The operation is under control with Ultraform®

Cae Study

An engineering plastic from BASF will in the future help to minimize the consequences of torn cruciate ligaments: The handle of a new instrument for inserting cruciate ligament implants from the company Resoimplant, Regensburg utilizes Ultraform® PRO – a semi-crystalline POM copolymer (polyoxy-methylene) from BASF. In addition to the good mechanical properties, the deciding factor for selecting this material was an extensive service package that BASF created specifically for applications in the medical device sector and which has often proven its value in recent years.

A new operating procedure developed by Resoimplant will be able to simplify treatment of torn cruciate ligaments. The concept simplifies securing a cruciate ligament implant in the bone of the knee in an unusual manner: It employs an anchor made from a bioabsorbable material. The new procedure eliminates the need for the second operation. The screwdriver is replaced by a disposable applicator called Resofix® Plus that helps to guide the critical anchor through the operating channel and expands it in the bone.

The instrument is offered in three versions, depending on the type of operation and location of the drilled channel. The designers use the Ultraform® PRO resin at two locations in the handle area: in the blue handle itself as well as at the tip of the handle, the color of which allows the individual performing the operation to readily identify the applicator version. The primary characteristics of the material – in this case, Ultraform® W2320 003 PRO – are very good strength, rigidity and dimensional stability in particular, since when introducing the anchor considerable force must be exerted; in certain circumstances, the physician may even reach for a hammer.

Even a clip at the end of the applicator not facing the patient that is removed immediately prior to insertion of the anchor is made from Ultraform®. This is where very good resilience was called for in the material and which makes this plastic ideal for use in spring elements. It ensures that the clip is held securely and can be withdrawn without complications at the critical moment.