

YOUR 1. CHOICE

FOR OSTEOARTHRITIS AND CARTILAGE DEFECTS



INTELLIGENT AUTOLOGOUS EFFICACIOUS

THE ORTHOKINE® SERUM EASY PROCESSING



4 STEPS TO ORTHOKINE® SERUM

The **Orthokine® starter set** contains all items required for the isolation of each patient's individual serum.



1.

Take blood under aseptic conditions using the **EOT®II* syringe**.



2.

Incubate blood filled EOT®II syringes for 6-9 hrs at body temperature. Beneficial signaling proteins are generated by the blood cells.



3.

Separate blood clot from therapeutic serum by **centrifugation**.



4.

After **aseptic harvesting** the serum is ready to use.

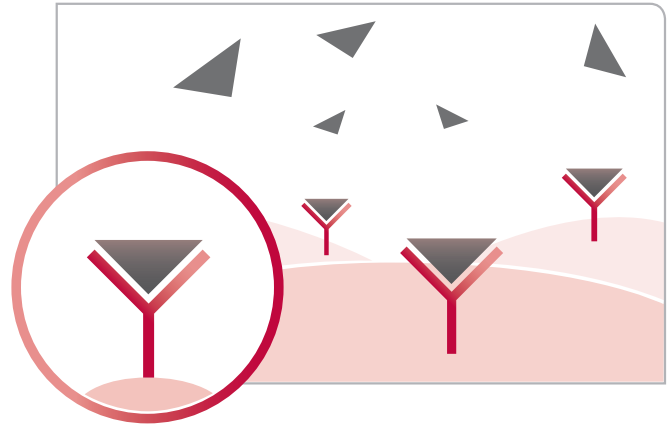


THE ORTHOKINE® THERAPY

EFFECTIVELY ADDRESSES INFLAMMATION AND PAIN

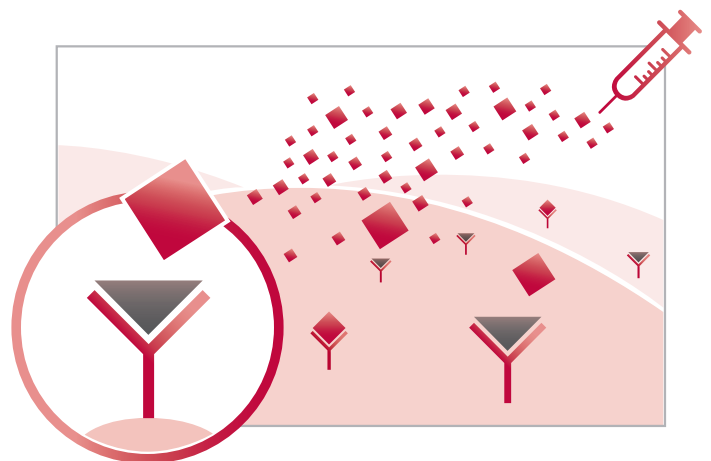
SITUATION

Signaling protein **Interleukin-1** is elevated in the tissue and binds to IL-1 receptors. This results in inflammation, pain and progressing cartilage destruction.



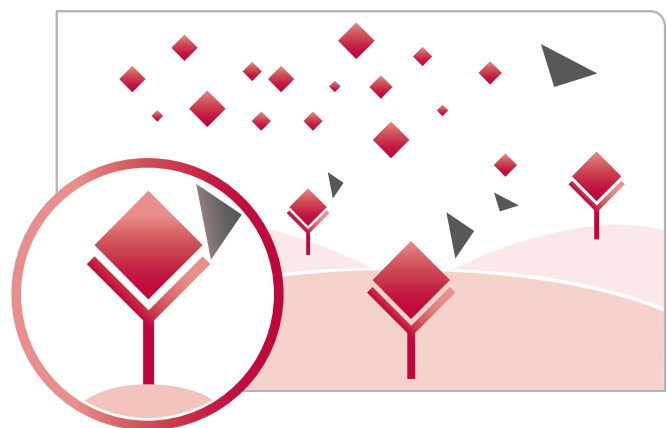
THERAPY

Beneficial autologous signaling proteins (cytokines and growth factors) are injected as part of the Orthokine® serum. They effectively address inflammation and pain.



EFFECT

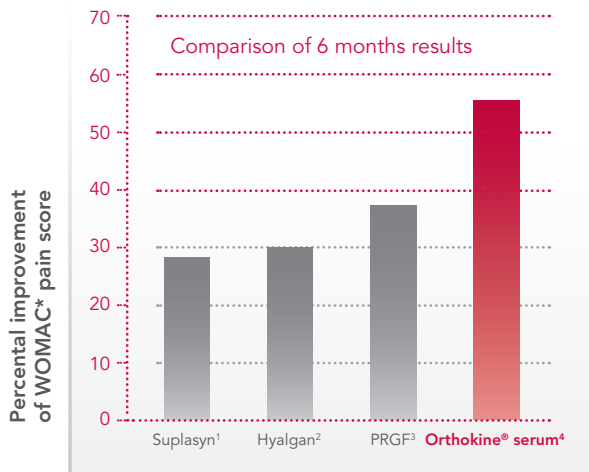
The beneficial signaling proteins displace Interleukin-1. Particularly the cytokine IL-1Ra **restores the natural equilibrium**. The growth factors are suitable to protect the joint cartilage from further destruction.





THE ORTHOKINE® EFFECT

LONG TERM ANTI-INFLAMMATORY AND PAIN-RELIEVING



SUPERIOR PAIN RELIEF

- outstanding efficacy in knee OA compared to selected plasma and hyaluronan products
- reduced need for analgetics



LONG TERM EFFICACY

- long term pain relief
- functional improvement
- superior quality of life
- may postpone or avoid surgery

THE ORTHOKINE® THERAPY IS PROVEN TO BE EFFECTIVE FOR CARTILAGE DEFECTS (OA GRADE I-III).

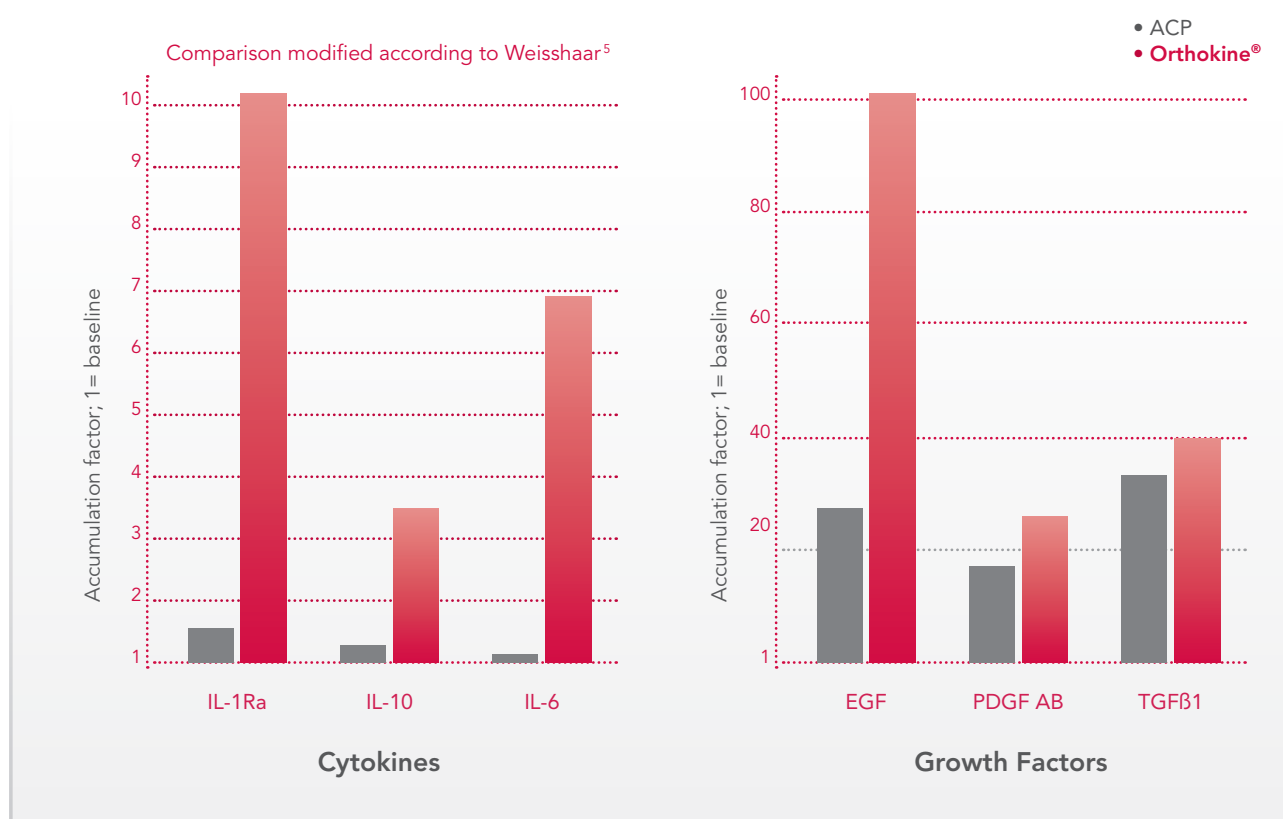
¹WOMAC: Western Ontario and McMaster Universities Osteoarthritis Index



THE ORTHOKINE® SERUM COMPARISON

HIGHEST CONCENTRATION OF BENEFICIAL SIGNALING PROTEINS

6.6 FOLD CONCENTRATION OF IL-1RA



ADVANTAGES OF THE ORTHOKINE® THERAPY:

- **outstanding efficacy** through highest concentration of autologous beneficial signaling proteins (cytokines and growth factors) in Orthokine® serum
- **cell free serum:** no potential hazard to cartilage by intra-articular coagulation

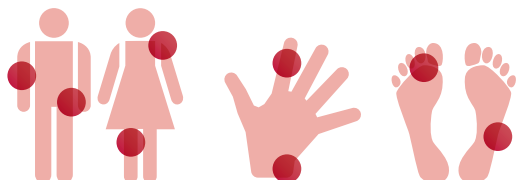
THE ORTHOKINE® THERAPY LEADS TO AN EFFECTIVE PAIN RELIEF AND LONG TERM JOINT PROTECTION.



THE ORTHOKINE® THERAPY AT A GLANCE

INDICATION

- Cartilage defects (Osteoarthritis grade I-III)



CHARACTERISTICS

- intelligent use of autologous signaling proteins
- biological mode of action
- anti-inflammatory cell free serum
- easy and safe handling

PATIENT'S BENEFITS

- significant pain reduction
- higher quality of life through functional improvement
- long term efficacy
- may postpone or avoid surgery
- excellent tolerability profile

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- ① Petrella et al., *Effects of Hyaluronate Sodium on Pain and Physical Functioning in Osteoarthritis of the Knee. A Randomized, Double-blind, Placebo-Controlled Clinical Trial.* Arch Intern Med 2002; 162: 292-298.
- ② Huang et al., *Intra-articular injections of sodium hyaluronate (Hyalgan) in Osteoarthritis of the knee. A randomized, controlled, double-blind, multicenter trial in the asian population.* BMC, Musculoskeletal Disorders 2011, 12:221.
- ③ Sanchez et al., *A Randomized Clinical Trial Evaluating Plasma Rich in Growth Factors (PRGF-Endoret) Versus Hyaluronic Acid in the Short-Term Treatment of*

Symptomatic Knee Osteoarthritis. Arthroscopy: The Journal of Arthroscopic and Related Surgery 2012, Vol 28, No 8 (August), pp 1070-1078.

- ④ Baltzer et al., *Autologous conditioned serum (Orthokine®) is an effective treatment for knee osteoarthritis.* Osteoarthritis and Cartilage 2009, 17, 152-160.
- ⑤ Weisshaar and Gaji, *Signaling Proteins (Growth Factors and Cytokines) in Orthopaedics. Comparison of two blood processing techniques: Orthokine® and ACP®.* CORS 2013 Venice, 8th Combined Meeting of Orthopaedic Research Societies. 13-16 October 2013, San Servolo Venice, Italy.



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