

Viscosupplementation Treatment for Knee Arthritis

Osteoarthritis of the knee is one of the leading causes of disability in the United States. It develops slowly and the pain it causes worsens over time. Although there is no cure for osteoarthritis, there are many treatment options available to help people manage pain and stay active.

In its early stages, arthritis of the knee is treated with nonsurgical methods. Your doctor may recommend a range of treatments, including:

- Changes in activity level
- Weight loss
- Pain relievers, such as acetaminophen or nonsteroidal anti-inflammatory drugs (NSAIDs) like ibuprofen
- Physical therapy
- Corticosteroid injections

Another treatment option is a procedure called viscosupplementation. If you have tried all other nonsurgical treatment methods and your pain continues to limit your activities, viscosupplementation may be an option.

In this procedure, a gel-like fluid called hyaluronic acid is injected into the knee joint. Hyaluronic acid is a naturally occurring substance found in the synovial fluid surrounding joints. It acts as a lubricant to enable bones to move smoothly over each other and as a shock absorber for joint loads. People with osteoarthritis have a lower-than-normal concentration of hyaluronic acid in their joints. The theory is that adding hyaluronic acid to the arthritic joint will facilitate movement and reduce pain.

The most recent research, however, has not found viscosupplementation to be effective at significantly reducing pain or improving function. Although some patients report pain relief with the procedure, some people are not helped by the injections.

Viscosupplementation was first used in Europe and Asia, and was approved by the U.S. Food and Drug Administration in 1997. Several preparations of hyaluronic acid are now commercially available.

Procedure

Depending on the product used, you will receive one to five shots over several weeks.

During the procedure, if there is any swelling in your knee, your doctor will remove (aspirate) the excess fluids before injecting the hyaluronic acid. Usually, the aspiration and the injection are done using only one needle injected into the joint. Some doctors may prefer to use two separate syringes.

For the first 48 hours after the shot, you should avoid excessive weight bearing on the leg, such as standing for long periods, jogging or heavy lifting.

Side Effects

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.

Complications

Rarely, patients may develop a local allergy-like reaction in the knee. In these cases, the knee may become full of fluid, red, warm, and painful. If this occurs, contact your doctor immediately.

Infection and bleeding are also very rare complications of this procedure.

Outcomes

As is noted above, some patients will not be helped by viscosupplementation. For those who report pain relief with the procedure, it may take several weeks to notice an improvement. How long the effects last varies. Some patients report pain relieving effects for several months following the injections.

If the injections are effective they may be repeated after a period of time, usually 6 months.

Although some patients report relief of arthritis symptoms with viscosupplementation, the procedure has never been shown to reverse the arthritic process or re-grow cartilage.

The effectiveness of viscosupplementation in treating arthritis is not clear. It has been proposed that viscosupplementation is most effective if the arthritis is in its early stages (mild to moderate), but more research is needed to support this. Research in viscosupplementation and its long-term effects continues.

Last reviewed: June 2015

AAOS does not endorse any treatments, procedures, products, or physicians referenced herein. This information is provided as an educational service and is not intended to serve as medical advice. Anyone seeking specific orthopaedic advice or assistance should consult his or her orthopaedic surgeon, or locate one in your area through the AAOS ["Find an Orthopaedist"](#) program on this website.

Copyright 2015 American Academy of Orthopaedic Surgeons

Related Articles

Arthritis of the Knee (<http://orthoinfo.aaos.org/topic.cfm?topic=A00212>)

Glucosamine and Chondroitin Sulfate (<http://orthoinfo.aaos.org/topic.cfm?topic=A00189>)

Managing Arthritis Pain with Exercise (<http://orthoinfo.aaos.org/topic.cfm?topic=A00696>)

Orthopaedic Evidence-Based Medicine (<http://orthoinfo.aaos.org/topic.cfm?topic=A00669>)

Osteotomy of the Knee (<http://orthoinfo.aaos.org/topic.cfm?topic=A00591>)

Patellofemoral Arthritis (<http://orthoinfo.aaos.org/topic.cfm?topic=A00590>)

Total Knee Replacement (<http://orthoinfo.aaos.org/topic.cfm?topic=A00389>)

OrthoInfo

The American Academy of Orthopaedic Surgeons
9400 West Higgins Road
Rosemont, IL 60018
Phone: 847.823.7186
Email: orthoinfo@aaos.org