

# **Tissue engineering of human cartilage for reconstructive surgery using biocompatible, resorbable fibrin glue with polymer structures.**

## **[German]**

Authors: Haisch A., Schultz O., Perka C., Jahnke V., Burmester G.R., Sittinger M.

Publication Date: 1996

### **Abstract:**

Current practical approaches in cartilage engineering still face problems with three-dimensional cell distribution or require components for cell immobilization, raising biocompatibility problems. In this study, we present a new model using cells cross-linked by fibrin within biocompatible resorbable polymers. Both components have been in clinical use for a long time. Immunohistochemical procedures showed that this model provides optimal requirements for in vitro cartilage production. Immunochemically, cartilage-specific extracellular components such as proteoglycan, chondroitin sulfate and collagen II were characterized. Histomorphological methods showed a mechanically stable tissue compound that lasted for at least 5 weeks. This model may be the first to provide all biocompatible requirements for in vitro production of autologous cartilage transplants for reconstructive surgery.