

Ostenil Joint Injection

What is a synovial joint?

A synovial joint is one in which the ends of the bones are enclosed in a capsule containing a thick, slippery liquid called synovial fluid. The capsule is made of strong, fibrous tissue and is lined with a membrane called the synovial membrane. The bone ends are covered in a smooth layer of a tough, rubbery substance known as cartilage.

The synovial fluid in the joint capsule has four important functions: it keeps the bones slightly apart, protecting their cartilage coverings from wear and tear it absorbs shocks, again protecting the cartilage it lubricates the joint, helping it to work freely and easily it acts as a filter, letting nutrients reach the cartilage, but blocking the passage of harmful cells and substances.

The most important component of synovial fluid is a substance called hyaluronic acid. It is this substance that lets synovial fluid perform its four different functions all at the same time. Most of the joints in your body are synovial joints. Good examples, besides the knee, include the hip and the shoulder.

What happens in osteoarthritis?

The hyaluronic acid in synovial fluid does not stay there for a whole lifetime but is continuously broken down and replaced. Normally, there is an exact balance between the breakdown of old hyaluronic acid and the production of new hyaluronic acid. In osteoarthritis, however, this balance is disturbed and breakdown happens faster than production. As a result, the synovial fluid becomes more watery and stops working properly.

Due to the change in the synovial fluid – and for other, more complex reasons – the cartilage in the joint gradually wears away. In some places, in fact, the cartilage may eventually disappear altogether. The thinning of the synovial fluid and wearing away of the cartilage lead to the symptoms of osteoarthritis, which include pain, stiffness and swelling.

Osteoarthritis develops as people get older and is present in almost everybody over the age of 60 (although not everyone in this age group has bad symptoms). Osteoarthritis of the knee or hip may also occur in younger people, usually (but not always) because these joints have been overloaded. Possible causes of

overloading include sports, jobs involving a lot of lifting and carrying, too much bodyweight and abnormal joint development.

What is Ostenil® Plus, and how does it work?

Ostenil® Plus is a solution containing hyaluronic acid. It is injected into the space in the joint that contains synovial fluid and works by restoring the normal balance between the breakdown and production of hyaluronic acid. This effect of Ostenil® Plus means that it can decrease pain and stiffness and improve the other symptoms of osteoarthritis.

The hyaluronic acid in Ostenil® Plus is very pure and is manufactured using a process called fermentation. It contains no animal proteins, which means it is very unlikely to cause an allergic reaction. The addition of Mannitol (a simple sugar derivative) to Ostenil® Plus allows the Hyaluronic Acid to work for longer and more efficiently in the joint, enabling effective symptom reduction with a single injection. Ostenil® Plus has been extensively tested, and has not been found to cause any serious side effects. The exact make-up of the hyaluronic acid in Ostenil® Plus has been carefully chosen so that it is as effective as possible in treating osteoarthritis.

What can I expect if I decide to have treatment with Ostenil® Plus?

If you decide to have treatment with Ostenil® Plus, it will be injected directly into the joint affected by osteoarthritis.* You may not notice any benefit immediately after your injection, but will gradually experience a reduction in pain and stiffness. The improvement in your symptoms is likely to persist for several months, depending on the progression of the degenerative change in the joint being treated. When the effects of your Ostenil® Plus injection begin to wear off, you can safely choose to have another injection if your clinician agrees it is appropriate. Thereafter, you can continue with Ostenil® Plus therapy whenever necessary.

The Shoulder

The shoulder is a series of five joints linked together by bones, muscles and ligaments.

The most commonly affected shoulder joints are the glenohumeral joint, the subacromial bursa and the acromio-clavicular joint.

The glenohumeral joint is lined by a synovial membrane, which produces synovial fluid.

The Knee

The knee is what is known as a synovial joint.

The knee joint is surrounded by a joint capsule. This is a balloon-like structure that encases the joint.

The synovium is a soft inner layer of the capsule. It is a membranous lining of the joint that contains synovial fluid. This layer helps to lubricate the joint, allowing smooth motion.

The synovial fluid in the joint has five important functions:

1. It keeps the articulations slightly apart, protecting their coverings from wear and tear
2. It absorbs shock
3. It lubricates the joint, helping it to work freely and easily
4. It acts as a filter, letting nutrients reach the tendons and cartilage, but blocking the passage of harmful cells and substances
5. It eliminates harmful inflammatory proteins, reducing pain and swelling when the joint is injured.

The most important component of synovial fluid is a substance called Hyaluronan. It is this substance that lets synovial fluid perform the 5 different functions all at the same time.

Hyaluronan Injections

The principles behind Hyaluronan injections are to decrease pain and improve function in patients with joint pain.

Hyaluronan injections have been shown to have the following beneficial effects on joints:

1. They replace some of the normal ingredients found in synovial fluid (hyaluronans) improving the lubricating ability.
2. They help to stimulate the joint lining (the synovium) manufacture more normal synovial fluid.
3. The Hyaluronan coats the lining of the damaged joint surfaces and lining, covering pain nerve endings. This reduces pain and protects the joint surfaces from joint inflammation.

4. Hyaluronans also act directly to reduce inflammation in a joint, like a steroid, but without the harmful side-effects of steroids.

Ostenil®

Ostenil® (TRB Chemedica), is a high molecular weight derivative of hyaluronic acid. In this form, the majority of the hyaluronic acid is in a gel-like state which improves the ability of this hyaluronan to remain in the joint for a longer period of time.

Ostenil® is delivered through a series of injections into the joint. The number of injection differs according to the reason for the injection and the joint to be injected.

Usually for arthritis a weekly course of three to five injections is recommended. In our experience less injections are required for shoulder impingement, where the injection works as an adjuvant to exercise and physiotherapy.

After your injection

To gain the most benefit from this injection it is important that you rest the joint from any strenuous activity for 1-2 days. You will be able to carry out activities of daily living as normal.

The clinician who has given you the injection will have checked your medical history to ensure that you are at minimal risk of any adverse reaction. Adverse reactions are extremely unusual with Ostenil® injections, but if you notice any of the following symptoms: swelling, redness or warmth around the injection site, or you feel generally unwell, please contact your GP or casualty.

It is important that you attend your review appointment so that your clinician can assess the effects of the injection and provide you with additional advice as appropriate.



Ostenil® is a very effective tool to treat:

1. Subacromial impingement of the shoulder
2. Patients with early-stage arthritis who wish to improve both their pain and function
3. Patients with more advanced arthritis who would like to postpone the need for a total joint replacement.