



Orthokine (Autologous Conditioned Serum):

Background:

Osteoarthritis (OA) means the loss of articular cartilage in a joint. This can result in dysfunction and pain. The causes of osteoarthritis are multiple and often have biomechanical and biochemical aetiologies.

Regardless of the cause of OA the result is an increase in Cytokine production in the joint. Cytokines are chemical mediators that can be either pro-inflammatory / degenerative or anti-inflammatory / protective in nature. The main pro-inflammatory cytokine is interleukin-1. This causes ongoing inflammatory change in the joint manifesting in a fluid build up and resultant degeneration of the residual cartilage.

Orthokine is a concentrated, naturally occurring, blood-derived protective cytokine that can oppose the effects of Interleukin-1.

Are You Suitable for Orthokine?

Orthokine has been used extensively in Europe for over 10 years and in Australia more recently. The original research performed in Germany found it to be very effective in reducing pain and improving function in people with grade 2-3 OA. This means that most of the cartilage but not all has worn away. More recent studies support its use in people with grade 4 OA (all of the cartilage has eroded).

Your doctor may refer you for Orthokine treatment if you have joint pain and inflammation and when surgery is not an option. For instance we have treated 100s of patients who have had arthroscopic surgery and have ongoing joint pain and swelling. Another category is the person who has been told they need a joint replacement but want to put it off for some time. You can call our clinic to discuss your suitability. A pretreatment MRI scan can be very helpful in assessing the degree of OA.

Procedure:

Prior to the procedure you will have a consultation with our radiologist and nurse. Approximately 50-60 mls of your blood will be taken from a vein in your elbow. A specialised Orthokine syringe is used containing glass beads. The syringe containing your blood is then incubated for 24 hours. This process increases the interleukin 1 antagonist (protective cytokine) and other growth factor levels in the syringe.

The syringe is then placed in a high-speed spinner and your own protective cytokine concentrate prepared for injection. Usually 6 treatments of Orthokine will be obtained. The concentrated cytokine solution will then be injected into your joint using an appropriate imaging technique. An expert musculoskeletal radiologist will perform your injections.

The frequency of injections can vary but is typically once per week. For interstate and overseas patients the injection frequency can be increased. Your plasma is stored in a specialised blood storage fridge at below -25 degrees. It can be stored safely for up to 6 months.

Is the treatment safe?

The treatment is extremely safe. Approximately one in twenty patients experience mild temporary swelling of the treated joint. This is usually after the first injection only. Occasionally some mild discomfort at the site of injection may be experienced. As with any procedure there is always a very small risk of infection or allergy. The treatment is completely safe during pregnancy and for diabetics.



After your procedure

Follow the advice of your referring doctor in relation to resuming exercise and normal activity. In general terms you should minimise strenuous activity for at least 2-3 days following your procedure. A quiet 24 hours following each injection usually affords best results.

Are there any contraindications?

There are no strong contraindications for this treatment. If you have a viral infection we suggest postponing blood collection until this settles. Some blood thinners can increase the risk of bleeding during your treatment however this will not usually be a significant risk.

Is the treatment painful?

An experienced musculoskeletal radiologist performs each injection. Local anaesthetic is always used. A small needle is typically used. In our experience the injections are very well tolerated and cause minimal discomfort.

What is our experience?

We have been performing this treatment for over 3 years and have treated well over 500 patients. Our outcomes reflect the overseas research with most patients experiencing significant relief from joint pain. Dr. Marks has treated many AFL players from around Australia and elite athletes. The majority of the joints treated have been knees. However, we have also treated hips, shoulders, ankles, wrists, thumbs and toes.

Will this treatment regenerate cartilage or regrow tissue?

This treatment will not prevent you from needing a joint replacement. It will not regrow or regenerate cartilage. It should be thought of as a naturally occurring strong anti-inflammatory treatment that may slow the rate of cartilage loss in your joint.

Can it be used in other ways?

There are small studies suggesting that Orthokine can be used instead of Cortisone for some spinal injections. We have used Orthokine successfully to treat acute muscle and tendon injuries in AFL players.

Further Reading:

Please refer to our website to read more about Orthokine research.

If you have any questions please call our clinic on 8843 7999.

Dr. Paul Marks

Clinical Director

Imaging Associates Box Hill