

Researchers develop world's first biodegradable joint implant

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Tampere University of Technology (TUT), Finland, has been the first in the world to develop biodegradable joint implant, RegJoint. The implant is used in the treatment of osteoarthritis and rheumatoid arthritis.

RegJoint has recently received CE Mark approval that allows the product to be sold in the European Union. The joint implant, which has been developed since the mid-1990s, is the result of collaboration between the Department of Biomedical Engineering at Tampere University of Technology, Conmed Linvatec Biomaterials, Scaffdex Ltd and a group of [orthopaedic surgeons](#), among others, from Tampere University Hospital. Scaffdex Ltd will bring RegJoint to the market.

New treatment for arthritic patients

[Rheumatoid arthritis](#) and osteoarthritis destroy the normally smooth cartilage that lines the ends of bones. As cartilage regenerates poorly, the injuries are difficult to treat. Joint injury reduces mobility and causes pain. The conventional surgical options involve permanent implants or the artificial induction of joint ossification between two bones. RegJoint offers an alternative for conventional surgery and has several advantages over permanent implants. For example, the patient's own [bone tissue](#) remains intact during the operation. In addition, the implant makes the reconstruction of the joint more sustainable and cushions the area, relieving pain caused by friction between the bones.

The implant is used to repair injuries in the small joints of the fingers and toes. It is made of biodegradable polylactide [copolymer](#) and placed inside the joint capsule that surrounds the joint. The implant stimulates the body to produce [connective tissue cells](#) and is gradually replaced by the patient's own soft tissue. RegJoint forms a neojoint between the bone ends and restores normal mobility.

The product has undergone extensive clinical trials in Finland and abroad and patients have reported positive results.

Provided by Tampere University of Technology

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