



HIP



**SURGICAL TECHNIQUE**

# FIRST INTENTION CEMENTLESS STRAIGHT STEM

**F2H**



## 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:

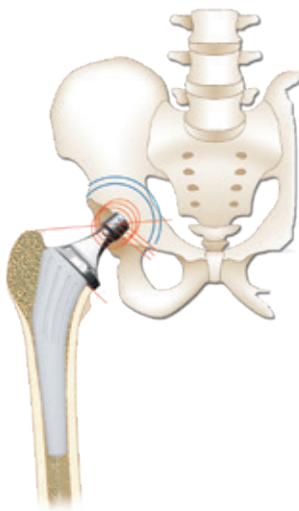
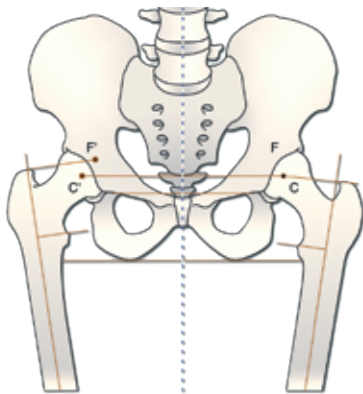
- femoral anatomical axes
- bi-ischiatic line
- body and lesser trochanter central lines

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.

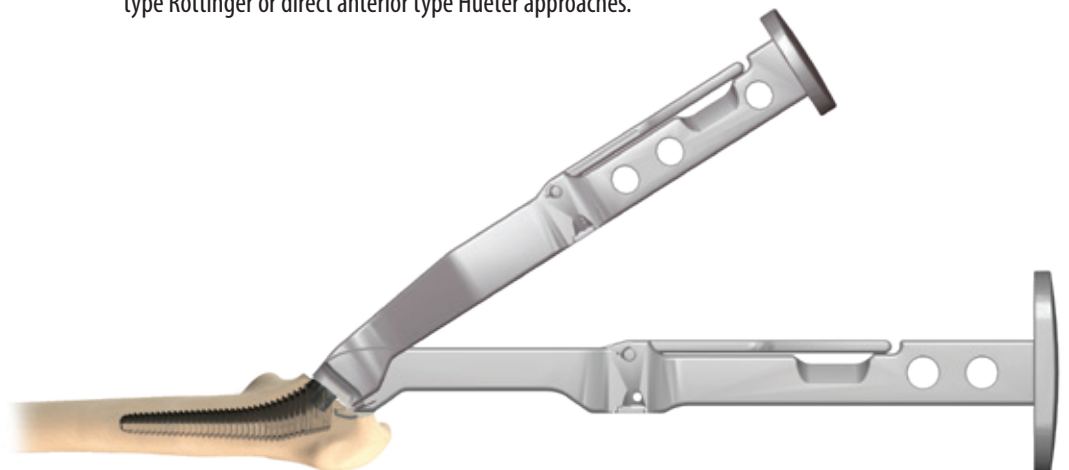
This line is perpendicular to the anatomical axis. Copy centre F' on the side to be treated. Using templates place one of the 3 centres of the prosthetic femoral head onto point F'. Thanks to this point, determine the most suitable size, draw and measure the cutting height of the neck with respect to 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 F2H cementless 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.





Using the modular box chisel

### 3. Neck cuts

Using an oscillating saw, make a cut to the femoral neck axis, with the required anteversion. The medullary 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.

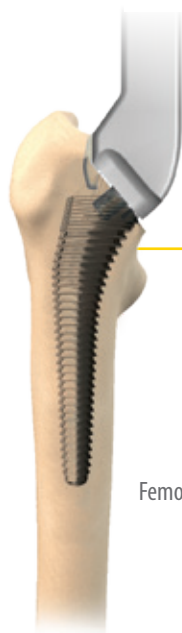
A starter rasp is available to find the medullary canal orientation.

- Rasp handle with hook* ..... ref. 265 323
- DAA left & right rasp handles* ..... 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.



Femoral rasping

### 5. Preparing the femur

Once the diaphyseal axis has been identified, the rasps are inserted successively, in increasing sizes, by pushing the holder 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.

- Rasp handle with hook* ..... ref. 265 323
- DAA left & right rasp handles* ..... ref. 264 949 & 264 950
- Short hook rasps S1 to S10* ..... ref. 266 413 à 266 422

Size	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Length in mm	104	108	112	116	120	124	128	132	136	140

### 6. OPTION: preparing the collar

If the choice for definitive implant is a collar stem, a specific preparation of the calcar should be performed.

At this purpose, the calcar reamer should be indexed in the rasp hole and then ream to obtain a flat surface that continues the cutting plane of the rasp.

- Small sizes calcar reamer* ..... ref. 270 963
- Big sizes calcar reamer* ..... ref. 270 964



## 7. Stability and Length trials



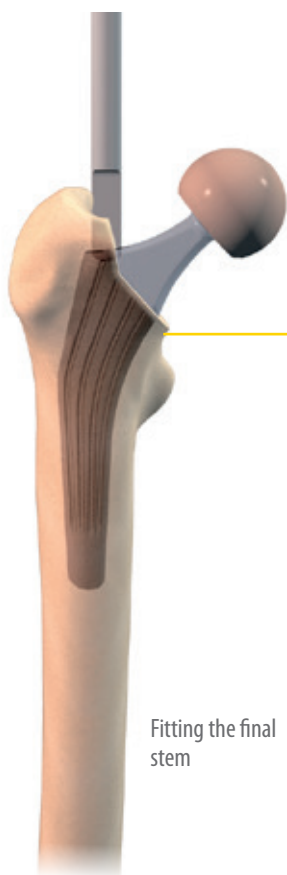
The holder is removed from the rasp and a trial neck is fitted to the rasp. 10 trial necks are supplied in the F2H instrument set.

Trial heads in 22, 28, 32 and 36 mm are supplied in the instrument set with a colour code to identify the length of necks. :

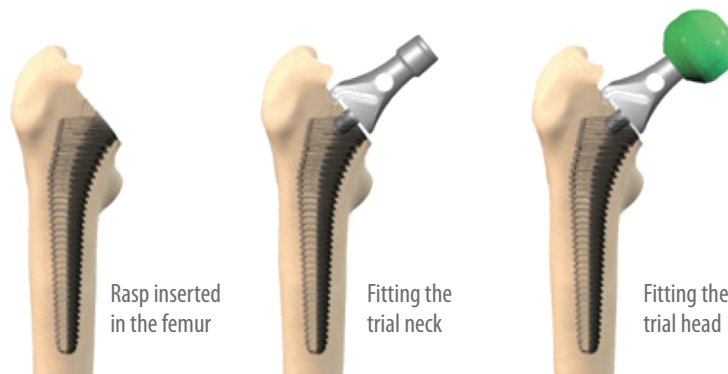
- Short neck (-3.5): yellow,
- Medium neck (0): green,
- Long neck (+3.5): red,
- Extra long neck (+7): black.

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

<i>DAA left &amp; right rasp handles</i> .....	<i>ref. 264 949 &amp; 264 950</i>
<i>Short hook rasps S1 to S10</i> .....	<i>ref. 266 413 to 266 422</i>
<i>130° trial necks S1-2 to S9-10</i> .....	<i>ref. 264 882 to 264 886</i>
<i>122° trial necks S1-2 to S9-10</i> .....	<i>ref. 264 887 to 264 891</i>
<i>Ø22.2 trial heads</i> .....	<i>ref. 231 368 to 231 369</i>
<i>Ø28 trial heads</i> .....	<i>ref. 231 357 to 231 360</i>
<i>Ø32 trial heads</i> .....	<i>ref. 231 352 to 231 354</i>
<i>Ø36 trial heads</i> .....	<i>ref. 254 461 to 254 463</i>



Fitting the final stem



## 8. Fitting the femoral prosthesis

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

The rasps and final stems have the same set of trial heads and thus enable any adjustments.

The selected head is fitted and the arthroplasty is reduced using the head impactor.

<i>Half moon stem impactor</i> .....	<i>ref. 257 220</i>
<i>Head impactor</i> .....	<i>ref. 257 221 &amp; 264 050</i>

## 9. Closing

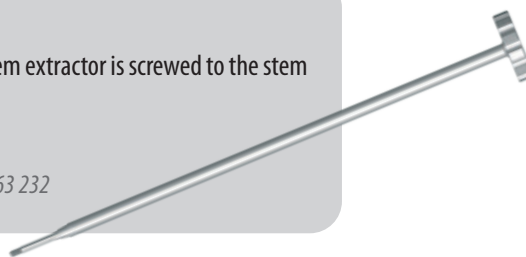
The surgeon will close layer by layer in his usual manner.

>> EXTRACTION

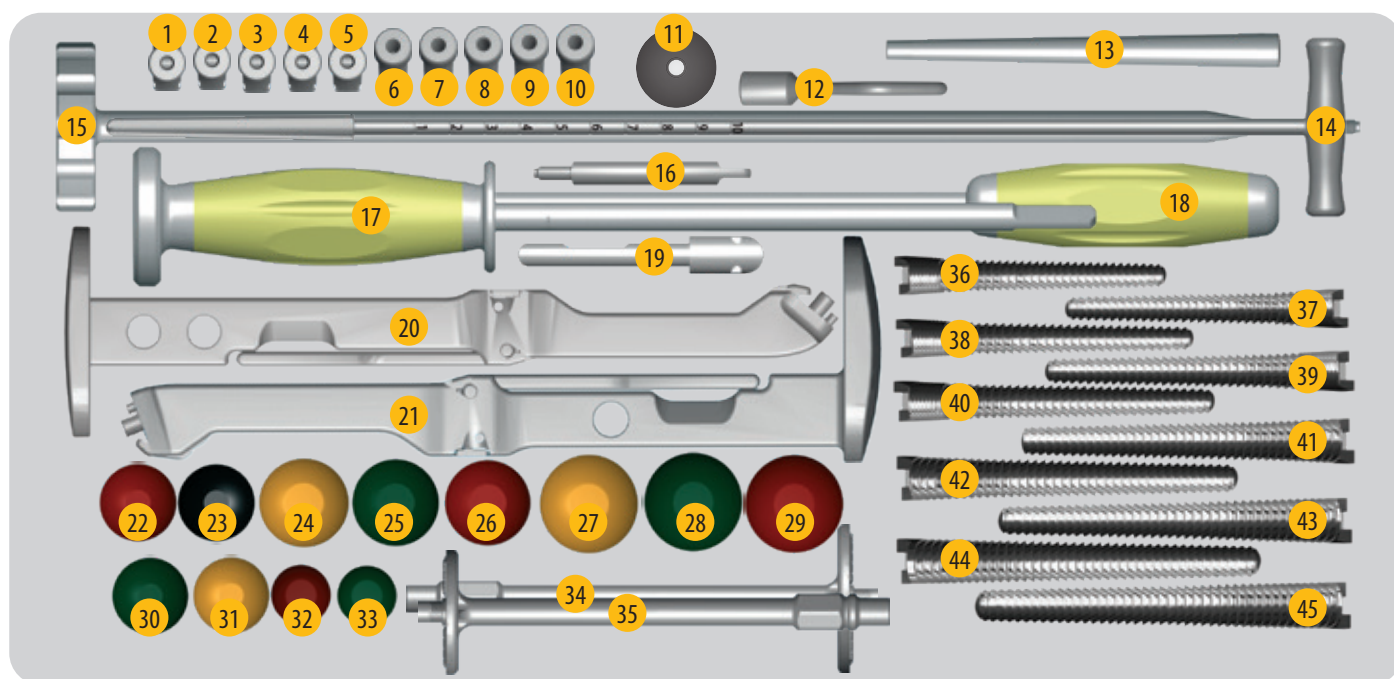
If extraction of the stem is required, the stem extractor is screwed to the stem prior to use.

A flyweight is available on request.

Stem extractor ..... ref. 263 232



**INSTRUMENT SET**



- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>1. Hook trial neck 130° S1-2 (ref. 264 882)</li> <li>2. Hook trial neck 130° S3-4 (ref. 264 883)</li> <li>3. Hook trial neck 130° S5-6 (ref. 264 884)</li> <li>4. Hook trial neck 130° S7-8 (ref. 264 885)</li> <li>5. Hook trial neck 130° S9-10 (ref. 264 886)</li> <li>6. Hook trial neck 122° S1-2 (ref. 264 887)</li> <li>7. Hook trial neck 122° S3-4 (ref. 264 888)</li> <li>8. Hook trial neck 122° S5-6 (ref. 264 889)</li> <li>9. Hook trial neck 122° S7-8 (ref. 264 890)</li> <li>10. Hook trial neck 122° S9-10 (ref. 264 891)</li> <li>11. End tip for head impactor (ref. 264 050)</li> <li>12. Hook for extraction (ref. 266 630)</li> <li>13. Extracting shaft for handle 2001 (ref. 242 472)</li> <li>14. Diaphyseal sizer (ref. 257 219)</li> <li>15. Stem extractor (ref. 263 232)</li> <li>16. Ring for extraction (ref. 266 629)</li> <li>17. Stem impactor (ref. 257 220)</li> <li>18. Head impactor (ref. 257 221)</li> <li>19. Box chisel hook connection (ref. 264 921)</li> <li>20. Handle hook posterior approach (ref. 265 323)</li> <li>21. DAA rasp handle without lateral offset (ref. 270 186)</li> <li>22. 12-14 - 28 LN trial head for stem (ref. 231 359)</li> <li>23. 12-14 - 28 ELN (+7) trial head for stem (ref. 231 360)</li> </ol> | <ol style="list-style-type: none"> <li>24. 12-14 - 32 SN (-3,5) trial head for stem (ref. 231 352)</li> <li>25. 12-14 - 32 MN (0) trial head for stem (ref. 231 353)</li> <li>26. 12-14 - 32 LN (+3,5) trial head for stem (ref. 231 354)</li> <li>27. 12-14 - 36 SN (-3,5) trial head for stem (ref. 254 461)</li> <li>28. 12-14 - 36 MN (0) trial head for stem (ref. 254 462)</li> <li>29. 12-14 - 36 LN (+3,5) trial head for stem (ref. 254 463)</li> <li>30. 12-14 - 28 MN trial head for stem (ref. 231 358)</li> <li>31. 12-14 - 28 SN trial head for stem (ref. 231 357)</li> <li>32. 12-14 - 22,2 LN (+2) trial head for stem (ref. 231 369)</li> <li>33. 12-14 - 22,2 MN (0) trial head for stem (ref. 231 368)</li> <li>34. Big sizes calcar reamer (ref. 270 964)</li> <li>35. Small sizes calcar reamer (ref. 270 963)</li> <li>36. Short hook rasp S1 (ref. 266 413)</li> <li>37. Short hook rasp S2 (ref. 266 414)</li> <li>38. Short hook rasp S3 (ref. 266 415)</li> <li>39. Short hook rasp S4 (ref. 266 416)</li> <li>40. Short hook rasp S5 (ref. 266 417)</li> <li>41. Short hook rasp S6 (ref. 266 418)</li> <li>42. Short hook rasp S7 (ref. 266 419)</li> <li>43. Short hook rasp S8 (ref. 266 420)</li> <li>44. Short hook rasp S9 (ref. 266 421)</li> <li>45. Short hook rasp S10 (ref. 266 422)</li> </ol> |
|---|--|

# REFERENCES

## [F2H cementless stems]

F2H CEMENTLESS STEMS - 130°		F2H CEMENTLESS STEMS - 122°		F2H CEMENTLESS STEMS - 130° WITH COLLAR	
269 243	S1	269 253	S1	269 263	S1
269 244	S2	269 254	S2	269 264	S2
269 245	S3	269 255	S3	269 265	S3
269 246	S4	269 256	S4	269 266	S4
269 247	S5	269 257	S5	269 267	S5
269 248	S6	269 258	S6	269 268	S6
269 249	S7	269 259	S7	269 269	S7
269 250	S8	269 260	S8	269 270	S8
269 251	S9	269 261	S9	269 271	S9
269 252	S10	269 262	S10	269 272	S10

## [Femoral heads]

BIOLOX DELTA HEADS		STAINLESS STEEL HEADS	
256 516	Taper 12/14 Ø28 (-3,5)	231 402	Taper 12/14 Ø22,2 (0)
256 517	Taper 12/14 Ø28 (0)	231 403	Taper 12/14 Ø22,2 (+2)
256 518	Taper 12/14 Ø28 (+3,5)	231 391	Taper 12/14 Ø28 (-3,5)
256 519	Taper 12/14 Ø32 (-3,5)	231 392	Taper 12/14 Ø28 (0)
256 520	Taper 12/14 Ø32 (0)	231 393	Taper 12/14 Ø28 (+3,5)
256 521	Taper 12/14 Ø32 (+3,5)	231 394	Taper 12/14 Ø28 (+7)
266 371	Taper 12/14 Ø32 (+7)		
256 522	Taper 12/14 Ø36 (-3,5)		
256 523	Taper 12/14 Ø36 (0)		
256 524	Taper 12/14 Ø36 (+3,5)		

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