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James T. Mazzara, MD

Orthopedic Surgeon
www.OrthoOnTheWeb.com

Viscosupplementation for Osteoarthritis

A sticky or squeaking hinge can be "cured" with a drop of oil, so it makes sense that a hinge joint, like the knee, would also benefit from a little lubrication. At least that's the premise behind form of treatment for arthritis of the knee.

The procedure, called viscosupplementation, injects a preparation of hyaluronic acid into the knee joint. Hyaluronic acid is a naturally occurring substance found in the synovial (joint) fluid. It acts as a lubricant to enable bones to move smoothly over each other and as a shock absorber for joint loads.

However, people with osteoarthritis ("wear-and-tear" arthritis) have a lower-than-normal concentration of hyaluronic acid in their joints. Viscosupplementation may be a therapeutic option for individuals with osteoarthritis of the knee.

Treatment

The first line of treatment for osteoarthritis of the knee aims to relieve pain. Normally, pain relievers such as ibuprofen or nonsteroidal anti-inflammatory drugs (NSAIDs) are used, along with physical therapy, applications of a topical analgesic and injections of a corticosteroid. However, some people have a reaction to NSAIDs and these agents usually bring only temporary relief. When conservative measures fail, surgery, perhaps even to replace the joint, may be required.

Viscosupplementation has been shown to relieve pain in many patients who did not get relief from nonmedicinal measures or analgesic drugs. The technique has been used in Europe and Asia for several years, but the U.S. Food and Drug Administration did not approve it until 1997, and then only for treating osteoarthritis of the knee. Several preparations of hyaluronic acid are available—a natural product made from rooster combs, and an artificial one manufactured from bacterial cultures. If you are allergic to egg or poultry products, the manufactured product should be used.

The brand of viscosupplementation used in my practice is [Hyalgan](#).

If there is any swelling (effusion) in the knee, it may be removed (aspirated) before injecting the hyaluronic acid. Usually, this can be done at the same time, with only one needle injected into the joint, although some doctors may prefer to use two separate syringes.

Effects of viscosupplementation

Immediate effects

- Hyaluronic acid does not have an immediate pain-relieving effect.
- You may notice a local reaction, such as pain, warmth, and slight swelling immediately after the shot. These symptoms generally do not last long. You may want to apply an ice pack to help ease them.
- For the first 48 hours after the shot, you may perform normal daily activities but should avoid excessive weight bearing on the leg, such as standing for long periods, jogging or heavy lifting.

Longer-term effects

- Over the course of the injections, you may notice that you have less pain in your knee.

- Hyaluronic acid does seem to have anti-inflammatory and pain-relieving properties. The injections may also stimulate the body to produce more of its own hyaluronic acid.
- Effects may last for several months. Ideally, the treatments will last for 6 months, but many patients report relief for much longer periods of time.

If pain relief has been achieved for 6 months or more, the treatments can be repeated. Actually, there are many patients who have had the series of injections repeated several times with satisfactory pain relief. However, when the injections no longer give adequate pain relief or if the relief does not last at least 6 months, further treatment with the injections will no be helpful. Other treatments must then be considered such as total knee replacement.

Viscosupplementation doesn't work for everyone. Some studies and data from the manufacturers of these products report that the successful relief of pain occurs in only 50% of those patients with severe osteoarthritis where the bone surfaces are actually rubbing together. In patients with less severe arthritis (some cartilage still remains on the surface of the bone), relief of pain may be seen in 70-80% of patients. There's no proof that it will reverse or delay the progress of osteoarthritis. In addition, it's very expensive and clinical trials have not yet proven that it is cost-effective.

If your current course of medication and treatment is working, stay with it. However, if your arthritis isn't responding well, or if you're trying to delay an inevitable surgery, you may wish to discuss this option with your orthopedic surgeon.

References

- www.aaos.org