin is the yellow pigment of turmeric, a popular spice in Indian cuisine and a major ingredient of curry powders. Curcumin reduces inflammation and has been shown to reduce the pain of OA though it is not thought to modify the disease process of OA. Curcumin is poorly absorbed when taken orally but absorption can be markedly improved by taking black pepper spice at the same time. To improve absorption, a patented complex of curcumin (Meriva®) is recommended.

Recommended dose: 500mg 2x/day after meals

Boswellia serrata

Studies show Boswellia relieves joint pain, reduces joint swelling and stiffness, and increases joint flexion and walking distance. It is thought to be an anti-inflammatory.

Devil's claw: Relieves pain in OA

Green-Lipped Mussel extract

Improved knee joint pain, stiffness and mobility. It is thought to be an anti-inflammatory.

Resveratrol

Resveratrol is present in grapes, berries, and peanuts and is thought to be an anti-inflammatory and anti-oxidant.

Salicin

Salicin is rapidly metabolised into salicylic acid, which is chemically related to aspirin and offers similar pain benefits but salicin does not affect platelets so it offers no protection against heart attacks or strokes. It is derived from willow bark but can be found in many other plants including meadowsweet, cottonwood, poplar, aspen and wintergreen.

Recommended dose: 240 mg **Contraindications:** Should not be used by those allergic to aspirin.

Topical Medications: (See Topical Medications handout)