

Rescue Plan:

- Cementless anatomical femoral stem with meta-/diaphyseal press-fit anchorage.
- Ovally shaped, tapered stem.
- Replacement of distal femoral component to match the tibial component in situ.



7255_OptiStems_Teaser_en_2025-05_001 MAR-03538

Literature (general):

Biomechanical Analysis of Femoral Stems in Hinged Total Knee Arthroplasty in Physiological and Osteoporotic Bone; Edoardo Bori, Federica Armaroli 1, Bernardo Innocenti; 2021 Elsevier.

Primary Rotational Stability of Cylindrical and Conical Revision Hip Stems as a Function of Femoral Bone Defects: An In Vitro Comparison; Elke Jakubowitz, Rudi G. Bitsch, Christian Heisel, Christoph Lee, P. Kretzer, Marc N. Thomsen; Journal of Biomechanics 41(2008)3078-3084, Computer Methods and Programs in Biomedicine 213 (2022) 106499

Biomechanical Analysis of the Use of Stems in Revision Total Knee Arthroplasty; Bernardo Innocenti, Edoardo Bori and Silvia Pianigiani; Bioengineering 2022, 9, 259.
<https://doi.org/10.3390/bioengineering9060259>

Comparative Biomechanical In Vitro Study of Different Modular Total Knee Arthroplasty Revision Stems With Bone Defects; Dario Guttowski, Dr. Med. Valerie Polster, Dipl.-Ing. Gerd Huber, Dr. Ing. Michael M. Morlock, Prof. Dr. Klaus Püschel, Prof. Dr. med. Jakob Nüchtern; The Journal of Arthroplasty 35 (2020) 3318e3325

Individual Revision Knee Arthroplasty Is a Safe Limb Salvage Procedure; Peter Savov, Lars-Rene Tuecking, Henning Windhagen and Max Ettinger; Individual Revision Knee Arthroplasty Is a Safe Limb Salvage Procedure. J. Pers. Med. 2021, 11, 572.
<https://doi.org/10.3390/jpm11060572>

* Custom-made:

Information on tibial Link OptiStems is available upon request.

Send inquiry to:
<https://customlink.solutions>



The Case

Pre-Op:

Aseptic loosening of the femoral component in the distal femur with extensive bone loss.

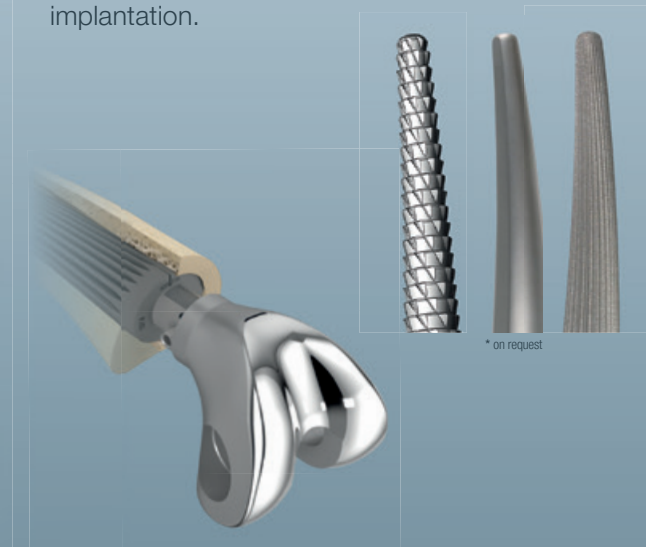
OptiStems



FIT & FILL

Anatomical Self-positioning

- Based on scientific papers and decades of custom-made experience by LINK, developed for anatomical self-positioning.
- Anatomical design takes the natural curvature of the femur into account: The next step to the classic cone-stem combination.
- Precise feedback from instrumentation during implantation.



Anchorage in the Restoration Zone

- Rotational stability in the femur thanks to distal metaphyseal press-fit, oval stem cross-section, and anatomical curvature.
- Oval stem design for lumen-filling fit, with stem diaphyseally tapering to a round cross-section in order to reduce the risk of bone stress.
- Suitable for the Endo-Model SL and the new generation LINK Endo-Model EVO.

The Optimal Stem Option

- Intraoperative freedom of choice between cementless or cemented option, with three stem lengths each.
- Free rotation adjustment to the femoral component via OptiStem adapter
- Adequate leg length adjustment via adapter and choice of stem size.
- Proven taper connections for reliable coupling.



The Solution

Post-Op:

Distal femoral OptiStem anchorage and hinged Endo-Model knee to achieve sufficient fixation in spite of large bone deficit.