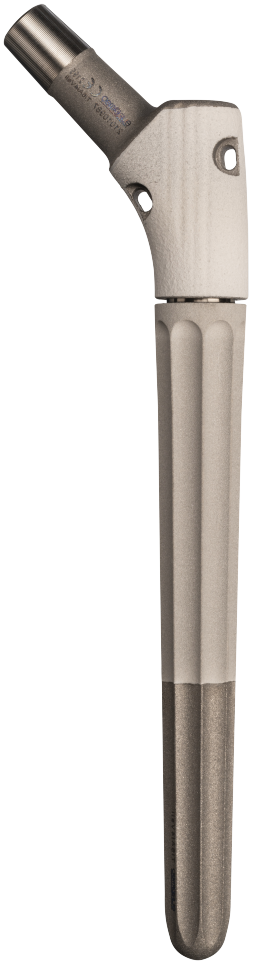
Surgical Technique

EMR Cementless Stem



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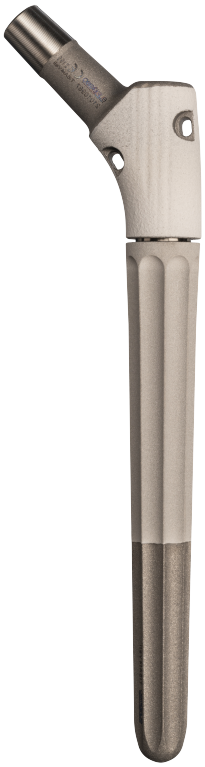
Please note:
This document is intended as a guide for the surgeon only. There are multiple techniques for the insertion of EMR hip Prosthesis, with any surgical procedure, a surgeon should be thoroughly trained and be aware that this procedure is appropriate for the patient before proceeding.

Introduction

In revision arthroplasty, especially in cases of osteolysis or large cement mantels, the extended femoral defects can cause intraoperatively shaft fractures when removing the stem.

The defects and fractures must be bridged by a long stem. The implants have to be adapted exactly to the diameter of the cortical tube and have to be placed distally beyond the pathologic area, where stress patterns become normal.

EMR revision hip system consists of single modular elements, stems, proximal body and safety screws. All elements are able to be fixed rotationally free. The stems are available in three different lengths of 142mm, 172mm & 212mm, straight with eight different diameters.

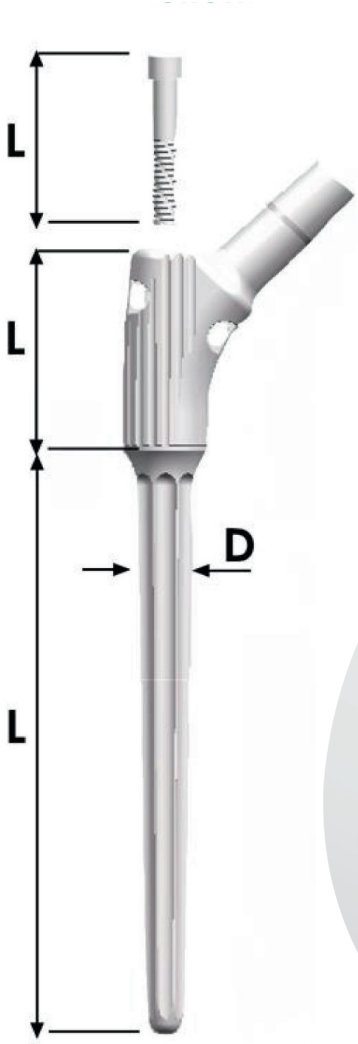


These components do really guarantee to solve all intraoperative situations as soon as the surgeon sees the defect during revision. A torque limiter fixes the compression force between the single modules always at the same value of torque.

Material

The EMR revision hip prosthesis is manufactured from Titanium Ti6Al4V ELI according to ASTMF 136 and ISO 5832/3, which has been specifically designed for the manufacture of orthopedic implants.

This alloy is characterized by demonstrating excellent biocompatibility, together with a high resistance of corrosion and superior mechanical strength.The roughened surface finish also plays a vital role in the osseointegration.



EMR Cementless stem- Fixation Bolt/Titanium

Ref. Number	Size	Length(mm)
EB5502T029S	XS	29
EB5502T035S	S	35
EB5502T045S	M	45
EB5502T055S	L	55

EMR Cementless Stem- Proximal Part

Ref. Number		Size	Length
Titanium	HA-Coated		(mm)
EB5503T042S	EB5803N042S	XS	42
EB5503T048S	EB5803N048S	S	48
EB5503T058S	EB5803N058S	M	58
EB5503T068S	EB5803N068S	L	68

EMR Cementless Stem- Distal Part

Ref. Number		Stem Size	Stem Length	Cone
Titanium	HA-Coated	D (mm)	L(mm)	Size
EB5513T142S	EB5813T142S	13	142	12/14
EB5513T172S	EB5813T172S	13	172	12/14
EB5513T212S	EB5813T212S	13	212	12/14
EB5514T142S	EB5814T142S	14	142	12/14
EB5514T172S	EB5814T172S	14	172	12/14
EB5514T212S	EB5814T212S	14	212	12/14
EB5515T142S	EB5815T142S	15	142	12/14
EB5515T172S	EB5815T172S	15	172	12/14
EB5515T212S	EB5815T212S	15	212	12/14
EB5516T142S	EB5816T142S	16	142	12/14
EB5516T172S	EB5816T172S	16	172	12/14
EB5516T212S	EB5816T212S	16	212	12/14
EB5517T142S	EB5817T142S	17	142	12/14
EB5517T172S	EB5817T172S	17	172	12/14
EB5517T212S	EB5817T212S	17	212	12/14
EB5518T142S	EB5818T142S	18	142	12/14
EB5518T172S	EB5818T172S	18	172	12/14
EB5518T212S	EB5818T212S	18	212	12/14
EB5519T142S	EB5819T142S	19	142	12/14
EB5519T172S	EB5819T172S	19	172	12/14
EB5519T212S	EB5819T212S	19	212	12/14
EB5520T142S	EB5820T142S	20	142	12/14
EB5520T172S	EB5820T172S	20	172	12/14
EB5520T212S	EB5820T212S	20	212	12/14

Preparation of the femur with the reamers

If diaphyseal fixation is required, the femoral is prepared with the reamers which have the role of giving the medullary canal a conical shape. To obtain bone-implant contact as a surface with the reamers, three rules have to complied with:

1. Stay close to the fixation area

If the press-fit area can be in the proximal diaphyseal area, preparation through the endofemoral approach is possible.
If the press-fit area has to be in the isthmus of the femoral, it is often preferable to carry out a femoral flap.

2. Ream a straight segment of the femoral

The role of the reamers is to give the medullary canal a conical shape. They are only effective, if there is a certainty of working on a straight segment of the femoral.

3. Ream a short segment of the femur

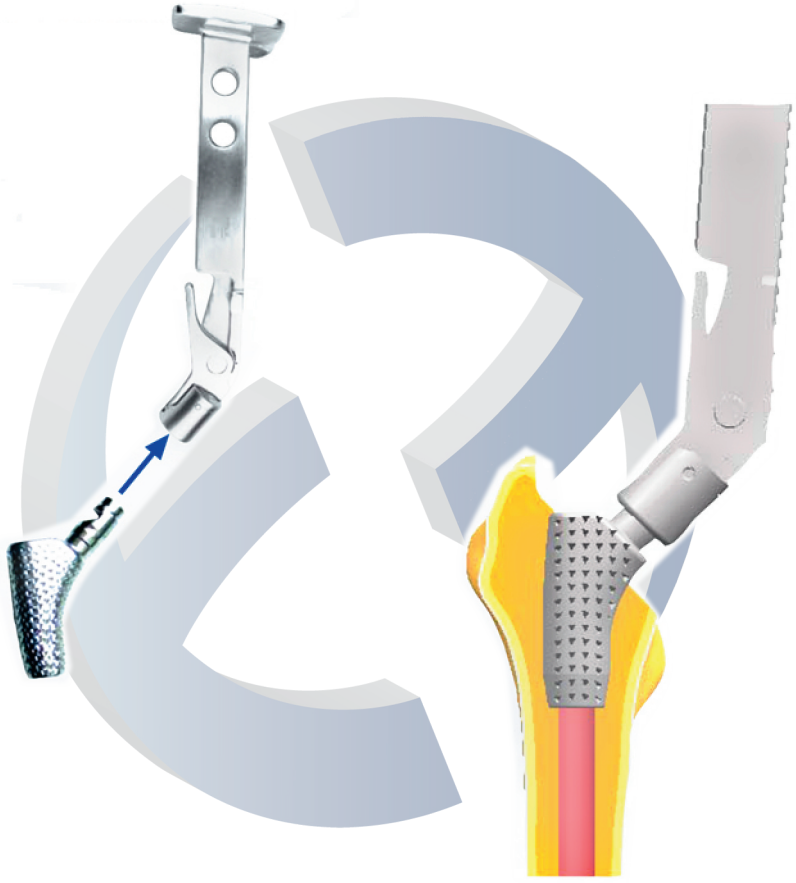
It is easier to make a segment of the femoral "conical" , if this area is not too high.

Attention

The references provided bs the reamer (diameter and length) are only indicative for the choice of the definitive implant, which must always be done with a test prosthesis.

Preparing the femoral with the RASPs

It is only possible to prepare a bone implant contact surface with the RASP, if an endofemoral approach is chosen and the primary stability area is situated in the metaphyseal-diaphyseal area of the femoral (In revision procedures, it is rarely possible to achieve fixation in the metaphyseal area). In this case, take advantage of the modularity of the RASP to perform a two-stage preparation of the medullary canal.



Impact the assembled RASP. When the depth of penetration corresponds to the one achieved in the previous stage, a perfect bone implant contact in the metaphysealdiaphyseal area is guaranteed.

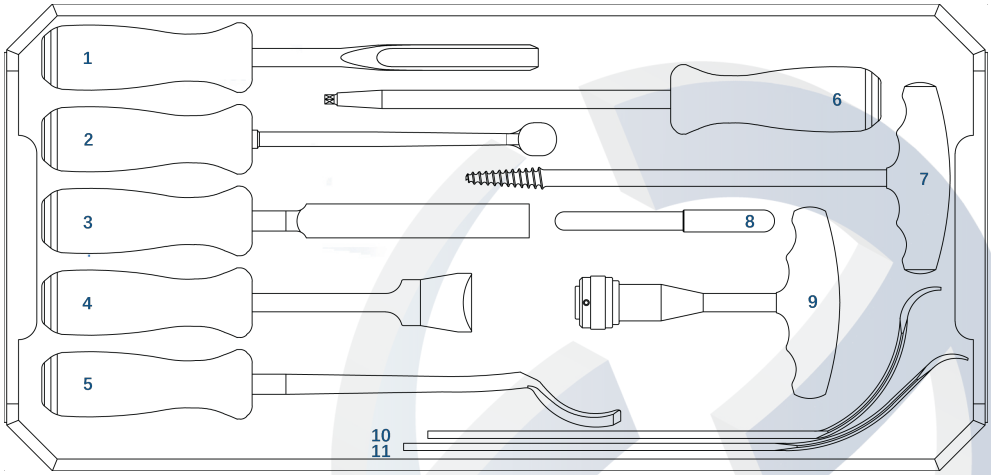
Trial Reduction

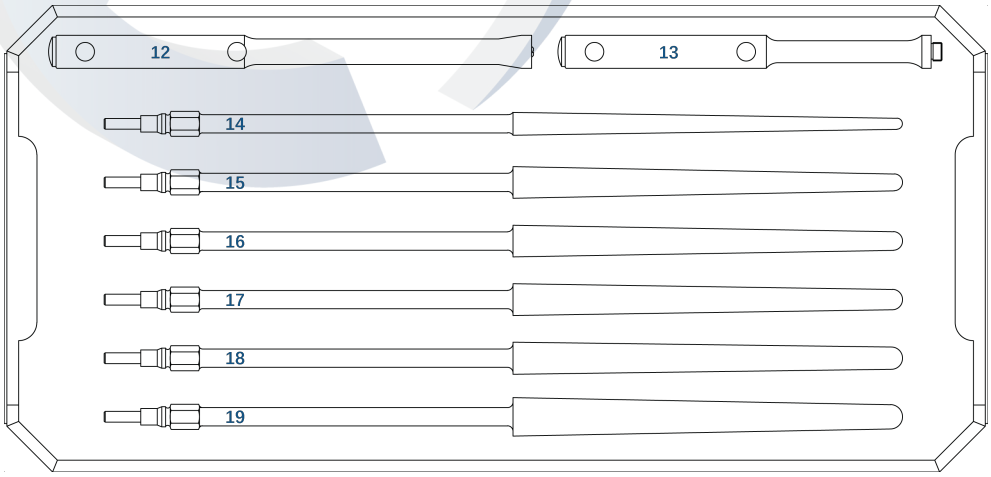
Mounting of the test stem, test body and test head for EMR Revision Hip Prosthesis.
Removal of the tests.

Implant Fixation

The stem is impacted into the prepared bed with the Shaft Impactor.
The intensity of the hammer blows should be adjusted according to the bone quality.
The body is impacted with the Body Impactor.
The Fixation Bolt is screwed onto the thread of the connecting Taper of the implant with the Screw Driver.

EMR CEMENTLESS STEM
INSTRUMENTATION SET (EK0308N002N)





EMR CEMENTLESS STEM
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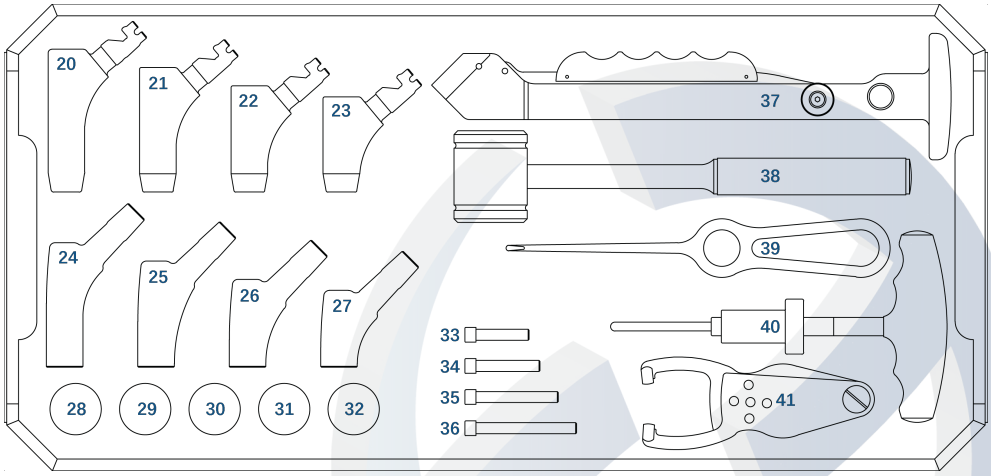

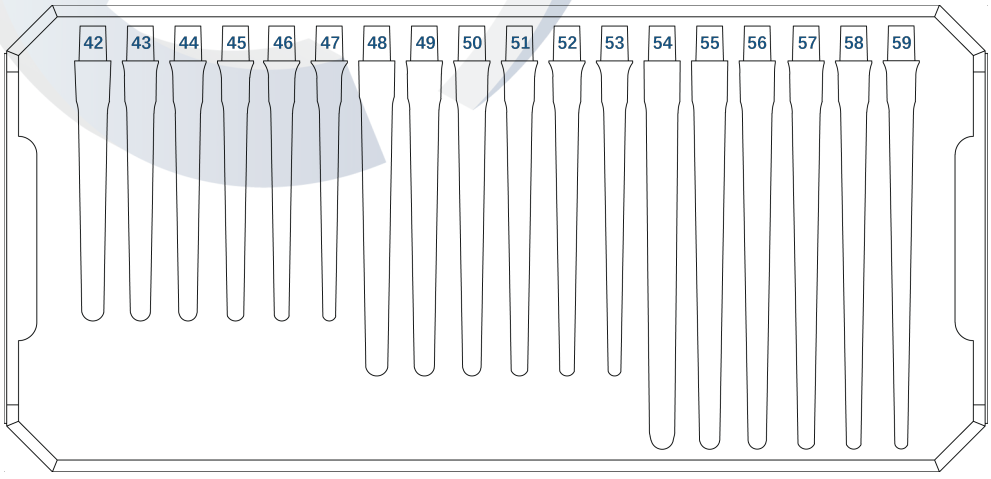

EMR CEMENTLESS STEM
INSTRUMENTATION SET (EK0308N002N)

No	Ref. Number	Description
1	EE0521N103N	Guj Curette
2	EE0521N005N	Spoon Curette
3	EE0521N002N	Straight Chisel
4	EE0702N103N	Femoral Head Impactor
5	EE0521N025N	Spatul Curette
6	EE0401N104N	Screw driver (Long)
7	EE0610N101N	Femoral Head Extractor
8	EE0712S001N	Impactor Bar for EMR & Modular Tumor Resection Hip Prosthesis
9	EE1004N001N	T- Handle
10	EE0210S101N	Hohmann Retractor - Type 1
11	EE0210S102N	Hohmann Retractor - Type 2
12	EE0712S002N	Schaft Impactor for EMR & Modular Tumor Resection Hip Prosthesis
13	EE0712S003N	Body Impactor for EMR
14	EE1013S013N	Reamer for EMR Revision Hip Prosthesis / Ø 13
15	EE1013S014N	Reamer for EMR Revision Hip Prosthesis / Ø 14
16	EE1013S015N	Reamer for EMR Revision Hip Prosthesis / Ø 15
17	EE1013S016N	Reamer for EMR Revision Hip Prosthesis / Ø 16
18	EE1013S017N	Reamer for EMR Revision Hip Prosthesis / Ø 17
19	EE1013S018N	Reamer for EMR Revision Hip Prosthesis / Ø 18
20	EE1001S043N	EMR Uncemented Revision Prosthesis Rasp / L
21	EE1001S042N	EMR Uncemented Revision Prosthesis Rasp / M
22	EE1001S041N	EMR Uncemented Revision Prosthesis Rasp / S
23	EE1001S040N	EMR Uncemented Revision Prosthesis Rasp / XS
24	EE0863T068N	EMR Hip Prosthesis Test Body / 68 L
25	EE0863T058N	EMR Hip Prosthesis Test Body / 58 M
26	EE0863T048N	EMR Hip Prosthesis Test Body / 48 S
27	EE0863T042N	EMR Hip Prosthesis Test Body / 42 XS
28	EE3601R001N	Test Head for Modular Head / Ø28 - 12*14 Cone - S
29	EE3601R002N	Test Head for Modular Head / Ø28 - 12*14 Cone - M
30	EE3601R003N	Test Head for Modular Head / Ø28 - 12*14 Cone - L
31	EE3601R004N	Test Head for Modular Head / Ø28 - 12*14 Cone - XL
32	EE3601R005N	Test Head for Modular Head / Ø28 - 12*14 Cone - XXL
33	EB5502T029N	EMR Cementless Stem - Fixation Bolt - M6 X 29 - XS
34	EB5502T035N	EMR Cementless Stem - Fixation Bolt - M6 X 35 - S
35	EB5502T045N	EMR Cementless Stem - Fixation Bolt - M6 X 45 - M
36	EB5502T055N	EMR Cementless Stem - Fixation Bolt - M6 X 55 - L
37	EE1001S050N	Modular Rasp Handle
38	EE0701S002N	Hammer - inox / 500 gr
39	EE0204S002N	Bone Hook Blunt
40	EE1106N101N	EMR Head Remover
41	EE0802S011N	Gauge For Femoral Head

EMR CEMENTLESS STEM
INSTRUMENTATION SET (EK0308N002N)

No	Ref. Number	Description
42	EE0831N008N	EMR Revision Hip Prosthesis Test Stem / Ø18 X 142
43	EE0831N007N	EMR Revision Hip Prosthesis Test Stem / Ø17 X 142
44	EE0831N006N	EMR Revision Hip Prosthesis Test Stem / Ø16 X 142
45	EE0831N005N	EMR Revision Hip Prosthesis Test Stem / Ø15 X 142
46	EE0831N004N	EMR Revision Hip Prosthesis Test Stem / Ø14 X 142
47	EE0831N003N	EMR Revision Hip Prosthesis Test Stem / Ø13 X 142
48	EE0831N018N	EMR Revision Hip Prosthesis Test Stem / Ø18 X 172
49	EE0831N017N	EMR Revision Hip Prosthesis Test Stem / Ø17 X 172
50	EE0831N016N	EMR Revision Hip Prosthesis Test Stem / Ø16 X 172
51	EE0831N015N	EMR Revision Hip Prosthesis Test Stem / Ø15 X 172
52	EE0831N014N	EMR Revision Hip Prosthesis Test Stem / Ø14 X 172
53	EE0831N013N	EMR Revision Hip Prosthesis Test Stem / Ø13 X 172
54	EE0831N028N	EMR Revision Hip Prosthesis Test Stem / Ø18 X 212
55	EE0831N027N	EMR Revision Hip Prosthesis Test Stem / Ø17 X 212
56	EE0831N026N	EMR Revision Hip Prosthesis Test Stem / Ø16 X 212
57	EE0831N025N	EMR Revision Hip Prosthesis Test Stem / Ø15 X 212
58	EE0831N024N	EMR Revision Hip Prosthesis Test Stem / Ø14 X 212
59	EE0831N023N	EMR Revision Hip Prosthesis Test Stem / Ø13 X 212

HOW TO CONTACT US

Euromed Implants GmbH
Wilhadi-Kirchhof 13
21682 Stade, Germany

Phone: +49 (0) 4141 7897 290
Fax: +49 (0) 4141 7782 700

office@euromed-implants.de
inquiry@euromed-implants.de
www.euromed-implants.de