

## IMPACT ACS – Autologous Conditioned Serum

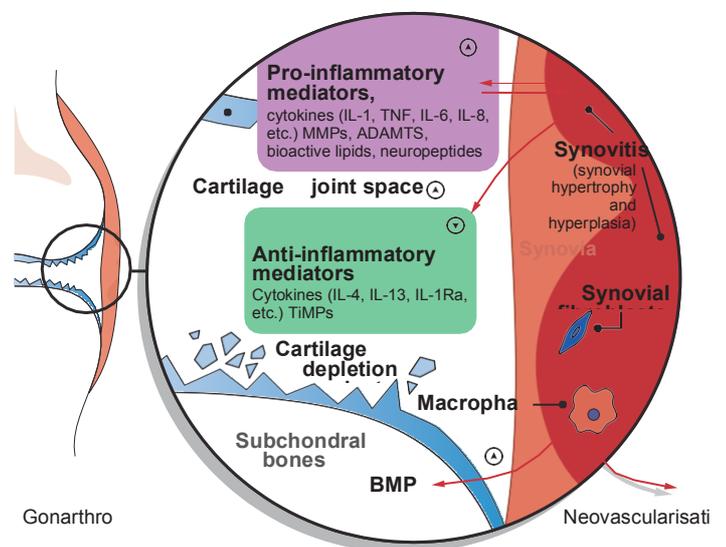
### Arthrosis: Inflammatory processes with a significant role in pathogenesis

In degenerative and inflammatory joint diseases, an increased release of inflammation-promoting, cartilage-damaging cytokines occurs in the joint. Cytokines are proteins that regulate the growth and differentiation of cells. Some cytokines are accordingly called growth factors, while others play an important role for immunological reactions. Cytokines are the best studied among the mediators of inflammatory processes. Cytokines such as TNF, IL-1 $\beta$ , IL-6, IL-15, IL-17, IL-18, IL-21 are associated with the pathology of arthrosis. Even though the correlations on a molecular level are still unclear, these cytokines are said to have a cartilage-decomposing effect as well as a negative influence on cartilage homeostasis. This disrupts the balance in arthrosis patients: There is an oversupply of inflammation-promoting cytokines.

### Cytokine imbalance: IMPACT ACS creates balance

Despite all the heterogeneity of arthrosis, it can be stated that an early control of the chronic inflammatory reaction in the joint is a component of the treatment. It is assumed that various cytokines, such as IL-1 Ra or IL-10, have an anti-inflammatory effect on certain aseptic inflammatory processes. In the production of autologous conditioned serum (ACS), the endogenous production of anti-inflammatory cytokines is simulated and the serum is also enriched with growth factors. This "conditioned" serum from the patient's blood is injected into the affected joints or also at mechanically compressed spinal roots, for example, where it exerts a correspondingly positive effect. The body's own protective proteins have anti-inflammatory, pain-relieving and cartilage-protecting effects.

Pathophysiology of arthrosis



### Goal of the ACS therapy: Increase the body's own protective proteins

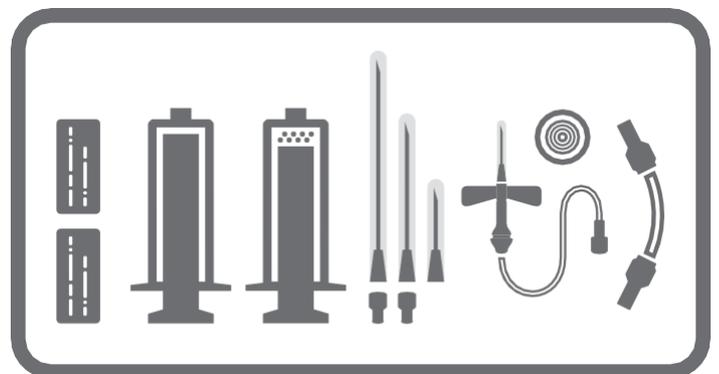
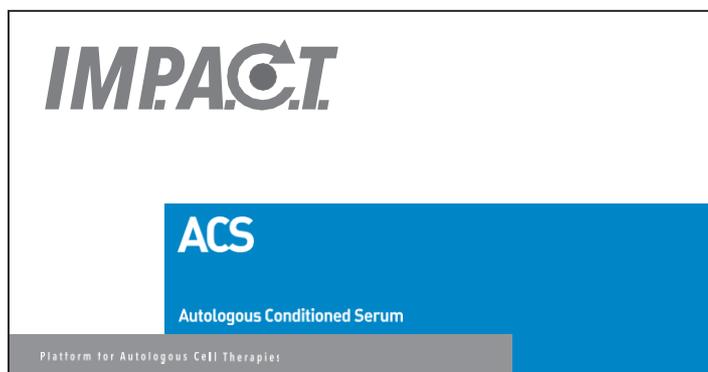
With the IMPACT ACS therapy, venous whole blood is collected from the patient with the special IMPACT ACS syringe. The glass beads in the IMPACT ACS syringe promote the stimulation of white blood cells and increase the production of anti-inflammatory, regenerative cytokines. Subsequent centrifugation with the IMPACT platform automatically isolates and separates a serum free of cellular components.

The IMPACT ACS obtained can be injected directly into the affected joint. The protective proteins are now present in increased form in the joint, displace the inflammation-promoting cytokines from the receptors and thus inhibit the cascade of the inflammatory process.

## IMPACT ACS – Indikationsbeispiele

Der besondere Fokus der ACS Therapie liegt auf Entzündungshemmung und Schmerzlinderung, wodurch die Lebensqualität der Patienten erhöht werden kann.

- Arthrose, insbesondere aktivierte Arthrose, bspw. in Kniegelenken
- Degenerative Wirbelsäulenerkrankungen  
(z.B. Spondylarthrose, Osteochondrose, Spondylose, degenerative Spinalstenose)
- Nervenkompressionssyndrom  
(z.B. Bandscheibenprotrusion, Bandscheibenprolaps, degenerative Neuroforamenstenose)
- Rückenschmerzen



### LITERATURAUSWAHL

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