

BIRMINGHAM HIP[◇] Resurfacing Surgical Steps



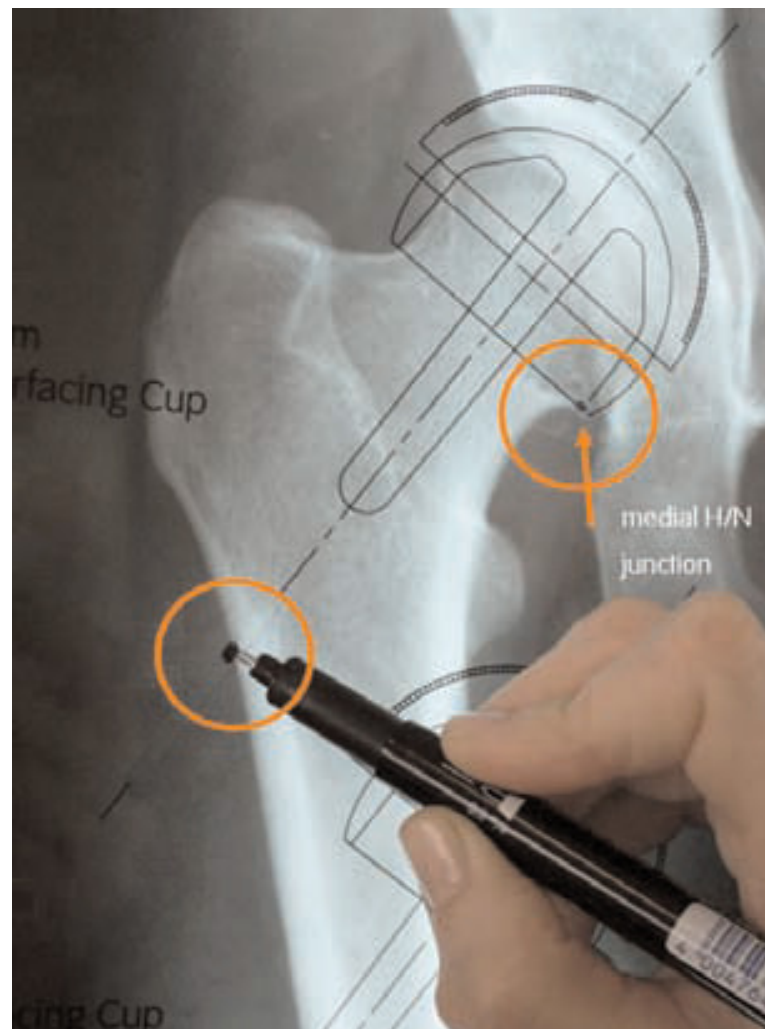
BHR[®] Implant Size Chart



HEAD SIZE	CUP SIZE	DYSPLASIA CUP SIZE
38	44 46	46
40	46 48	
42	48 50	50
44	50 52	
46	52 54	54
48	54 56	
50	56 58	58
52	58 60	
54	60 62	62
56	62 64	
58	64 66	66

IMPORTANT: NEVER mix colours on heads and cups.

**External of 34.8 & 44.8 mm 1.05 02/06/09



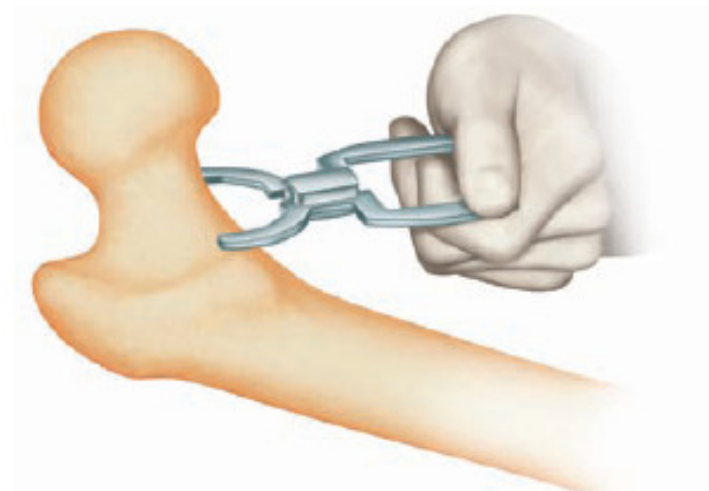
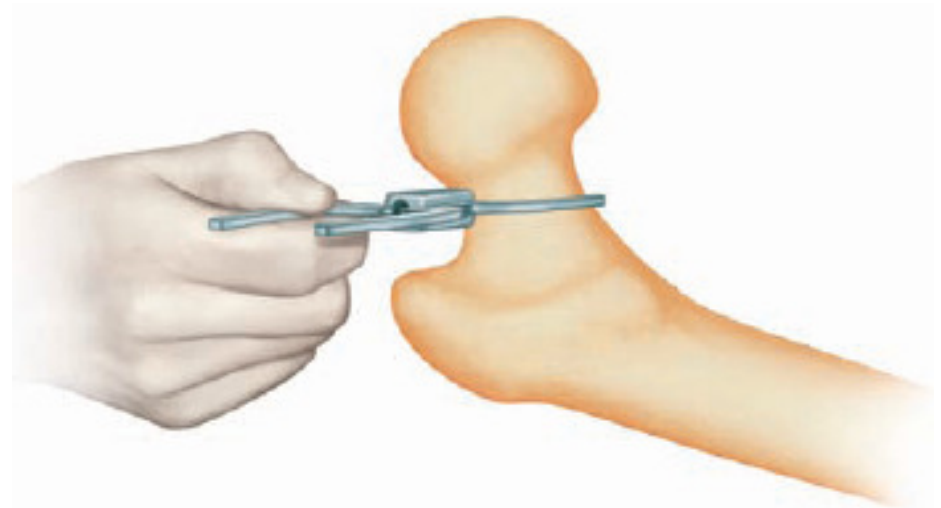
Incision planning

- With the patient in the lateral position, locate and identify the greater trochanter.
- The image shows the greater trochanter along with the traditional posterior incision, in conjunction with the 'MIRAH' shortened incision
- For full indications / contraindications please see the BHR surgical technique 45760103



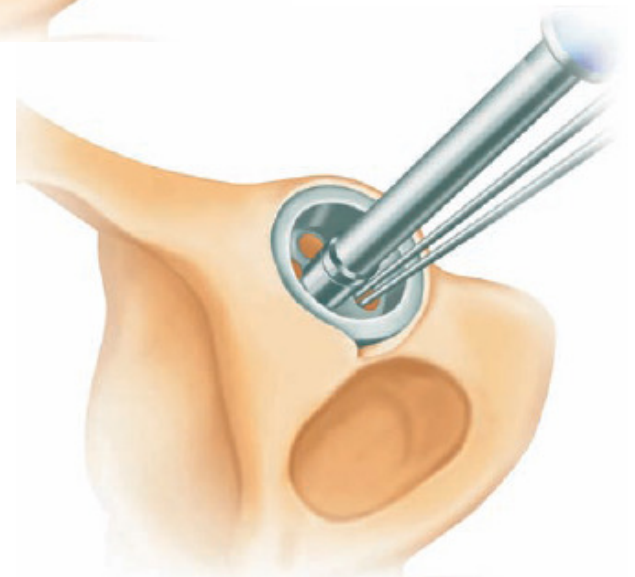
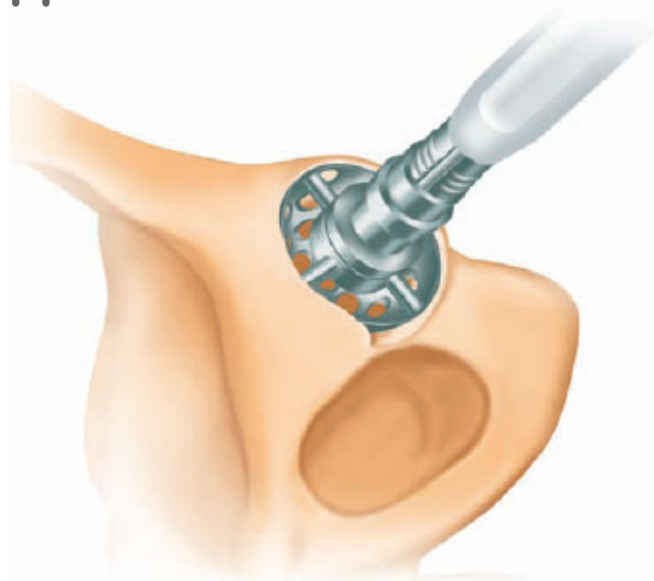
Head/Neck templating

- Use BHR head/neck template.
- Remove any significant neck Osteophyte's
- Assessment is made of the femoral neck diameter.
- This indicates **minimum head size** that can be safely used.
- This corresponds to the choice of acetabular component.



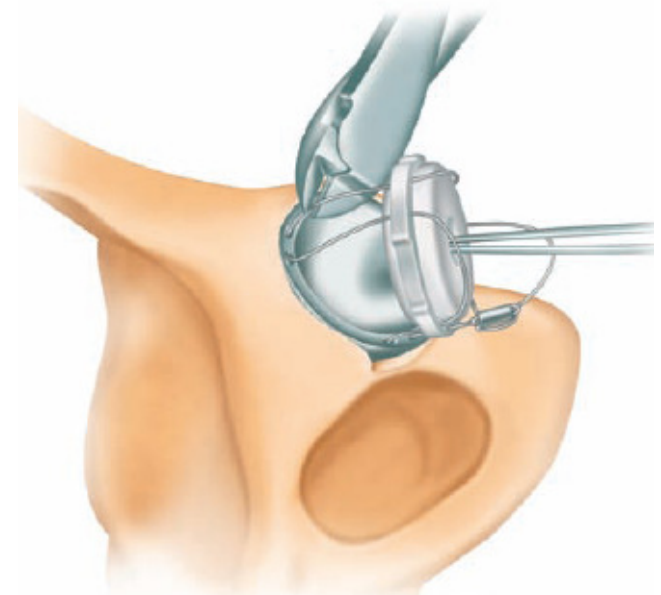
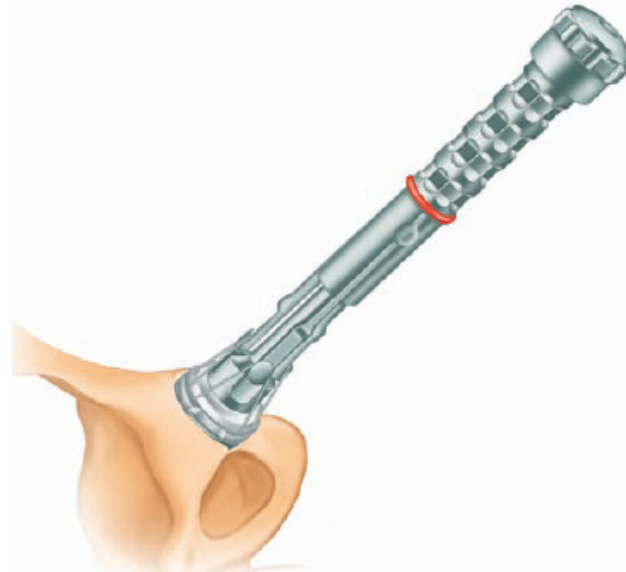
Acetabular preparation

- Sequential reaming of the acetabulum
- 1mm undersized in normal consistency bone
- 2mm under-reaming in soft cancellous bone.
- 1mm under-reaming in sclerotic bone.
- Use the trial component (1mm smaller than the definitive prosthesis).
- Remove all soft tissue and acetabular labrum to ensure cup seating



Acetabular preparation

- Mount the desired acetabular component onto the introducer.
- Anti rotation spines orientated towards the ischium and pubis.
- Fully impact the component.
Target orientation:
15-20° of anteversion
40-45° inclination
- Cut the wires only when satisfied with the final cup position.



Minimally Invasive option (MIS)

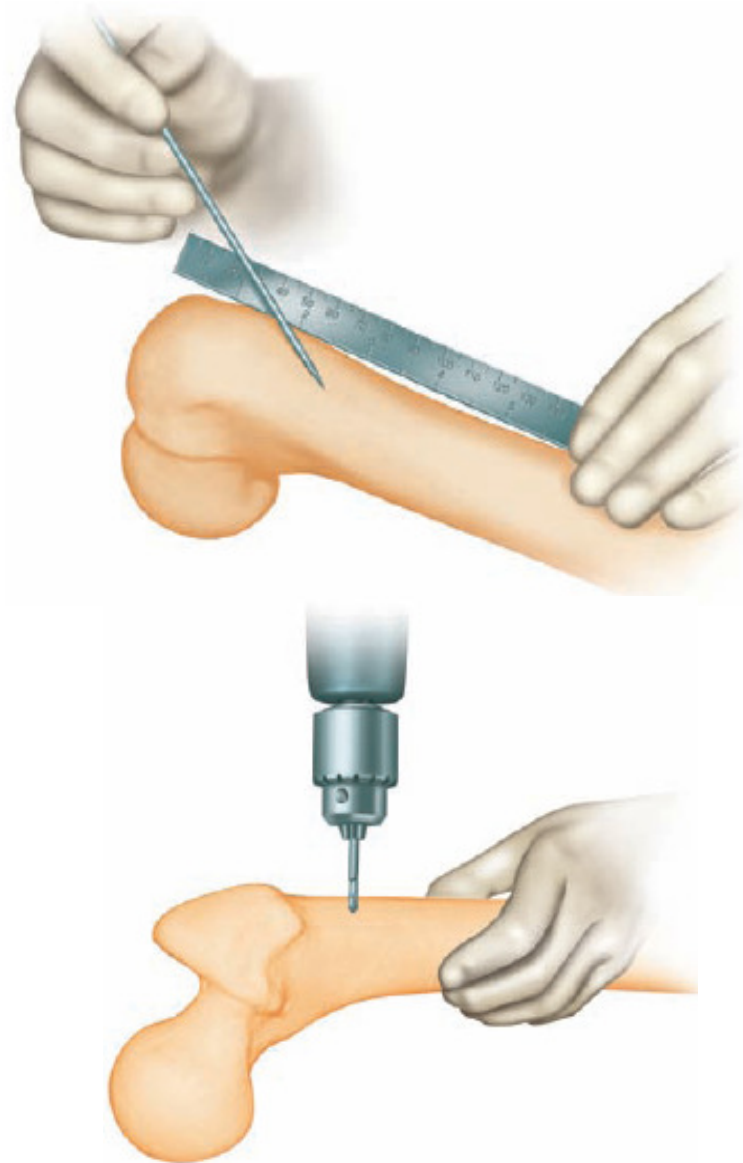
Acetabular Insertion:

- MIS Cup Inserter, with optional X-Bar for inclination and anteversion guidance.
- Dual purpose device which is also used for trial cup insertion.



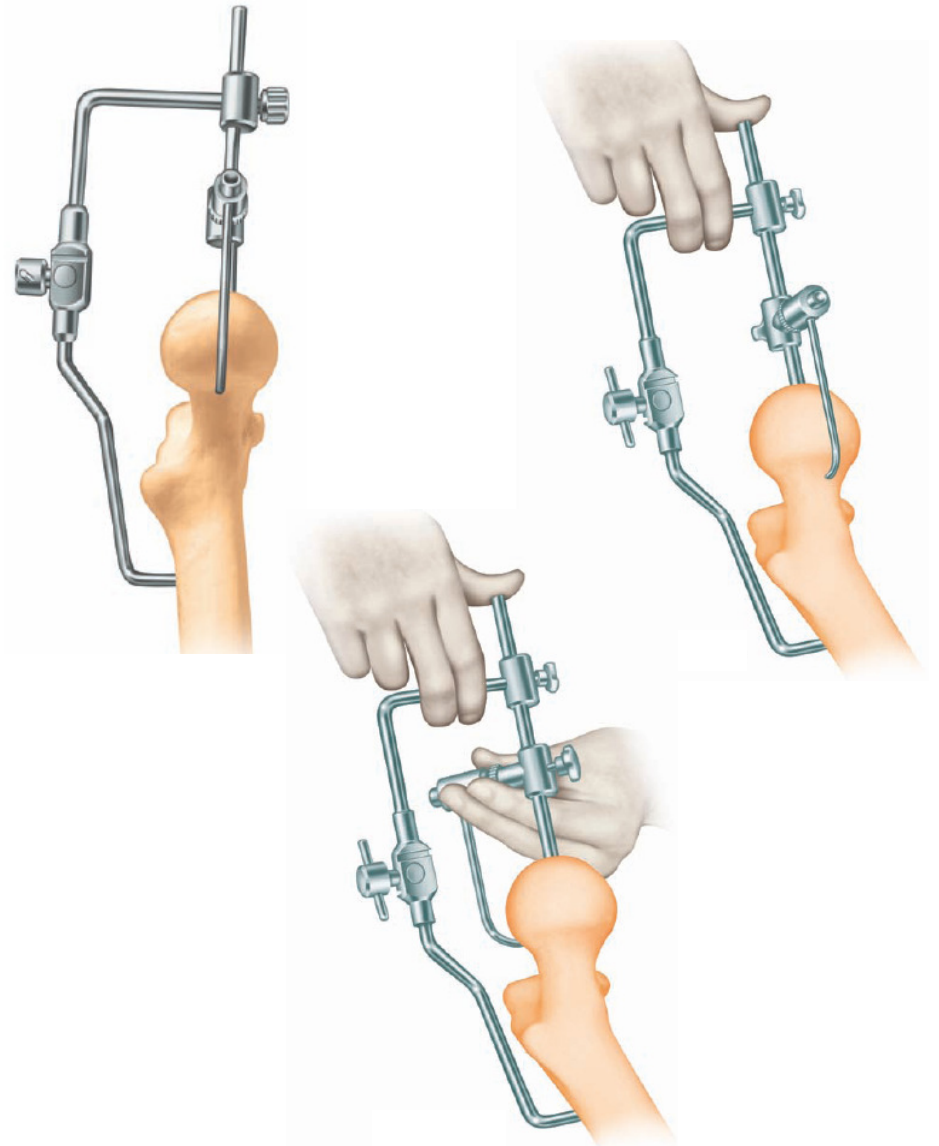
Femoral preparation

- Use a ruler to measure the desired distance down from the tip of the greater trochanter as determined during preoperative templating.
- Insert the pin in a transverse direction into the mid lateral cortex. Aim up towards the head neck angle.
- Once the Femur is rotated place a venting port into the lesser trochanter (not illustrated).



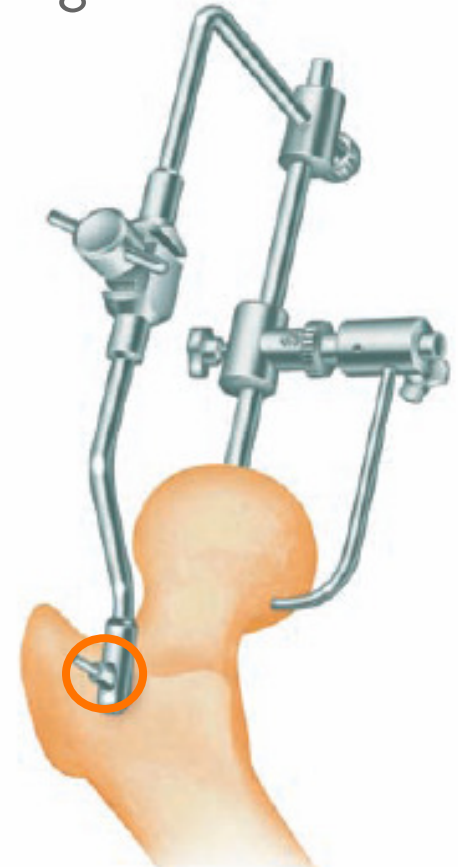
Using the Alignment Guide

- Set the stylus to the desired femoral size.
- Hook the guide onto the alignment pin.
- The long arm of the guide is set to place the guide wire directly down the mid-lateral axis of the femoral neck (lateral plain alignment).
- Pass stylus freely around femoral neck with attention to:
 - **avoid femoral neck notching**
 - **resect femoral head bone circumferentially**



Reduced incision option – femoral alignment

- Insert the **headed pin** into the measured from the lesser trochanter perpendicular to the axis of the femoral component along the intertrochanteric crest.
- Use stylus to position the guide wire correctly



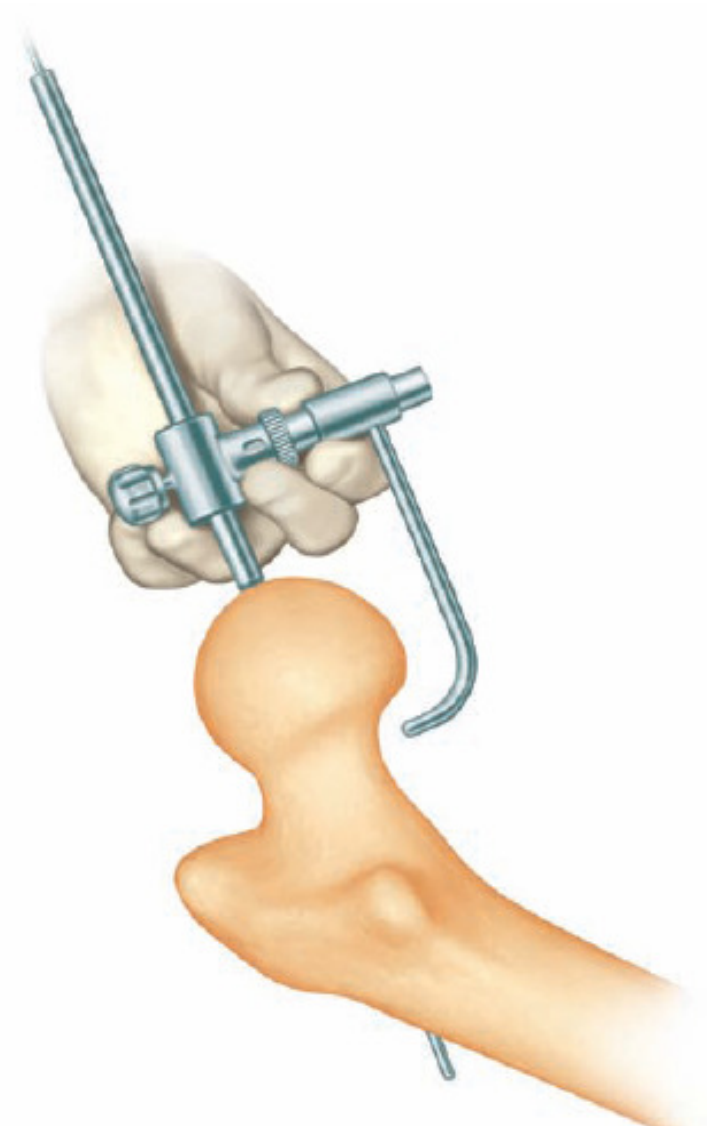
Final check and over-drilling

- When the desired position of the guide has been reached a guide wire is inserted, and the guide assembly can be completely removed.

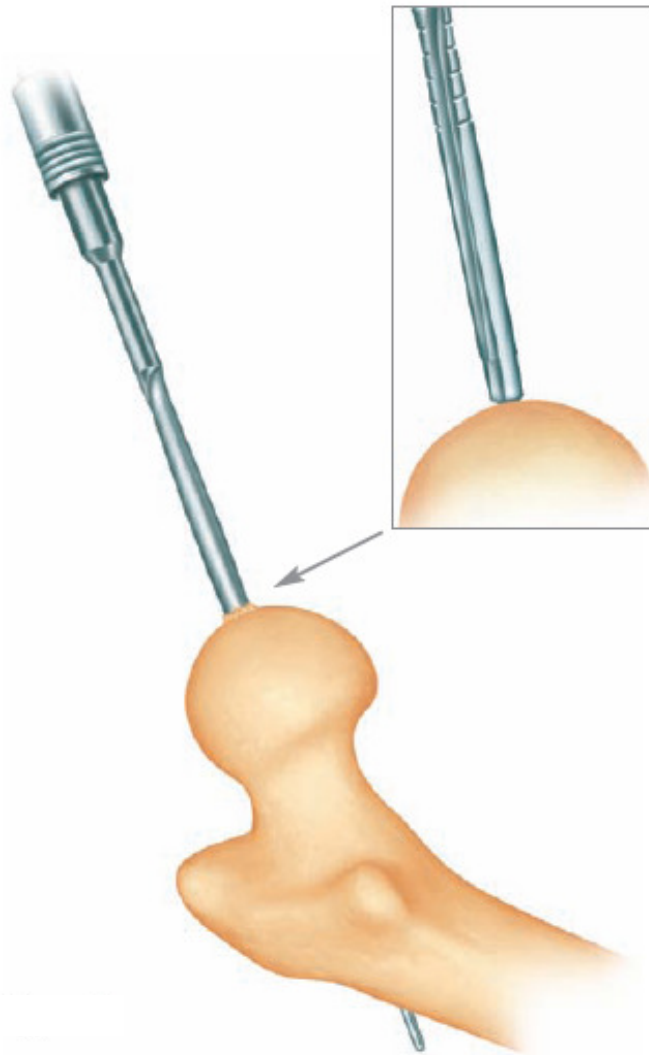


Over-drill the guide wire

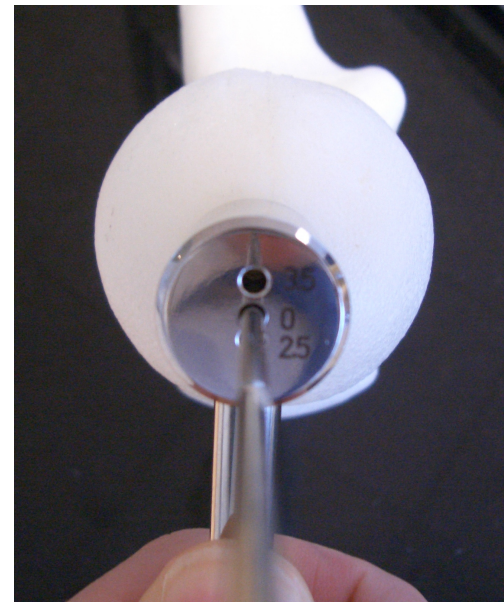
- Check the position of the guide wire with the check guide.



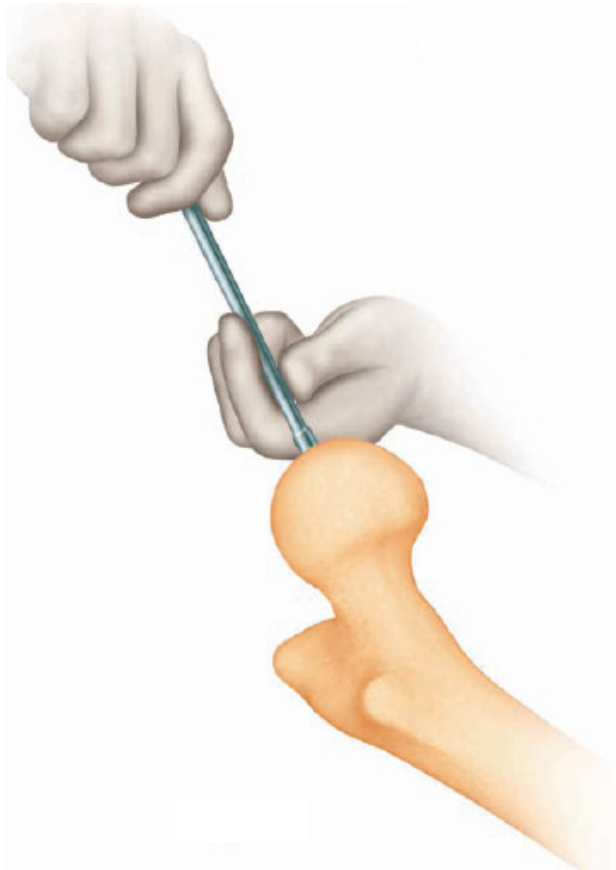
Over-drill the guide wire



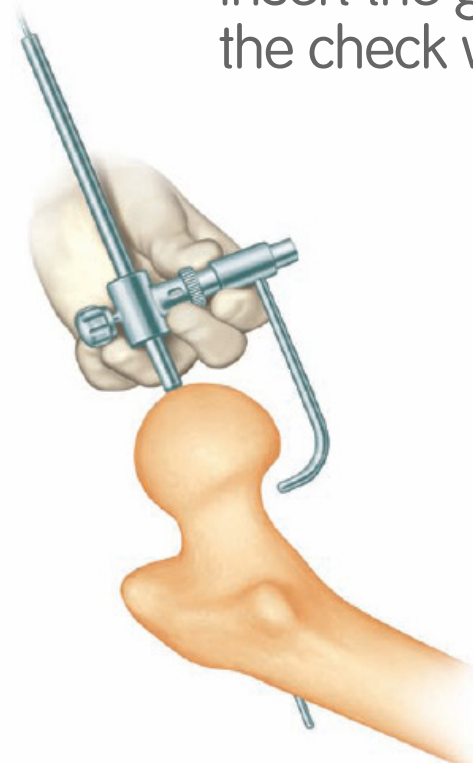
- Reposition if necessary using reposition guide (below)
- Once completely satisfied with the position over- drill the guide wire with the 6.8mm drill.



Guide rod insertion and check jig

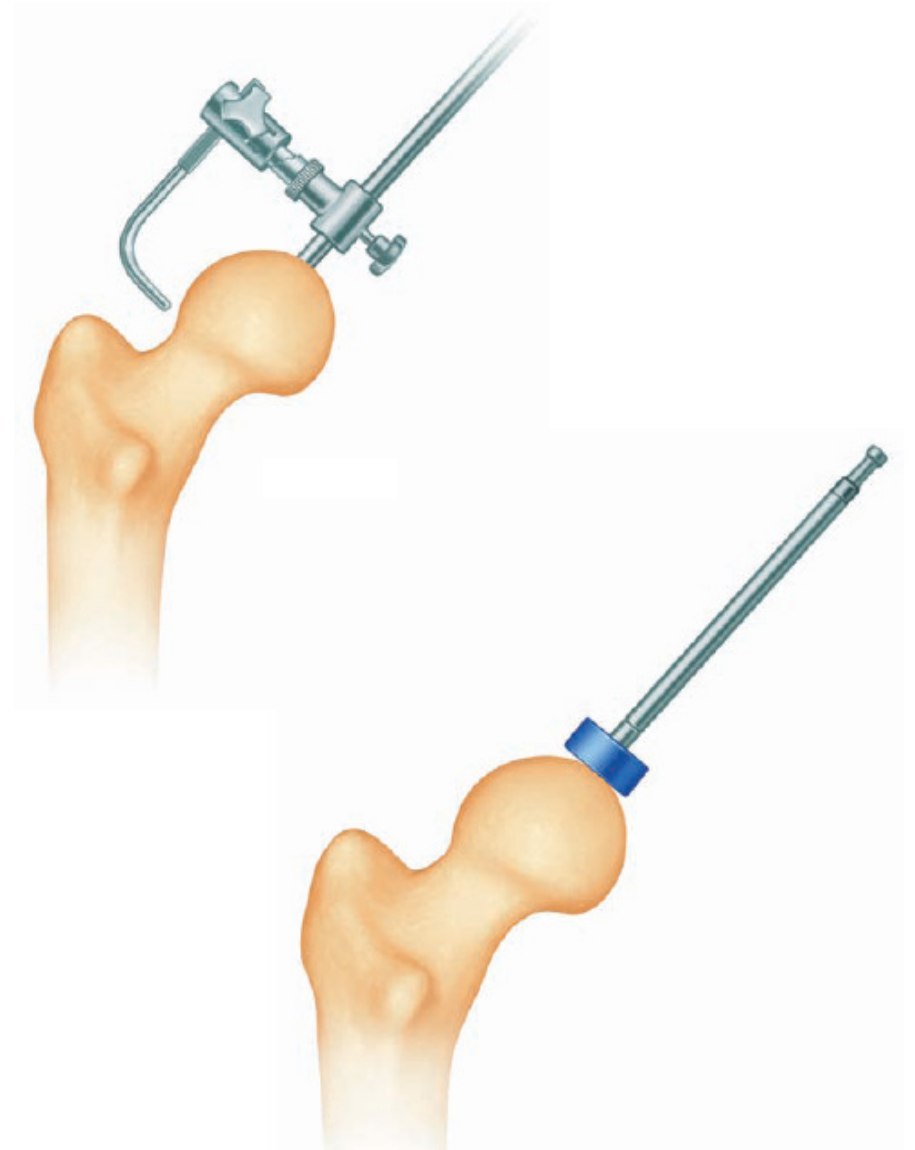
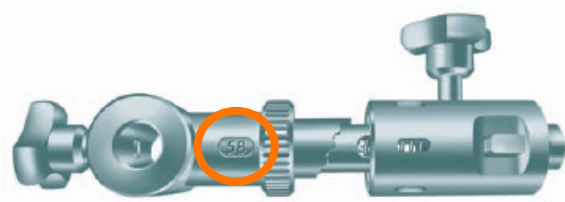


- Remove the drill and guide wire and check wire for damage.
- Insert the guide bar and repeat the check with the stylus.



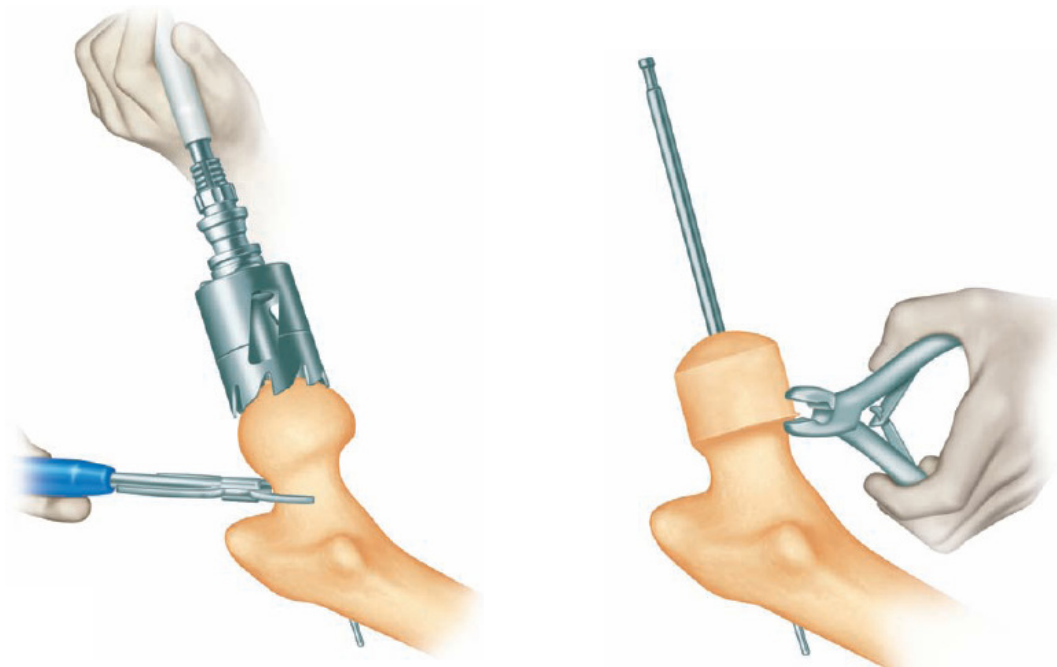
Anti-notch device

- Prevents possible notching of the femoral neck during use of the sleeve cutters.
- Reducing the risk of femoral neck fracture by a positive stop of the cutter



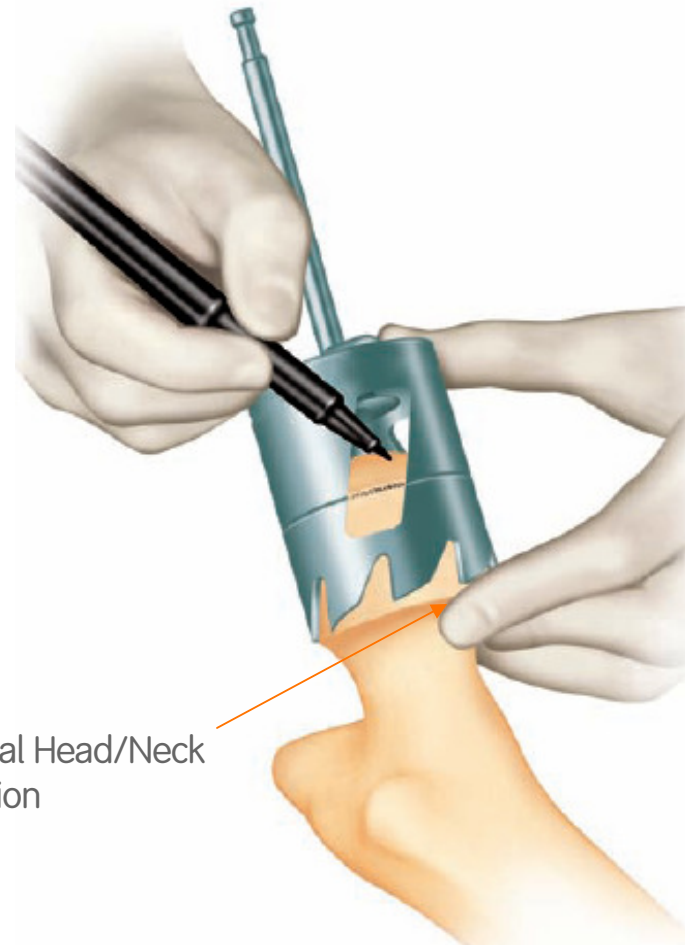
Sleeve cutter

- To safeguard against a shoot through take the head neck template and handle and protect the superior femoral neck.
- Take the appropriate sized sleeve cutter and proceed, taking great care to avoid notching the femoral neck.



Sleeve cutter template

- The sleeve cutter is advanced by hand until the teeth meet the **medial head neck junction**.
- Use a marking device to indicate a depth of resection line on the bone surface through the 'window' as indicated.
- Alternatively the head/neck template may be used



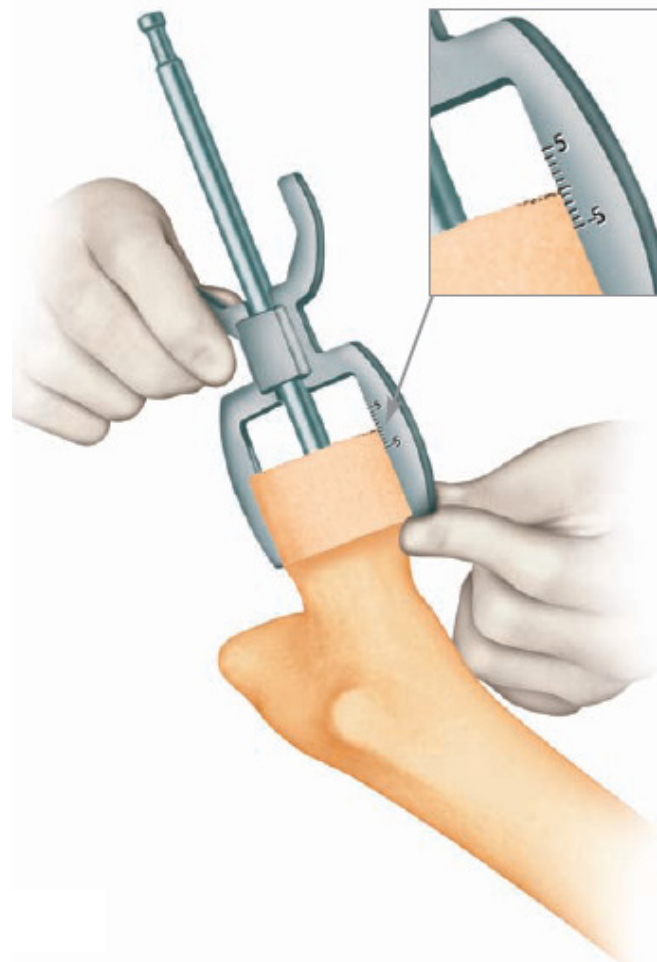
Plan cutter

- Advance the plan cutter over the guide rod stopping at the marked resection line.



Confirm resection height

- The cut can now be checked using the head neck template.



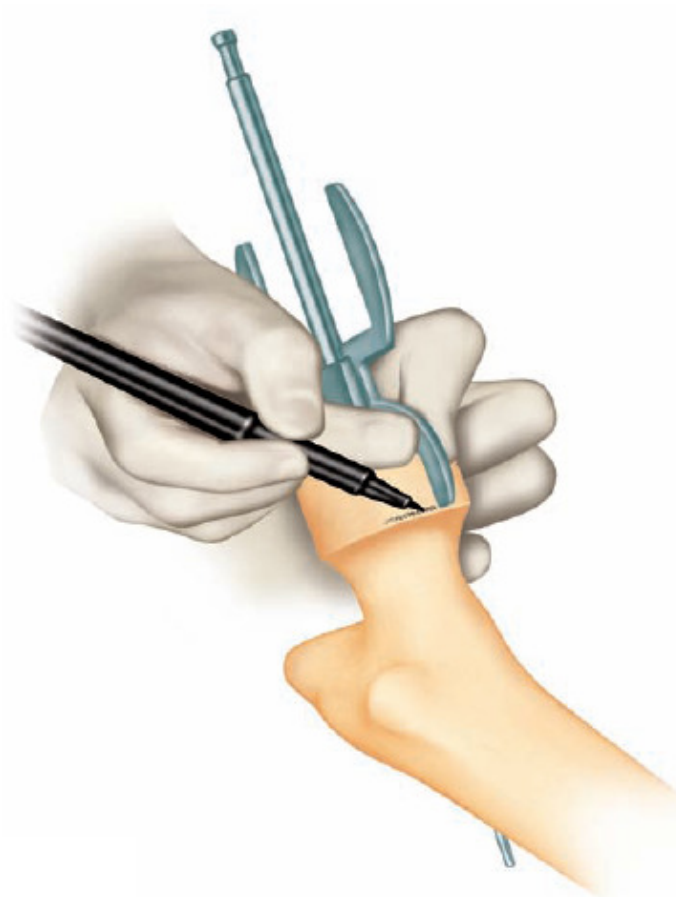
Chamfer cutter

- Using the appropriate chamfer cutter finish the femoral cut.
- Use the drill setting.
- Eccentricity usually disappears during this step.



Final check marking depth line

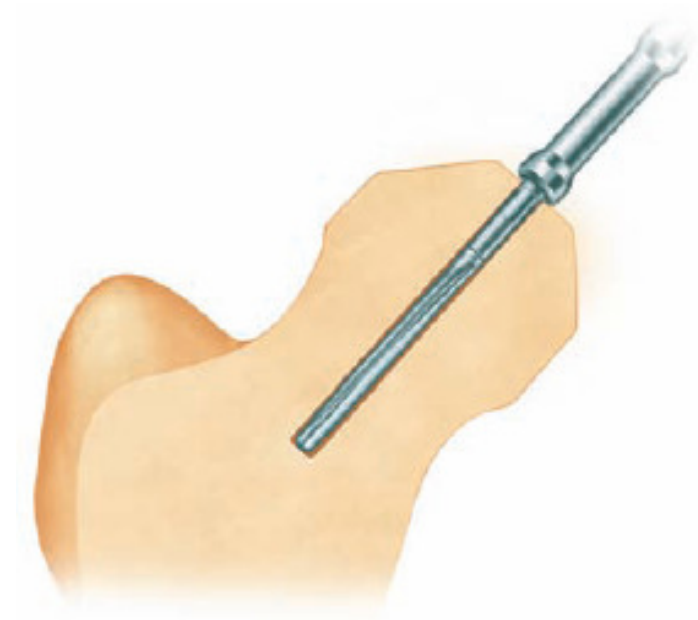
- Mark the femoral head at the head neck junction, as a guide for final implantation.



Stem drill

- Drill for BHR stem using appropriate sized stem drill
- Push drill as far as possible into femoral cavity before using power
- Alternatively stem drill can be used by hand on T-handle

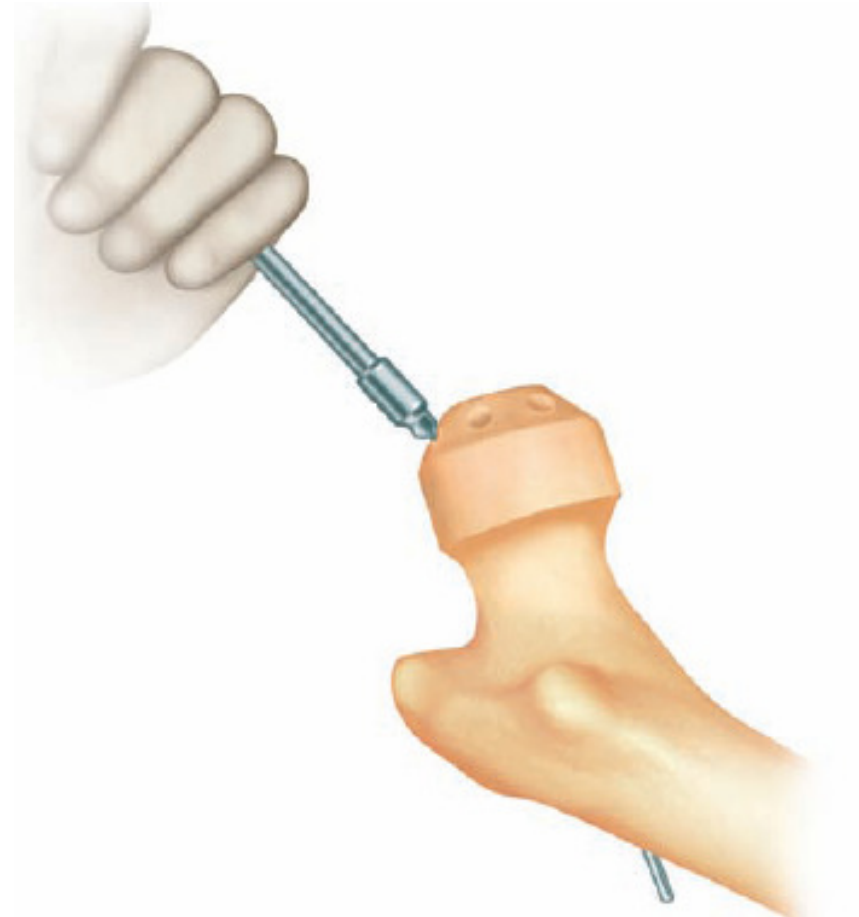
The decision to proceed a to BMHR must be made before this step if required!



Wroblewski drill

- Cement key holes.
- Curette cysts.

Decision to opt out to THR must be made at this step if required!



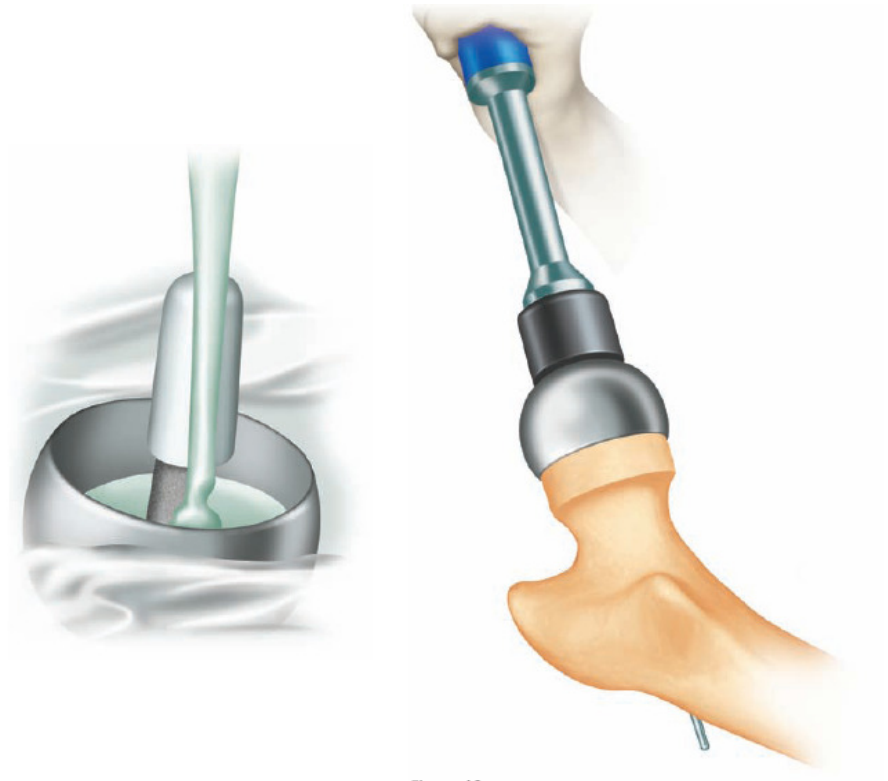
BHR Trial Heads

- Full size range available 38 – 62. (60&62 optional)
- Colour coded according to size
- Provided in both a stand-alone case & will fit into std S&N cases
- Range of Movement (ROM) and Impingement

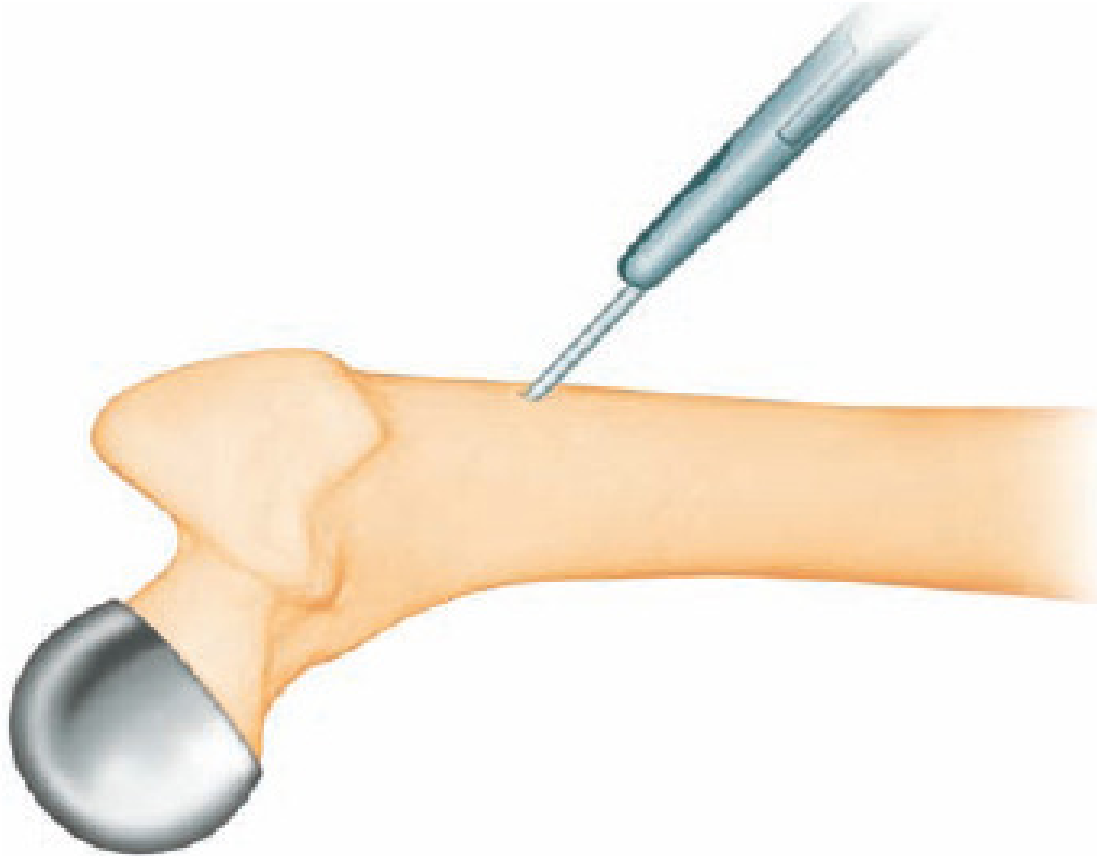


Cementing

- Low viscosity antibiotic cement is used.
- Fill component avoiding the distal stem – **½ full!!**
- From mixing to impaction should be **no more than one minute.**
- The component is impacted to the previously made mark.
- Remove the venting port (not illustrated).



Remove alignment pin!



Postoperative X-Ray.



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