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PRODUCT RATIONALE AND SURGICAL TECHNIQUE

REEF™

Distally-Interlocked Modular Femoral Reconstruction Prosthesis

CONTENTS

INTRODUCTION

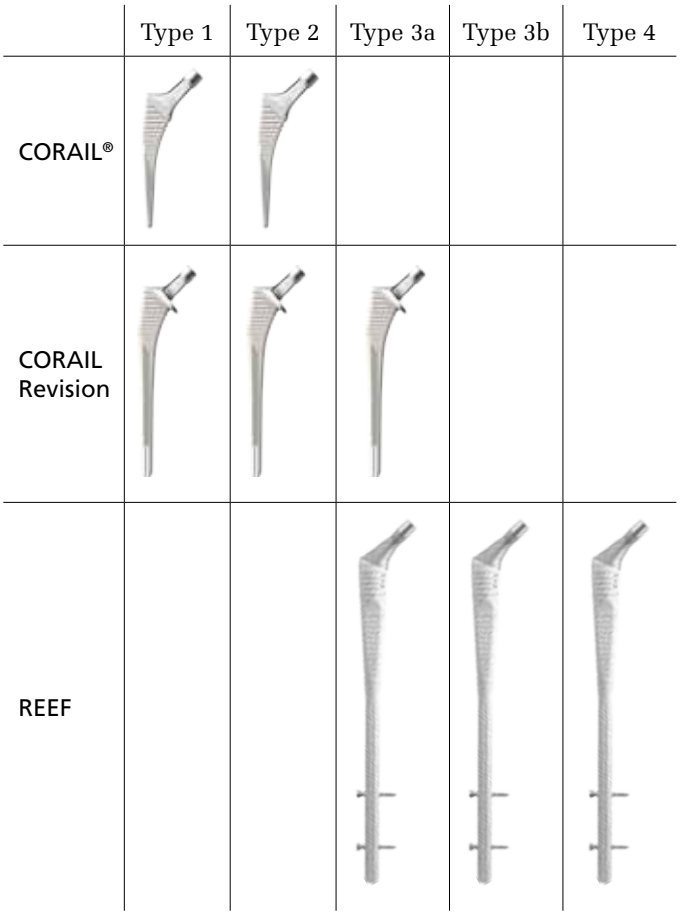
The REEF™ implant is based on the four following basic principles:

- Distal diaphyseal anchorage
- A modular system which makes it possible to adapt, at the intraoperative stage, to almost any situation encountered
- Total hydroxyapatite coating to achieve biological anchorage, reconstruction and support[1]
- Distal interlocking screws to ensure initial mechanical stability before osteointegration takes place[2,3]

The REEF femoral implant is reserved for cases of major femoral deficiency (Paprosky types 3A, 3B and 4). This implant is not to be used in less severe revision surgery, but is reserved as a mean of treating patients with major loosening, peri-prosthetic fracture or extensive bone damage, such as tumour surgery requiring removal of 1/3 of the metaphyso-diaphyseal proximal bone, revision surgery on Paprosky Type 3a, 3b and 4 femurs (severely altered metaphysis, destroyed calcar, inner cortical bone unusable, extension of the bone destruction on the diaphyseal cortical bone) which could compromise other traditional types of fixation. In such cases, the use of a custom-made prosthesis can be discussed but the limitations of this are well-known, since it is difficult to preoperatively predict the bone condition. In terms of benefit and risk for the patient and surgeon, the modular system is preferable since it is adaptable to almost all situations.

Thanks to the distal anchorage in an area of reliable support, restoration of the femur can be adequately achieved. Reconstruction of the proximal femur takes longer to establish and the potential weakness in the conical trochantero-metaphyseal area of the implant can be reduced when reconstruction of the femoral shaft is achieved and the femoral osteotomy healed.

When using this type of implant, it is necessary to meet the requirements for planning, surgical technique and the post-operative weight-bearing regimen in order to achieve long term fixation and function.



CORAIL Group Revision Indications based upon the Paprosky Femoral Defect Classification.[4]

PRODUCT RATIONALE

The REEF prosthesis is a modular femoral implant which allows flexibility during intraoperative assembly of the different components thanks to the range of available stem lengths and diameters. The REEF implant offers a customised solution for most joint reconstruction problems being faced. Primary stability is provided by virtue of a distal press-fit which is further facilitated by distal interlocking screws.[2,3] The fully HA coated stem allows osteointegration throughout the stem affording long term secondary fixation.[1,5,6] The REEF stem should not be used with cement.

Metaphyseal-Diaphyseal Stem

Fully coated with hydroxyapatite, the stem is composed of the following design features:

- A metaphyseal part:
  - Is in the form of a truncated cone, with antero-posterior narrowing
  - A set height of 100 mm
  - A proximal diameter of 26 mm at the junction with the trochanteric component
  - Integral macrostructures with horizontal notches of decreasing diameter to resist subsidence

- A diaphyseal part:
  - Cylindrical and bowed to follow the curve of the femoral diaphysis
  - 100 mm truncated cone with vertical macro-structures to resist rotation forces
  - provided with 1 to 3 distal holes, according to length, for 5 mm diameter interlocking screws
  - lengths: 225, 275, 325, 375 mm
  - diameters: 10, 12, 14, 16, 18, 20 mm
  - Distal Screws : Lengths from 20 mm to 80 mm in 5 mm increments each with threads only on the lateral aspect.

Trochanteric Component

Available in two heights and two versions, with or without a collar, the trochanteric component allows metaphyseal reconstruction. The neck of the component has a neck-shaft angle (i.e. CCD) of 135°. Additional fixation of detached bone fragments is made possible by a series of medial cerclage cable holes. Furthermore, the trochanteric component has a series of horizontal stepped macrostructures to resist subsidence.

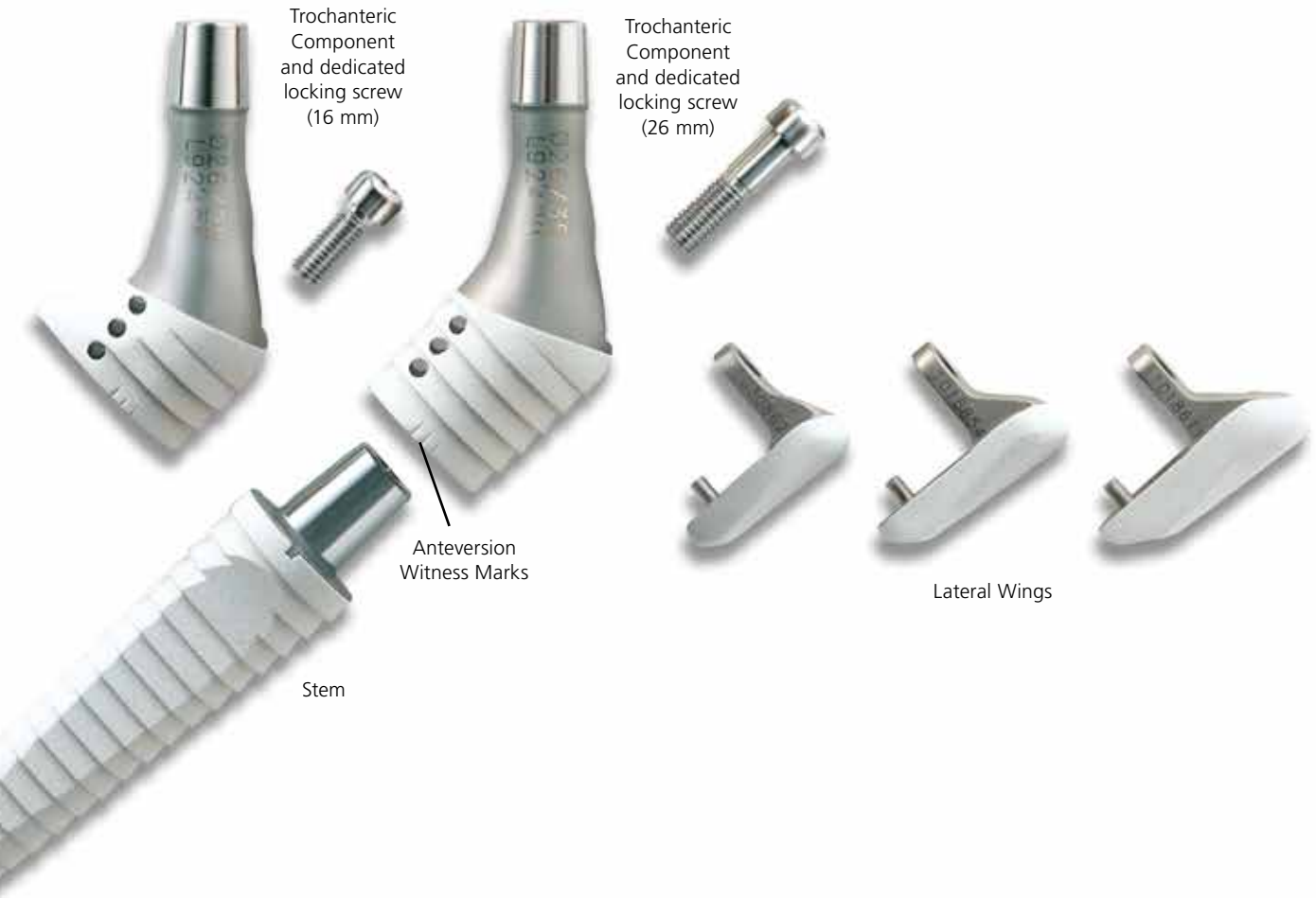
The trochanteric component is interlocked with the metaphyso-diaphyseal stem by using a 13/15 taper which is reinforced by a locking screw (supplied with the trochanteric component) which allows the chosen anteversion to be set in ten degree increments indicated by the witness marks. The neck has an ARTICU/LEZE® 12/14 taper which allows the coupling of any of the ARTICUL/EZE range of heads. The trochanteric component is fully coated with hydroxyapatite.

Trochanteric Wing

Each trochanteric component can accommodate an optional lateral wing available in three sizes, which serve to stabilise and lateralise the greater trochanter should this be required intraoperatively.

The wing is coated with hydroxyapatite and is secured to the trochanteric component using the screw hole. The locking screw thus secures both the trochanteric component and the wing. Each wing also has a locating pin on its medial face to avoid rotation once in situ.

Distal Screws



Materials

The REEF range of implants are made from forged titanium alloy TiAl6V4 ELI ASTM F 136 and ISO5832-3.

Hydroxyapatite Coating

The REEF implant utilises the same HA coating as the well established CORAIL range which has over 25 years of clinical heritage and a minimum purity of 98% and has an average thickness of 150µm.[7]

Due to its bioactivity, this coating encourages bone on-growth and promotes fast and efficient osteointegration, thus ensuring long term implant stability in the host bone.[2,5,6]

Femoral Heads

The 12/14 taper accommodates the complete range of 12/14 ARTICUL/EZE femoral heads in ceramics and cobalt chrome alloys.

SURGICAL TECHNIQUE

Preoperative planning makes it possible to:

1. Identify the **lower level of the extended trochanteric osteotomy (ETO) required to fully remove** the failed primary implant and any cement; this involves taking measurements in relation to several reference points (the top of the greater trochanter and the lesser trochanter, the femoral condyle, and any osteosynthesis material still in place).

2. Locate the **level of implantation** of the REEF stem, which can be measured from the **reference point for the metaphyso-diaphyseal junction of the stem,** as marked on the X-ray template, and the **lower level of the ETO flap (i.e. distance D in Figure 3 and Figure 6).**

3. Estimate the size of the components required for the reconstruction in terms of:
   - **Stem diameter:** in order to achieve **optimal filling** of the healthy diaphyseal area the stem should completely fill the femoral canal allowing a press-fit in order to obtain primary stability and promote osteointegration.

   - **Stem length:** to ensure **reliable anchorage in the diaphyseal or lower diaphyso-metaphyseal area,** remembering that **the most proximal screw-hole must be a minimum of 5 cm below the lower part of the ETO flap.**

   - **Trochanteric height:** the choice of trochanteric component height should allow reconstruction of the femoral centre of rotation and equalisation of leg length.

   - **Lateral wing:** chosen in cases where lateralisation of the greater trochanter is required.

4. Set the number of interlocking screws, their lengths and positions.

The planning must take account of any shortening of the lower limb. It is conducted using the X-ray templates (code - 907269000; scale 1.2) on the AP and ML radiographs. A radiographic image of the whole femur and angular measurement (AP X-ray measurements of both lower limbs) must also be available.

APPROACH

Extended Trochanteric Osteotomy

Regardless of the initial approach selected (posterior, lateral or anterior), it is obligatory that the approach be made via the transfemoral route (Wagner technique), with a large flap that includes the greater trochanter (Figure 1) instead of a simple trochanterotomy which is insufficient to expose any existing bone lesions and explant the failed hardware. There must be no interference with the vascularisation when handling the muscles and their insertions.

The distal border of the osteotomy is made using a saw, around the lateral hemi-circumference of the external cortex at the level identified during the preoperative planning. The posterior osteotomy is performed on the linea aspera of the femur using an oscillating saw. The anterior border of the flap is prepared by drilling a series of holes through the muscular masses, guided by the drill guide plate. The plate is positioned along the length of the femur, opposite to the linea aspera on the anterior face. It is fixed by two drill bits, to ensure that the series of holes are perfectly in line. Anterior osteoclasia completes the osteotomy, opening the femur like a book (Figure 2).

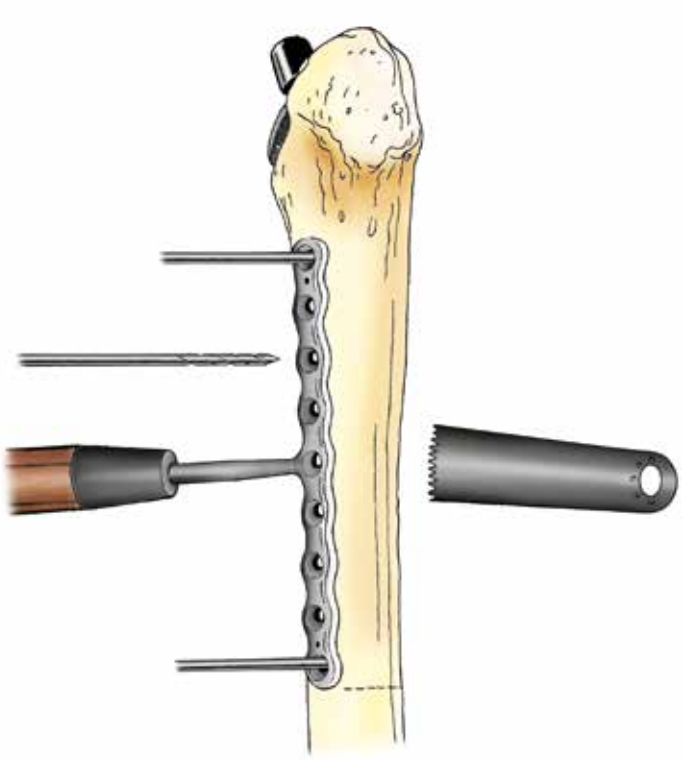


Figure 1

Removal of the Failed Implant

Removal of the failed implant, the surrounding cement, fibrous membrane and any debris, will then be quick and thorough, without the risk of aggravation of the pre-existing damage or setting a false route. The intramedullary cavity is cleared, curetted down to healthy bone and reamed if necessary. It is now possible to correctly assess any lesions, examining the condition of the cortex and any bone defects or discontinuity.

Once this assessment has been completed, some bone-grafting may prove necessary (Figure 2). Decisions taken during pre-operative planning as to the likely configuration of stem length, diameter and type can be reviewed at this stage.

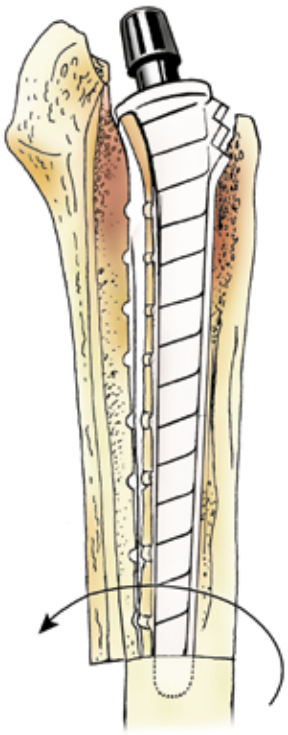


Figure 2

TRIAL IMPLANTS

Figure 3

Figure 4

Once the distal diaphysis has been carefully reamed, a trial stem is selected, either of the same diameter or next size available. Stability is assessed using the following criteria:

- Distal stem position with regards to height (distance between the groove on the trial stem, marking the metaphyso-diaphyseal junction, and the lower part of the flap). The distance 'D' is checked using the ruler (Figure 3).
- Stem primary stability in both the axial and rotational planes is achieved (note: should adequate press-fit not be achieved with the original size selection, a stem of the next larger diameter should be tried).
- The surgeon should ensure that optimum filling of the femoral canal is achieved (press-fit corresponding to cementless stem philosophy)
- Stem press fit can be checked intra-operatively by fluoroscopy to ensure maximum diaphyseal fill.

The trial stem, mounted on its handle, is introduced into the femoral canal to the depth identified during planning (Figure 4). An "ANTE" marking on its anterior surface makes it easier to position it in relation to the femoral curve. The junction between the conical metaphyseal area and the cylindrical diaphyseal area is represented by a groove on the trial stem. (On the final implant, this level is represented by the upper limit of the vertical macrostructures). The trial stem must be stable within the femoral canal and the handle is then removed.

The surgeon should ensure that stability is achieved by the optimal filling of the femoral canal and not due to misalignment of the stem and the femoral curve. Care should be taken not to undersize the stem in an effort to gain femoral depth, especially in larger patients.

The pre-determined trial trochanteric component is mounted in place. Its anteversion is selected, depending on stability and the possible risk of impingement. It is adjusted according to the reference point marked on the anterior and posterior and lateral surfaces of the proximal end of the stem, to match the patient's anatomy. The central mark on the trochanteric component represents a neutral position, while the other two marks indicate positions of -10° and +10° of anteversion. When the trochanteric component has been positioned for the appropriate anteversion, the interlocking screw is tightened. Trial reduction is carried out once the selected trial head is set in place. Mobility and stability tests are conducted.

Stabilisation of the greater trochanter or the femoral flap may be improved by fitting a trial trochanteric wing. At this stage, it is still possible to make changes to the anteversion, the height of the trochanteric component or the length of the neck.

Once the choice of the components has been confirmed, the trial components are removed and the final stem prepared.

NOTE: femoral curvature may give a false sense of primary stability if misaligned, it is thus recommended to check the degree of press fit along the length of the stem intra-operatively through X-ray or similar imaging modalities.

FINAL IMPLANTS

Assembly of the Targeting Frame

The final stem corresponding to the trial implant in terms of length and diameter is mounted on the corresponding targeting frame (right/left). Using the "ANTE" and "POST" marking ensure the stem is correctly orientated before assembly with the targeting frame.

When assembling the final Implant & the targeting frame, ensure the locking screw of the frame is aligned and fully seated in the corresponding hole on the distal stem.

In addition, the orientation ''key'' on the targeting frame should seat entirely into the corresponding recess in the stem, thus ensuring the stem is correctly orientated and the threaded section is not loaded during implantation.

A table test is conducted to check the targeting frame curve and the correct alignment of the screw holes with the final implant (Figure 5).

Implantation of the Metaphyso-Diaphyseal Stem

The stem may be introduced by mounting it directly on its targeting frame or by temporarily using the handle.

It is inserted to the level identified during planning and checked using the trial stem (distance 'D') (Figure 6).

In order to check that the final stem is correctly positioned at the same height as the trial stem, the distance 'D' from the position of the upper end of the vertical macrostructures of the metaphyso-diaphyseal stem and the lower end of the osteotomy is determined using the ruler.

Figure 5

Figure 6

FINAL IMPLANTS

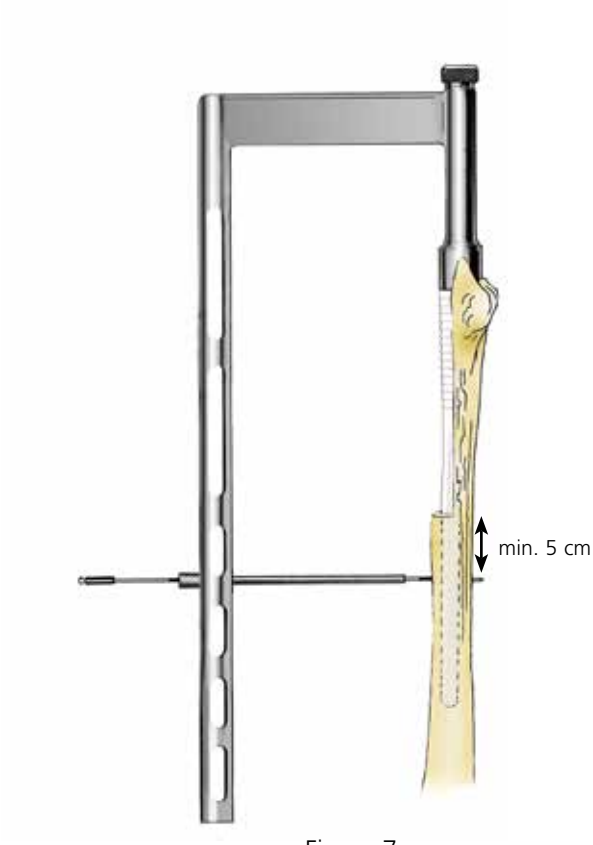


Figure 7

Figure 8

Distal Screw Placement

If not already attached, the appropriate targeting frame (right or left) replaces the handle. It is positioned on the cone and firmly locked in place. Again, ensure both surfaces are flush and the 'locking key' is seating in the corresponding recess in the implant. Should any gap occur here, the offset will incurs misalignment of the drill guides and the implant holes. Holes in the targeting device are designed to accept the drill guides and drill bits used to prepare the femoral cortices for the locking screws (Figure 7).

For greater precision, screw placement always begins with the proximal screw. It should be remembered that the **most proximal screw must be a minimum of 5 cm below the lower part of the flap.** Adequate distal fixation will provide essential primary stability of the stem until healing of the femoral osteotomy and reconstruction of the proximal bone.

The centre punch is inserted into the 5 mm drill guide and lightly tapped to mark the cortex. The centre punch is then removed and the 5 mm drill is positioned in the drill guide and **used only for the external cortex**. The 3.5 mm drill guide is then inserted into the 5 mm drill guide and the 3.5 mm drill is used for the internal cortex (Figure 8).

The length of the screw to be used is determined using the screw depth measure. The screw is locked using the screwdriver, which is left in place to enhance the stability of the targeting device and allowing the distal screws to be drilled with greater precision. Ensure all available screw holes are used. Once the screw placement is completed, the targeting frame can be removed.

Before implanting the cortical bone screws, ensure they are undamaged, free of scratches and straight.

Placement of the trial trochanteric component and wing

At this point, the trial trochanteric component and wing may be re-fitted in order to confirm that the length of the limb, stability of the prosthesis and anteversion have been restored (Figure 9). Before assembling any components care must be taken to ensure both surfaces are free from any debris or fluid that could interfere with the stability and strength of the taper connection. Surfaces must be cleaned and dried before assembly and impaction.

The trial locking screws are differentiated from the implantable locking screws by a laser marked cross across the top face indicating they should not be permanently implanted.

The final trochanteric component, with or without a flange, may then be firmly inserted on the stem taper and impacted, ensuring that the planned anteversion value is used. It is imperative to use the dedicated impactor to ensure proper fixation of the taper connection between components.

To ensure the Trochanteric component is secure, the final locking screw must be used and fully inserted until flush using the T-Handle Hex Driver (i.e. L95815). It is important to ensure there is no debris on any mating faces or threaded sections before assembly.

NOTE: If the anteversion after impaction is not correct, the trochanteric component can be removed by removing the locking screw (if any) and screwing the T-handle trochanteric component extractor until the trochanteric component is detached.

If calcar grafting is to be performed, this can be stabilised and reinforced by using a trochanteric component with a collar.

Figure 9

Trochanteric Wing

The locking screw supplied sterile with the trochanteric component is used to interlock the connection between the trochanteric component and the stem, according to the selected anteversion.

If a lateral wing is required, its connection feature is placed between the trochanteric component and the locking screw. The screw is then tightened in the same way.

FINAL IMPLANTS

Warning: Use only the screw supplied with the definitive trochanteric component. Do not implant the trial screws (i.e. L93507 and L93510 supplied in the same sterile packaging. (Figure 10)

Femoral Head Impaction

After carefully cleaning and drying the stem taper, the appropriate femoral head is positioned and lightly impacted with the dedicated impactor (L93206) to engage the taper. A final reduction of the assembly is then performed.

Femoral Reconstruction

Reconstruction of the femoral shaft around the final implant is then undertaken. Re-attachment of the osteotomy is achieved by the use of cerclage cables (Figure 11).

Bone grafting is not essential but may be desired. Massive structural grafts may be used for calcar reconstruction or filling of cortical defects. Morsellised compacted bone should be used to fill in any residual cavities.

Figure 10

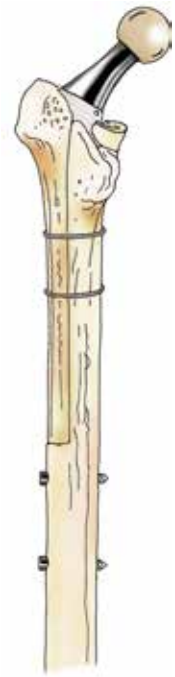


Figure 11

POST-OPERATIVE PROTOCOL

Strict adherence by the patient to the surgeon's instructions and warnings is extremely important. Accepted practices should be followed in postoperative care.

The patient should be released from the hospital with complete written instructions and warnings regarding concerning exercises/therapies, care and all limitations/restrictions on her/his activity as well as those in relation to exposure to magnetic fields.

Weight bearing is dependent upon the healing of the femoral flap. Weight-bearing, even partial, will not be prescribed until radiological proof is obtained of osteointegration in the healthy area of the stem and associated healing of the osteotomy and/or any other femoral damage to the proximal femur up to the lower limit of the conical metaphyso-trochanteric section. This is generally achieved at between 45 and 90 days. Partial weight-bearing will then be permitted, with the support of a walking aid.

A continuing periodic patient follow-up is recommended. Due to the unknown functional lifetime of the implant, particularly with respect to implant fixation and UHMWPE bearing surfaces, A-P radiographs of the pelvis should be taken at each follow-up then compared with previous radiographs and correlated with the clinical assessment of the patient. If any radiographic changes are observed, such as the occurrence of radiolucencies, bone resorption or any changes in the position of an implant, these changes should be closely monitored to determine whether they are static or progressive and the patient treated appropriately.

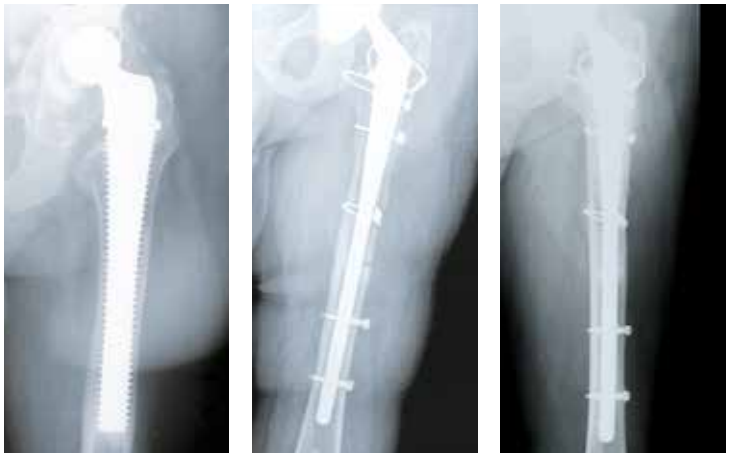
CLINICAL CASES

Pre-Operative

Patient operated on in 1986 for revision surgery with a screw implant and cemented PE acetabulum. Evidence of femoral stress shielding and acetabular loosening stage IIC. In 1996, insertion of a REEF stem and HA threaded acetabular cup.

Post-Operative

Satisfactory clinical outcome with a PMA score of 5.5.6. and X-rays showing a major metaphyseal bone reconstruction at 5 years follow-up.



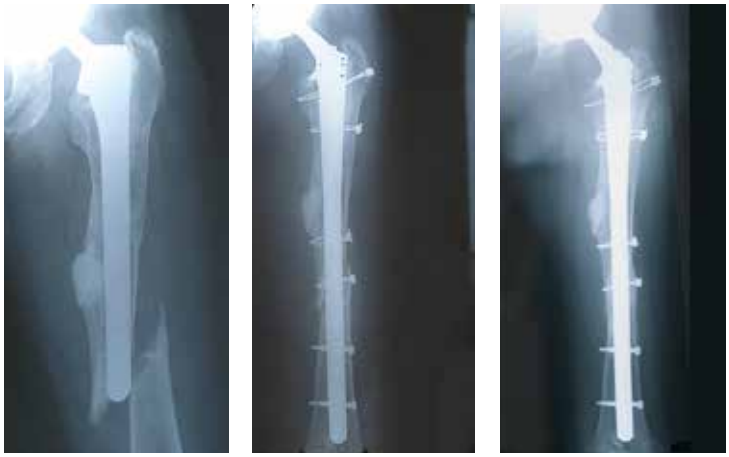
Preop | at 6 months | at 5 years

Pre-Operative

Female patient operated on in 1988 for revision surgery with a long HA coated stem. In 1995, a traumatic fracture occurred under the stem; revision surgery was necessary including a large femoral flap to extract the stem which was perfectly osteointegrated.

Post-Operative

At 7 years follow-up, the clinical result is very satisfactory. X-rays show consolidation and preserved distal femoral trophicity.



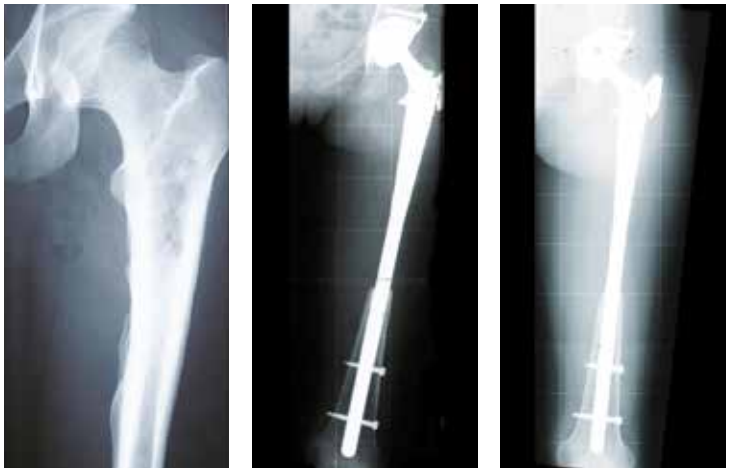
Preop | at 1 year | at 10 years

Pre-operative

Female patient age 19, with Ewing sarcoma of the proximal end of the RH femur. Following chemotherapy, in 1995 the patient was operated on with resection of the proximal 2/3 of the femur.

Post-Operative

At 3 years follow-up, there is no tumoral relapse. The patient is enjoying normal function.



Preop | at 2 weeks | at 5 years

IMPLANTS

ARTICUL/EZE Trial Heads

Cat. No.	Description
253069000	22.225 mm / +4 (M)
253070000	22.225 mm / +7 (L)
253081000	28 mm / +1.5 (S)
253082000	28 mm / +5 (M)
253083000	28 mm / +8.5 (L)
253084000	28 mm / +12 (XL)
253091000	32 mm / +1 (S)
253092000	32 mm / +5 (M)
253093000	32 mm / +9 (L)
253094000	32 mm / +13 (XL)

Distal Stems

L92412	Stem Ø 10 mm Length 225 mm 1 Hole
L92414	Stem Ø 10 mm Length 275 mm 1 Hole
L92416	Stem Ø 10 mm Length 325 mm 1 Hole
L92418	Stem Ø 10 mm Length 375 mm 1 Hole
L92422	Stem Ø 12 mm Length 225 mm 2 Holes
L92424	Stem Ø 12 mm Length 275 mm 2 Holes
L92426	Stem Ø 12 mm Length 325 mm 2 Holes
L92428	Stem Ø 12 mm Length 375 mm 2 Holes
L92432	Stem Ø 14 mm Length 225 mm 2 Holes
L92434	Stem Ø 14 mm Length 275 mm 2 Holes
L92436	Stem Ø 14 mm Length 325 mm 3 Holes
L92438	Stem Ø 14 mm Length 375 mm 3 Holes
L92442	Stem Ø 16 mm Length 225 mm 2 Holes
L92444	Stem Ø 16 mm Length 275 mm 2 Holes
L92446	Stem Ø 16 mm Length 325 mm 3 Holes
L92448	Stem Ø 16 mm Length 375 mm 3 Holes
L92452	Stem Ø 18 mm Length 225 mm 2 Holes
L92454	Stem Ø 18 mm Length 275 mm 2 Holes
L92456	Stem Ø 18 mm Length 325 mm 3 Holes
L92458	Stem Ø 18 mm Length 375 mm 3 Holes
L92462	Stem Ø 20 mm Length 225 mm 2 Holes
L92464	Stem Ø 20 mm Length 275 mm 2 Holes
L92466	Stem Ø 20 mm Length 325 mm 3 Holes
L92468	Stem Ø 20 mm Length 375 mm 3 Holes

Femoral Heads

136529000	ARTICUL/EZE Head CoCr 22.225 mm +4 (M)
136530000	ARTICUL/EZE Head CoCr 22.225 mm +7 (L)
136511000	ARTICUL/EZE Head CoCr 28 mm +1.5 (S)
136512000	ARTICUL/EZE Head CoCr 28 mm +5 (M)
136513000	ARTICUL/EZE Head CoCr 28 mm +8.5 (L)
136514000	ARTICUL/EZE Head CoCr 28 mm +12 (XL)
136521000	ARTICUL/EZE Head CoCr 32 mm +1 (S)
136522000	ARTICUL/EZE Head CoCr 32 mm +5 (L)
136523000	ARTICUL/EZE Head CoCr 32 mm +9 (M)

Cat. No.	Description
136524000	ARTICUL/EZE Head CoCr 32 mm +13 (XL)
136528310	ARTICUL/EZE Head BIOLOX DELTA 28 mm +1.5 (S)
136528320	ARTICUL/EZE Head BIOLOX DELTA 28 mm +5 (M)
136528330	ARTICUL/EZE Head BIOLOX DELTA 28 mm +8.5 (L)
136532310	ARTICUL/EZE Head BIOLOX DELTA 32 mm +1 (S)
136532320	ARTICUL/EZE Head BIOLOX DELTA 32 mm +5 (M)
136532330	ARTICUL/EZE Head BIOLOX DELTA 32 mm +9 (L)
136536310	ARTICUL/EZE Head BIOLOX DELTA 36 mm +1.5 (S)
136536320	ARTICUL/EZE Head BIOLOX DELTA 36 mm +5 (M)
136536330	ARTICUL/EZE Head BIOLOX DELTA 36 mm +8.5 (L)
136536340	ARTICUL/EZE Head BIOLOX DELTA 36 mm +12 (XL)

9111121	ARTICUL/EZE Head Alumina Ceramic 28 mm +1.5 (S)
9111122	ARTICUL/EZE Head Alumina Ceramic 28 mm +5 (M)
9111123	ARTICUL/EZE Head Alumina Ceramic 28 mm +8.5 (L)
9111131	ARTICUL/EZE Head Alumina Ceramic 32 mm +1 (S)
9111132	ARTICUL/EZE Head Alumina Ceramic 32 mm +5 (M)
9111133	ARTICUL/EZE Head Alumina Ceramic 32 mm +9 (L)

ARTICUL/EZE CERAMAX™ Heads: Refer to Cat No: 9080-20-000

ARTICUL/EZE ULTAMET™ Heads: Refer to Cat No: 9080-20-000

Trochanteric Components

L92405	Trochanteric Component 25 mm Collared + Locking screw 16 mm
L92406	Trochanteric Component 25 mm Collarless + Locking screw 16 mm
L92408	Trochanteric Component 35 mm Collared + Locking screw 26 mm
L92409	Trochanteric Component 35 mm Collarless + Locking screw 26 mm

Screws

L92370	Screw Ø 5 mm Length 20 mm
L92372	Screw Ø 5 mm Length 25 mm
L92374	Screw Ø 5 mm Length 30 mm
L92376	Screw Ø 5 mm Length 35 mm
L92378	Screw Ø 5 mm Length 40 mm
L92380	Screw Ø 5 mm Length 45 mm
L92382	Screw Ø 5 mm Length 50 mm
L92384	Screw Ø 5 mm Length 55 mm
L92386	Screw Ø 5 mm Length 60 mm
L92388	Screw Ø 5 mm Length 65 mm
L92390	Screw Ø 5 mm Length 70 mm
L92392	Screw Ø 5 mm Length 75 mm
L92394	Screw Ø 5 mm Length 80 mm

Lateral Wings

L92401	Lateral Wing size 1
L92402	Lateral Wing size 2
L92403	Lateral Wing size 3

INSTRUMENTS

Trays and Cases

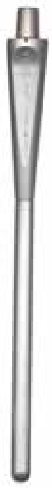
Cat. No.	Description
L93384	Tray No. 1
L93385	Top Tray No. 2
L93386	Bottom Tray No. 2
L93387	Top Tray No. 3
L93388	Bottom Tray No. 3
L93381	Tray Cover No. 1
L93382	Tray Cover No. 2
L93383	Tray Cover No. 3
CONTREE1	Steri. Case - Tray No. 1
CONTREE2	Steri. Case - Tray No. 2
CONTREE3	Steri. Case - Tray No. 3
L93206	Head Impactor

Trial Wings

L93501	Size 1
L93502	Size 2
L93503	Size 3

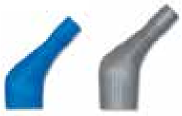
Trial Stems

L93512	Ø 26-10 mm Length 225 mm
L93514	Ø 26-10 mm Length 275 mm
L93516	Ø 26-10 mm Length 325 mm
L93518	Ø 26-10 mm Length 375 mm
L93522	Ø 26-12 mm Length 225 mm
L93524	Ø 26-12 mm Length 275 mm
L93526	Ø 26-12 mm Length 325 mm
L93528	Ø 26-12 mm Length 375 mm
L93532	Ø 26-14 mm Length 225 mm
L93534	Ø 26-14 mm Length 275 mm
L93536	Ø 26-14 mm Length 325 mm
L93538	Ø 26-14 mm Length 375 mm
L93542	Ø 26-16 mm Length 225 mm
L93544	Ø 26-16 mm Length 275 mm
L93546	Ø 26-16 mm Length 325 mm
L93548	Ø 26-16 mm Length 375 mm
L93552	Ø 26-18 mm Length 225 mm
L93554	Ø 26-18 mm Length 275 mm
L93556	Ø 26-18 mm Length 325 mm
L93558	Ø 26-18 mm Length 375 mm
L93562	Ø 26-20 mm Length 225 mm
L93564	Ø 26-20 mm Length 275 mm
L93566	Ø 26-20 mm Length 325 mm
L93568	Ø 26-20 mm Length 375 mm



Trial Trochanteric Components

Cat. No.	Description
L93505	Blue - Height 25 mm
L93508	Grey - Height 35 mm



Trial Locking Screws

NOTE: The trial locking screws are laser marked across the top face

L93507	Length 16 mm
	(to be used with L93505 Blue - Height 25 mm)
L93510	Length 26 mm
	(to be used with L93508 Grey - Height 35 mm)

Miscellaneous

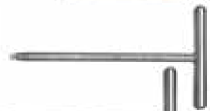
L93570	Stem Handle
L93572	Targeting Device Right
L93574	Targeting Device Left
L93575	Drill Bit Fl. 3,5 Length 275 mm
L93577	Drill Guide Ø 3.5 mm
L93597	Drill Guide Ø 5 mm
L93582	Hex Screwdriver Fl. 3.5 mm
L93584	Depth Gauge
443730	Ruler Length 300 mm
L93586	Drilling Template
L93587	Trocar
L93588	Drill Bit Fl. 5 Length 190 mm
L93589	Trochanteric Component Impactor
L95815	T-Handled Hex Screwdriver Fl. 4.5 mm
L95820	T-Handled Trochanteric Component Extractor
907269000	X-Ray Templates (scale 1.2)
L93576	Drill Bit 4 mm Diameter LG260
L93578	Drill Guide 4 mm Diameter Reef
L93580	Drill Guide 5 mm Diameter Reef









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7. DePuy Synthes Internal Data - CORAIL H20 Design History File - section 3.2.

Legal Manufacturer Vs Product	
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