

## VISCOSEAL® Properties

VISCOSEAL® acts as a substitute for the synovial fluid that is lost following an arthroscopic procedure. It is instilled directly into the joint after surgery. Any saline solution remaining in the joint will be displaced, and the cartilage is once again surrounded in its natural viscous, protective environment.

The sodium hyaluronate in VISCOSEAL® is produced by fermentation, and contains no animal proteins or other synthetic chemicals. The molecular structure of the sodium hyaluronate in VISCOSEAL® corresponds 100% with the molecular structure of human sodium hyaluronate. This is why VISCOSEAL® is very well tolerated and unlikely to cause adverse reactions.

## Advantages for You

Internationally published clinical studies have demonstrated the excellent results obtained by using VISCOSEAL® following arthroscopy. VISCOSEAL® eliminates: swelling, reduced mobility, and joint pain, both at rest and when the joint is load bearing in the short to medium term. Long-term studies have shown a significant advantage in outcome after 2 years for those patients who received VISCOSEAL®. So the beneficial effects of VISCOSEAL® are not only short-term, but long-lasting.

## Composition:

1ml isotonic solution contains 5.0mg sodium hyaluronate from fermentation, sodium chloride, disodium hydrogenphosphate, sodium dihydrogenphosphate, and water for injection.

## Indications:

To relieve pain, improve mobility and promote accelerated joint recovery following arthroscopic procedures by flushing out irrigating solution and substituting the synovial fluid.

## Presentation:

1 pre-filled single-use syringe with 50 mg/10ml sodium hyaluronate (in a sterile sachet).



**VISCOSEAL®**  
SYRINGE Sodium Hyaluronate 0.5%



*For a faster,  
more comfortable  
recovery after  
arthroscopy*

Patient Information



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**VISCOSEAL®**  
SYRINGE

## Arthroscopic Surgery - What is it?

Your doctor has referred you to the orthopaedic surgeon who has recommended arthroscopic surgery to you.

Arthroscopy is a well established surgical procedure, which for many patients results in a long-lasting fundamental improvement of joint function. Surgical instruments including a light source, an imaging device, and in-and-out portals for the irrigating fluid are inserted into the joint cavity through minimally invasive incisions. During the arthroscopic procedure the joint is flushed with an irrigating solution – usually saline – which removes debris from the joint, and maintains a clear visual aspect for the surgeon.

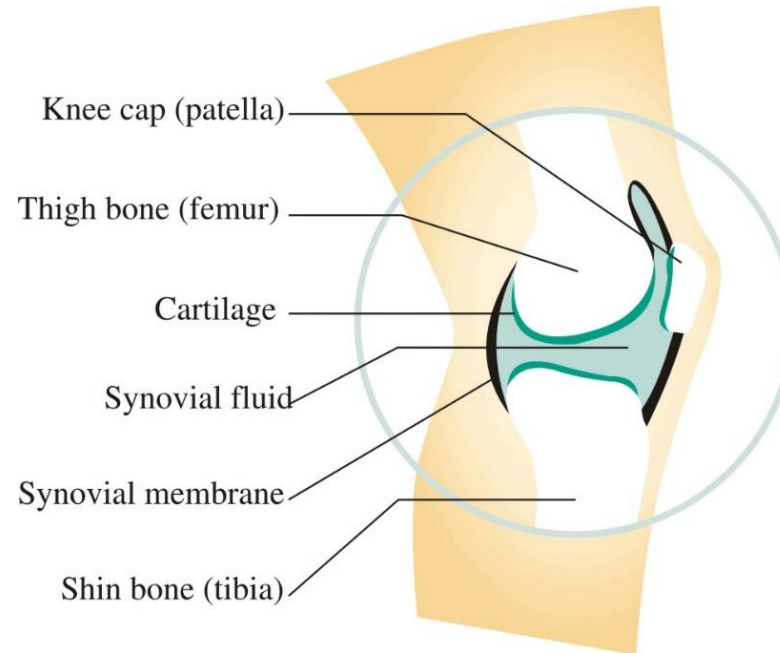
## Negative effects of joint irrigation during the intervention

After the surgical operation, as much of the irrigation solution as possible will be removed. The joint space is now “dry”, because the viscous synovial fluid normally present in joints was flushed out, and it will take some time before the body starts to produce new synovial fluid. During this time the cartilage metabolism is compromised and the cartilage surfaces have no protective layer.



## What is the purpose of the synovial fluid?

The most important component of the synovial fluid is called sodium hyaluronate. It enables the synovial fluid to store moisture, and to function as a shock absorber, filter, and lubricant.



## Sodium hyaluronate plays an important role in the healthy joint

The active ingredient in VISCLOSEAL® is called *sodium hyaluronate*. Sodium hyaluronate is a naturally occurring substance that is present in the body wherever moisture is stored or lubrication between layers of tissue is required to eliminate friction.

Examples are the tear film, the vitreous body of the eye itself, the skin, all the mucous membranes of the body, cartilage, and particularly the synovial fluid in the joints. The sodium hyaluronate in VISCLOSEAL® is concentrated to make VISCLOSEAL® very similar to naturally occurring synovial fluid. Your cartilage is immediately protected and nourished again, and the joint functions without friction.

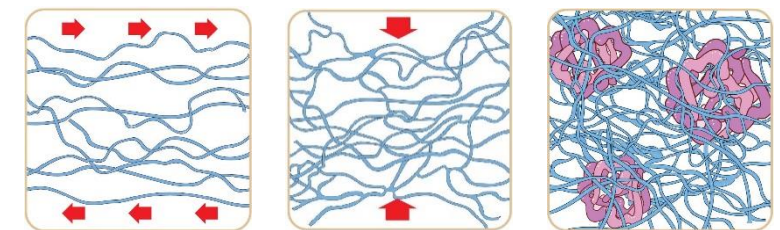


Fig. 1

Fig. 2

Fig. 3

*Fig. 1: Under gradual shear stress, sodium hyaluronate acts as a lubricant.*

*Fig. 2: Under sudden loading, sodium hyaluronate acts as a shock absorber.*

*Fig. 3: Sodium hyaluronate acts as a filter, hindering the movement of potentially damaging cells and molecules*