SURGICAL TECHNIQUE

# **<u>CEMENTED</u>** FIRST INTENTION STRAIGHT STEM





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## SURGICAL TECHNIQUE







#### 1. Planning

#### **Objectives of the planning**

- Restore the hip joint's centre
- Restore the length of the limb
- Determine the size of the implant

#### **Planning summary**

On the x-rays, trace the following:

- femoral anatomical axes
- bi-ischiatic line

- body and lesser trochanter central lines

Determine the difference in length of the lower limbs.

Determine the centre of the cup on the healthy side (C) and transfer this to the side to be treated (C').

On the healthy side, the centre of the femoral head (F) coincides with C. Trace a line between the top of the great trochanter and F.

This line is perpendicular to the anatomical axis. Copy centre F' on the side to be treated. Using templates, place one of the 3 centres of the prosthetic femoral head onto point F'. Thanks to this point, determine the most suitable size, draw and measure the cutting height of the neck with respect to the top edge of the lesser trochanter (10mm).

#### 2. Approaches

The approach depends on the surgeon's preference. It needs to allow the top of the greater trochanter to be identified and to draw the planned cutting height of the neck or to identify the lesser trochanter with a finger and estimate the plan.

The Hip'n go cemented stem instrumentation is adapted to all approaches and provides rasp handles for these whether they are posterior, antero-external type Röttinger or direct anterior type Hueter approaches.



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#### 3. Neck cuts

Using an oscillating saw, make a cut to the femoral neck axis, with the required anteversion. The medullar cavity is accessed with the modular box chisel included in the instrumentation set. This fits onto the rasp handle and allows part of the femoral cancellous bone to be removed from the metaphyseal area.

A diaphyseal probe is also provided to check that the medullar canal will allow the final implant to be inserted correctly, based on the planned size, length and distal diameter.

DAA left & right rasp handle ref. 264 949 & 264 950	
Box chisel with hook ref. 264 921	
Starter rasp ref. 265 326	

#### 4. Implanting the cup

Using femoral rasps with a female connection, the surgeon can choose either to prepare the femur or the cup first.

#### 5. Preparing the femur

Once the diaphyseal axis has been identified, the rasps are inserted successively, in increasing sizes, by pushing the handle towards the greater trochanter to remain in the frontal axis of the diaphysis, correcting, if necessary, the sagittal alignment. Increasing rasp sizes must be inserted as far as the upper edge. The final rasp must be tested in rotation. The final rasp must not be able to move in deeper or in rotation. Its size corresponds to the size of the final implant.

DAA left & right rasp handle ..... ref. 264 949 & 264 950 Short hook rasps S1 to S10 ..... ref. 266 413 to 266 422

#### 6. Stability and Length trials

The holder is removed from the rasp and a trial neck is fitted to the rasp . 5 trial necks are supplied in the F2H instrumentation set: Trial heads in 22, 28, 32 and 36mm are supplied in the instrumentation set with

a colour code to identify the length of necks.

- Short neck (-3.5): yellow

- Medium neck (0): green

- Long neck (+3.5): red

Once assembled, the hip is reduced. Limb length, mobility and stability are checked.

DAA left & right rasp handle	ref.	264	949	&	264	950
Short hook rasps S1 to S10	ref.	266	413	to	266	422
Frial necks 130° S1-2 to S9-10	ref.	264	882	to	264	886
Trial heads Ø22.22	ref.	231	368	to	231	369
Trial heads Ø28	ref.	231	357	to	231	360
Trial heads Ø32	ref.	231	352	to	231	354
Trial heads Ø36	ref.	254	461	to	254	463





Femoral rasping





Fitting the trial neck according the selected angle (130°)

Fitting the trial head

#### 7. Sealing

The rasp is extracted using the rasp handle.

The quality of the seal is directly related to the cementing technique and care when applying it.

It is strongly advised to clean the barrel of the femur carefully and if possible, dry it out. You must use a calibrated obturator plug and place it 2 cm below the femoral stem.

The cement will be inserted using a syringe with a long tip, retracting it backwards rather than forwards with a drain.

### 8. Fitting the femoral prosthesis

Hold the femoral prosthesis in your hand by the protective cap on the Morse taper and introduce it into the diaphysis. The descent of the stem is guided by the half moon impactor and introduced into the oval impaction hole of the stem; gentle tapping places the implant in the position previously occupied by the rasp.

N.B. Before reducing the joint, you must wait until the cement is hard to check the correct choice of head.

Multidirectional stability is checked. A second check on stability and length may be performed. The rasps and final stems have the same set of trial heads. The selected head is fitted and the arthroplasty is reduced using the head impactor.

Half moon stem impactor ..... ref. 257 220 Head impactor ..... ref. 257 221 & 264 050

#### 9. Closing

The surgeon will close layer by layer in his usual manner.

#### >> EXTRACTION

If extraction of the stem is required, the stem extractor is screwed to the stem prior to use. A flyweight is available on request. 

Stem extractor ..... ref. 263 232



Fitting the final stem

Mark of impaction or extraction



# References

#### [F2H cemented stem]

F2H CEMENTED STEM					
266 393	F2H cemented stem 130° S1				
266 394	F2H cemented stem 130° S2				
266 395	F2H cemented stem 130° S3				
266 396	F2H cemented stem 130° S4				
266 397	F2H cemented stem 130° S5				
266 398	F2H cemented stem 130° S6				
266 399	F2H cemented stem 130° S7				
266 400	F2H cemented stem 130° S8				
266 401	F2H cemented stem 130° S9				
266 402	F2H cemented stem 130° S10				

#### [Femoral heads]

<b>BIOLOX DELTA HEADS</b>					
256 516	Taper 12/14 Ø28 (-3,5)				
256 517	Taper 12/14 Ø28 (0)				
256 518	Taper 12/14 Ø28 (+3,5)				
256 519	Taper 12/14 Ø32 (-3,5)				
256 520	Taper 12/14 Ø32 (0)				
256 521	Taper 12/14 Ø32 (+3,5)				
266 371	Taper 12/14 Ø32 (+7)				
256 522	Taper 12/14 Ø36 (-3,5)				
256 523	Taper 12/14 Ø36 (0)				
256 524	Cône 12/14 Ø36 (+3,5)				

STAINLESS STEEL HEADS				
231 402	Taper 12/14 Ø22,2 (0)			
231 403	Taper 12/14 Ø22,2 (+2)			
231 391	Taper 12/14 Ø28 (-3,5)			
231 392	Taper 12/14 Ø28 (0)			
231 393	Taper 12/14 Ø28 (+3,5)			
231 394	Taper 12/14 Ø28 (+7)			

# **O**THER IMPLANTS OF THE RANGE







 
 FR, FH ORTHO SAS

 3 rue de la Forêt - Zone Industrielle

 BP 50009

 68990 Heimsbrunn CEDEX - FRANCE

 Tél. +33 (0)3 89 81 90 92

 Fax: +33 (0)3 89 81 80 11
info@fhortho.com www.fhortho.com

**USA, FH ORTHOPEDICS INC.** OrthoEx 7327 E Tierra Buena Lane Scottsdale, Arizona 85260 - USA Phone: +1 (412) 965-0950 customerservice@fhortho-us.com www.fhortho.com

PL, FH ORTHO POLSKA Ul. Garbary 95/A6, 61-757 Poznan - POLSKA Phone: +48 61 863 81 27 Fax: +48 61 863 81 28 biuro@implants24.pl www.fhortho.com



#### FR, FH INDUSTRIE

6 rue Nobel, Z.I. de Kernevez 29000 QUIMPER - FRANCE Tél. +33 (0)2 98 55 68 95 Fax : +33 (0)2 98 53 42 13 contact-fhi@fhortho.com www.fhortho.com