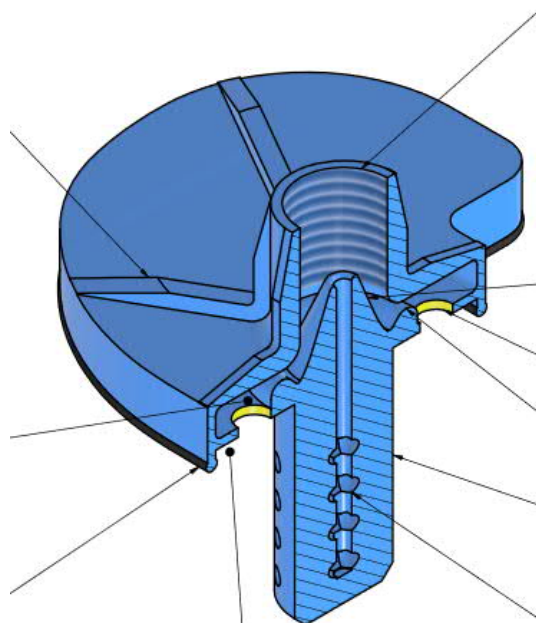


Cement applicator for embedding endoprostheses

Endoprosthetics, orthopaedic surgery

DESCRIPTION OF TECHNOLOGY AND PRODUCT

When implanting prostheses in bone, e.g. to replace joints destroyed by arthrosis, bone cement is often used to consolidate the implant on the bone. The newly developed cement applicator is used to apply this bone cement during implantation. For this purpose, the innovative cement applicator is designed in such a way that the applied bone cement can directly reach the joint space between bone and implant from the mixing system above the applicator and distribute itself particularly evenly there.



© Dr. Jahnke, Torben Harz – JLU

This provides a particularly even layer of bone cement on a bone, ensuring a reliable connection between the bone and the implanted prosthesis.

SCOPE OF APPLICATION

The new cement applicator is basically suitable for various types of implantations in which prostheses are fixed in bone using bone cement. Examples include operations to replace a hip joint, a knee joint or a shoulder joint.

AT A GLANCE ...

Scope of Application

- orthopaedic surgery
- endoprosthetics

Market/Branche

- medical engineering

USP

- particularly fast and reliable application of the bone cement
- particularly uniform layer thickness

Development status

- prototype created

Patent portfolio

priority EP-application filed on 31.01.2022 at the European Patent Office

ADVANTAGES COMPARED TO STATE OF THE ART

The innovative cement applicator makes it possible to distribute bone cement for embedding an endoprosthesis in a controlled, even and smooth manner on the bone. This optimises the fit of the endoprosthesis and increases its long-term stability.

The cement applicator can be easily and reliably manufactured from a printable plastic that can be sterilised and sterilely packaged at the factory, e.g. polyetheretherketone (PEEK). The application is similar to the procedure for conventional cement applicators.

DEVELOPMENT STATUS

The development of a prototype for carrying out mechanical tests is performed. Currently, it is planned to carry out a feasibility study with artificial bone models using a 3D print model.

After positive completion of the preliminary study, a comparative study with the new system and established methods is planned.

MARKET POTENTIAL

In 2016, 122,961 initial implantations were performed in Germany (EPRD Annual Report 2016, p. 18 Tab. 5) on the hip alone. Due to demographic change, an increase in this and other types of endoprosthesis implantations is to be expected. Thus, there is a great need for cement applicators to fix the endoprostheses.

OFFER

On behalf of its shareholder Justus-Liebig-University Giessen, TransMIT GmbH is looking for cooperation partners or licensees for further development in Germany, Europe, the US and Asia.

A TECHNOLOGY OF



Contact

TransMIT Gesellschaft
für Technologietransfer mbH
Kerkrader Straße 3
35394 Gießen
GERMANY
www.transmit.de

Contact Person

Jörg Krause, Dipl.-Phys.,
Tel: +49 (0) 641 9 43 64 26
Fax: +49 (0) 641 9 43 64 55
E-Mail: joerg.krause@transmit.de

