

Disclaimer

Biomet UK Ltd, as the manufacturer of this device, does not practice medicine and does not recommend any particular surgical technique for use on a specific patient. The surgeon who performs any implant procedure is responsible for determining and utilising the appropriate techniques for implanting the prosthesis in each particular patient. Biomet UK Ltd is not responsible for selection of the appropriate surgical technique to be utilised for an individual patient.

Bi-Polar 22.2mm & 28mm System - Operative technique

Overview

The Scan™ Bi-Polar System is an alternative to a total hip arthroplasty. The aim of the Bi-Polar prosthesis is to reduce wear or erosion of the acetabulum by providing motion between the prosthetic head and the inner articulation bearing whilst also allowing for extreme range of motion. The Scan™ Bi-Polar design also incorporates positive eccentricity favouring valgus acetabular component positioning. The chance of dislocation is therefore reduced and the stress more evenly distributed within the acetabular cartilage.

The Scan™ Bi-Polar System component is simple and easy to use. The system comprises of stainless steel bi-polar component that can only be assembled with the Scan™ 22.2mm and 28mm modular femoral heads. The snap-lock mechanism is designed to resist modular head dislocation from within the bi-polar component. It is efficient and easy-to-use and designed for optimal femoral head security.

1. Pre-operative Planning

Selection of the correct femoral component is attained through careful pre-operative planning. This can be achieved manually by means of x-ray templates, or digitally by means of a PAC system.

Manual Pre-operative Planning

The Scan™ Bi-Polar System includes femoral x-ray templates in 115% magnification. These templates are positioned over the AP and Lateral x-rays to best decide the correct implant size and modular head neck length to help restore the patient's natural anatomy.



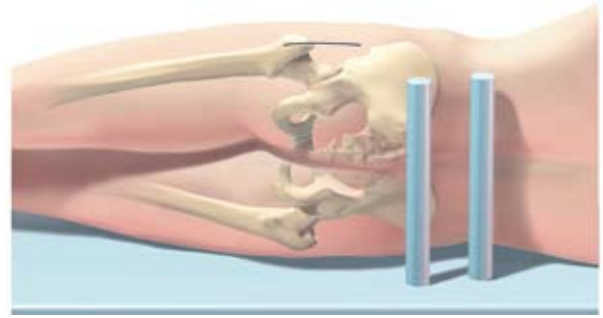
Digital Pre-operative Planning

The Scan™ Bi-Polar System digital templates are available through various digital template providers. When using digital templating for a primary THR, it is necessary to use a magnification marker with a known dimension. This is required in order for the PAC system to calculate the correct magnification. As soon as the correct magnification has been determined, the PAC System can be used to best decide the correct implant size and modular head neck length required to help restore the patient's natural anatomy.



1. Surgical exposure

The Scan™ Bi-Polar component can be implanted using any of the standard approaches for total hip replacement. The aim of the approach selected is to provide adequate visualisation of both the acetabulum and proximal femur.



2. Femoral Components

The Scan™ Bi-Polar System has been designed to assemble with any Biomet femoral component that utilise the Scan™ 22.22mm or 28mm CoCr femoral heads. Please refer to appropriate femoral prosthesis operative technique for relevant information.

3. Acetabular Sizing

Acetabular sizing can be completed by one of two methods. The first method utilises the resected anatomic femoral head with the head gauges. The resected femoral head is passed through the circular cutouts in the gauges until the correct diameter is determined (Figure 1). The second method utilises the trial bi-polar shells in conjunction with the gauge handle. The trial bi-polar shells of different diameters are inserted into the acetabulum until the most appropriate diameter shell is determined (Figure 2).

Warning. The bi-polar component must not be undersized or oversized. Failure to select the correct diameter component will increase the risk of premature failure.



figure 1



figure 2

4. Femoral Component Insertion and Trial Reduction

Prior to femoral preparation and insertion of the femoral component, please refer to relevant operative technique.

It is possible to complete a trial reduction by using either the femoral rasp as a trial component or the implanted femoral component. Either way, the aim of the trial is to select the most accurate length of femoral head that best restores the patient's natural anatomy.

Once the correct diameter of bi-polar component has been determined, the equivalent diameter trial bi-polar shell is assembled with the appropriate trial femoral head and assembled with either the femoral rasp (Figure 3) or with the femoral component (Figure 4). Trial femoral heads are available in numerous neck lengths so it may be necessary to undertake the trial reduction several times to ensure the correct length modular head has been selected.



figure 3



figure 4

5. Bi-polar and Modular Head Assembly

Select the appropriate Bipolar Scan shell and femoral head implants and assemble components using the Bipolar Liner Press as illustrated in Figure A.



Figure A

Ensure that the threaded bar is fully open. Place the Bipolar shell on the base of the liner press ensuring that the opening for the femoral head is facing upwards as illustrated in Figure B



Figure B

Place the femoral head on top of the shell, ensuring that the tapered opening is facing upwards as indicated in Figure C.



Figure C

Rotate the handle of the liner press in a clockwise direction until the straight proportion of the black plastic holder engages with the femoral head. Continue turning the handle to engage the femoral head with the Bipolar shell. An audible expulsion of air will indicate connection as illustrated in Figure D.



Figure D

To verify connection, unscrew the instrument partially. If the femoral head does not rotate around the Bipolar shell, additional compression is necessary by screwing the instrument further. Femoral head is fully inserted as indicated in Figure E



Figure E

Once the component is secure, remove the assembly from the instrument.

Note: The holding location of the Bipolar shell and femoral head can be reversed by unscrewing both black plastic components and reversing their location. The above instructions still apply, when used in this configuration.

Warning: In case of the patient dislocating their hip and a closed reduction being performed, the surgeon must take care with repositioning the joint. Laboratory testing has shown that in extreme circumstances the neck of the stem can impinge against the rim of the Bi-Polar shell which may lead to dissociation of the components if excessive force is used to reduce the hip joint.

6. Attachment of Bi-polar Assembly to Femoral Component

Prior to attaching this assembly to the femoral component, ensure the taper is clean and undamaged. Assembly is completed by hand pressure only. Alternatively, a combination of hand pressure and a twisting motion can be used. A Bi-polar assembly is finally seated in position by means of a gentle tap utilising the femoral head impaction device and mallet (Figure 7).

Care must be taken to ensure no damage occurs to the articulating surfaces of the Bi-polar component as any marks or scratches on the surface will result in increased wear.



7. Reduction

The bi-polar articulation is then finally reduced into the acetabulum and a final check on leg length and tissue tension is completed (Figure 8).



figure 8

Ordering Information

Scan™ Stainless Steel Bi-Polar Components

Articulation Diameter (mm)	Internal Diameter (mm)	
	22.22	28.0
38.0	Scan-03822	-
40.0	Scan-04022	-
42.0	Scan-04222	-
44.0	Scan-04422	-
46.0	-	Scan-04628
48.0	-	Scan-04828
50.0	-	Scan-05028
52.0	-	Scan-05228
54.0	-	Scan-05428
56.0	-	Scan-05628
58.0	-	Scan-05828
60.0	-	Scan-06028

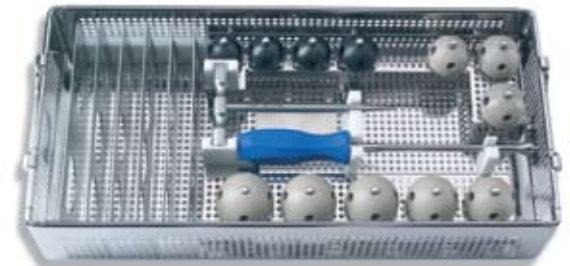
Scan™ CoCrMo Modular Femoral Heads (T1)

Offset (mm)	Articulation Diameter (mm)	
	22.22	28.0
-6.0	-	Scan-0650
-5.0	Scan-0657	-
0	Scan-0658	Scan-0652
+6.0	-	Scan-0654



Scan™ Stainless Steel Bi-Polar Component Instrumentation

Catalogue No.	Description
31-601270	Scan™ Bi-Polar Modular Head Press
31-600302	Scan™ Bi-Polar X-Ray Templates 115% Mag
31-600325	Scan™ Bi-Polar Instrument Set 22.22 & 28mm
comprising of:	
31-600328	Stainless Steel Instrument Tray
31-600297	Trial/Gauge Bi-Polar Shell 22.22/38mm
31-600298	Trial/Gauge Bi-Polar Shell 22.22/40mm
31-600299	Trial/Gauge Bi-Polar Shell 22.22/42mm
31-600300	Trial/Gauge Bi-Polar Shell 22.22/44mm
31-600228	Trial/Gauge Bi-Polar Shell 28/46mm
31-600230	Trial/Gauge Bi-Polar Shell 28/48mm
31-600232	Trial/Gauge Bi-Polar Shell 28/50mm
31-600234	Trial/Gauge Bi-Polar Shell 28/52mm
31-600236	Trial/Gauge Bi-Polar Shell 28/54mm
31-600222	Trial/Gauge Bi-Polar Shell 28/56mm
31-600238	Trial/Gauge Bi-Polar Shell 28/58mm
31-600239	Trial/Gauge Bi-Polar Shell 28/60mm
506	Judet Extractor
31-600320	Trial/Gauge handle
31-600321	Femoral Head Sizer



Scan™ Bi-Polar Instrument Set 22.22mm & 28mm



Bi-Polar Modular Head Press

