Progressive

TOTAL HIP SYSTEM

BIOMET INC

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The Progressive Hip System was designed in conjunction with John Maltry, M.D. of Orthopaedic Specialists of Arizona, Tucson, AZ, and Charles M. Creasman, M.D. of Orthopaedic and Fracture Surgeons, Phoenix, AZ.

The Progressive Hip System is marketed for noncemented use in skeletally mature patients undergoing primary hip replacement surgery as a result of noninflammatory degenerative joint disease.

The Progressive™ Primary Hip System achieves proximal and distal stability via a combined porous coated proximal geometry and distal splines. Through long-term clinical studies, the titanium plasma spray porous coated tapered geometry has shown excellent long-term fixation.[1,2] Sharp distal flutes provide increased rotational stability, thereby enhancing the potential for biological fixation and minimizing the potential for thigh pain. The Progressive femoral component provides a 10° anteverted neck to aid in replicating normal anatomies.

- Biocompatible titanium substrate
- Bi-Planar tapered proximal geometry
- Sharp distal flutes with coronal slot
- 10° Anteverted Neck
- 130° Neck Angle
- Duckbill Collar
- Alliance® Instrumentation

REFERENCES

1 McLaughlin J., Lee K., "Total Hip Arthroplasty with an Uncemented Femoral Component," *Journal of Bone and Joint Surgery*, 79B: 900–907, 1997.

2 Mauerhan D., Mesa J., Gregory A., Mokris J.G., "Integral Porous Femoral Stem," *Journal of Arthroplasty*, 12(3): 250–255, 1997.

Step 1

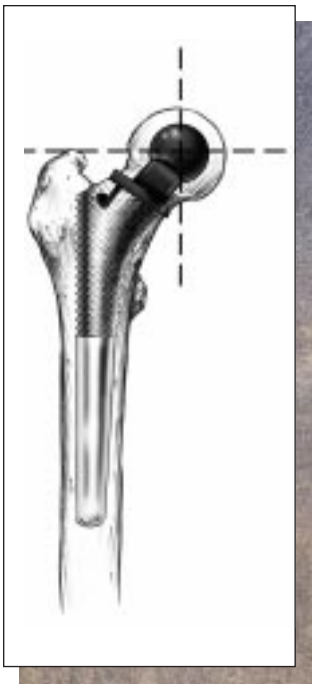
Resection of the Femoral Neck

• The femoral neck cut can be made by either using the femoral broach as a template, or by using the femoral resection guide.

• The neck cut is made slightly horizontal, which allows use of the calcar planer to obtain a smooth surface for flush collar-calcar seating.

NOTE: Due to the 10° of ante-version built into the femoral component, care should be taken in positioning the acetabular shell.

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

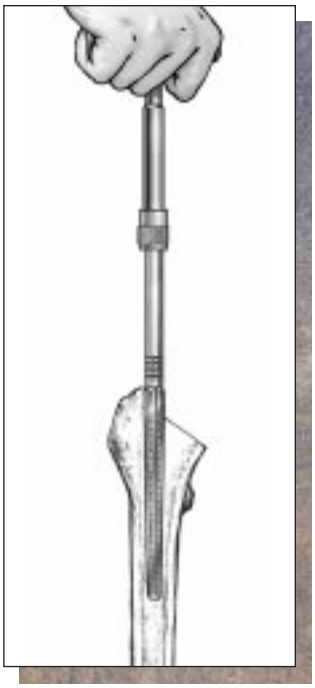


Step 2

Opening the Femoral Canal

• The femoral canal is identified with a hand-held starter reamer.

• A hollow chisel (cookie cutter) may be used to assist in the lateralization of the reamers and broaches.



Step 4

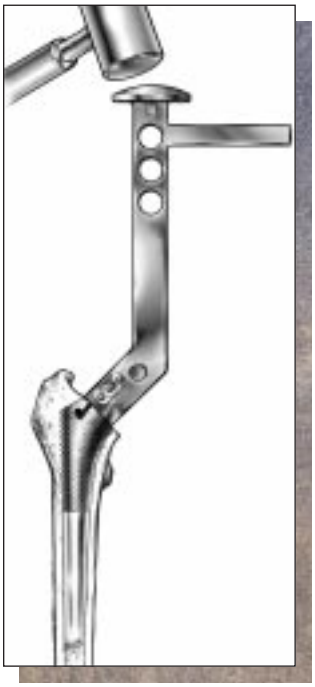
Broaching the Proximal Femur

• Select the broach which is two to three sizes smaller than the last sized cylindrical or combination reamer used.

• The broach is impacted until it is at the medial cut level, or at the preoperative templated position.

• Sequentially larger broaches are used until the broach size that is 1mm less than the final cylindrical reamer is reached.

If a combination reamer is utilized, the final broach and final reamer sizes will be identical **(i.e. ream 12mm, broach 12mm, and implant 12mm)**.



Step 5

Calcar Reaming

• With the proper size broach in place, the calcar is planed flush by using the calcar trimmer.

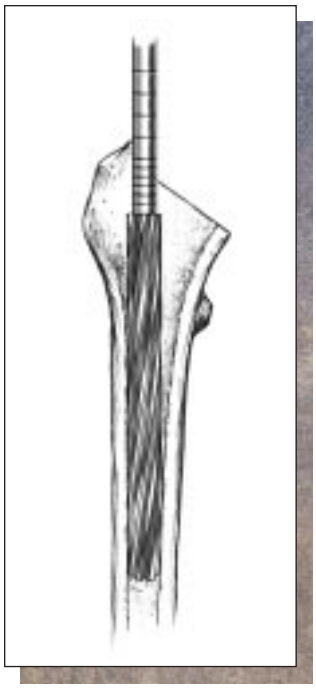
Step 3

Cylindrically Reaming the Femoral Canal

• Power reaming is initiated with a 9mm cylindrical reamer to prepare the diaphysis. The reamer is advanced slowly within the canal until the depth determined by preoperative templating is reached. **Note: Sufficient lateralization of the reamers should be maintained in order to avoid a varus implant position.**

• Continue to increase cylindrical reamer size until cortical bone is contacted. The distal canal is overreamed by 1mm relative to the size of the implant **(i.e. cylindrically ream 13mm, broach 12mm, implant 12mm)**.

The designing surgeons prefer to use only a cylindrical reamer when reaming the femoral canal.

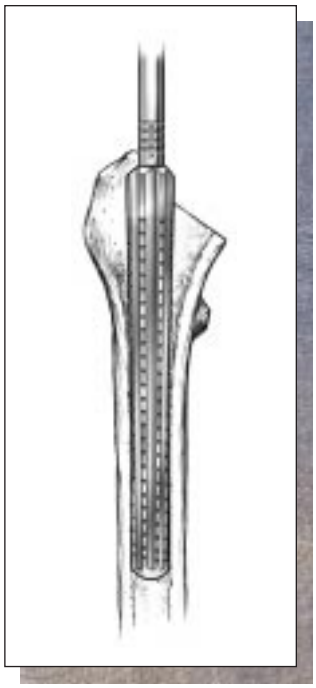


Step 3a

Optional Femoral Reaming Technique

• Power reaming can be initiated with a Progressive combination reamer as an optional reaming technique. The combination reamer takes into account the cylindrical and tapered geometry of the femoral component.

• The combination reamers are advanced slowly into the canal until the first line on the reamer shank is at the level of the top of the greater trochanter. When utilizing the Progressive combination reamers there is no need to overream **(i.e. combination ream 12mm, broach 12mm, and implant 12mm)**.



Step 6

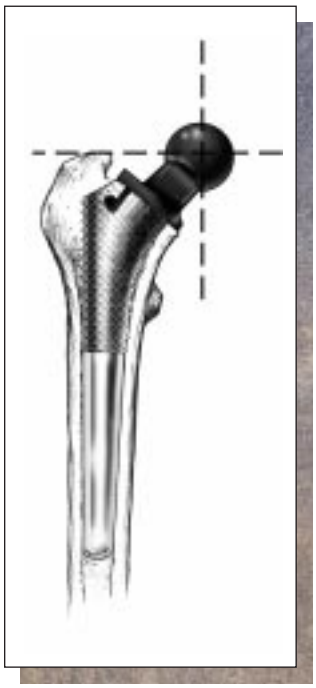
Trial Reduction

• The broach is left in situ and serves as a trial prosthesis.

• The Progressive trial head/neck provisionals are placed on the broach body. **NOTE: Progressive anteverted head/neck trials must be used.**

• Perform trial reduction and determine appropriate neck length.

• Reattach the broach handle and remove broach.



Step 7

Stem Insertion

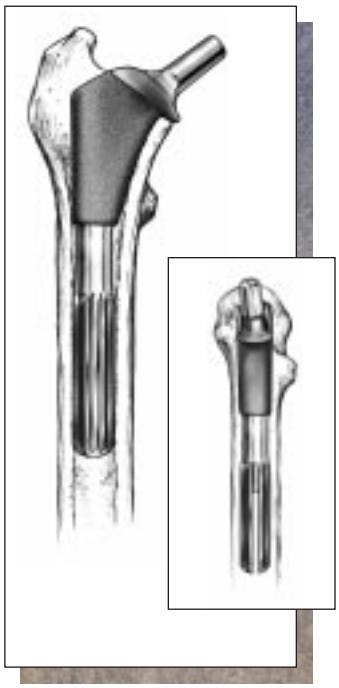
• Attach the stem inserter to the selected Progressive prosthesis that corresponds to the final broach size.

• Rotationally align prosthesis with great care; changing version is difficult once the splines engage.

• Impact the prosthesis into a fully seated position. The collar should seat flush against the medial calcar.

• Remove the stem inserter and mount a trial femoral head. Reduce the hip to check for stability, range of motion, and appropriate leg length.

• Impact prosthetic femoral head on the taper using the femoral head driver.



Case Study

Clinical Evaluation

Preoperative

Patient is a 40-year-old male with post-traumatic osteoarthritis of the left hip. Pain has worsened during the past two years. The patient's R.O.M. is limited with shortening and loss of offset present.

Postoperative

The immediate postoperative film shows a press-fit THA. A porous RingLoc® shell and Hi-wall liner were used without cement for the acetabulum. A titanium Progressive press-fit stem was used for the femur. Hip motion and function are good with leg length and offset restored. Pain has been eliminated. X-rays show satisfactory alignment and fixation of the components.

Ordering Information

PROGRESSIVE PRIMARY HIP SYSTEM	
PART NO.	DESCRIPTION
166314	9mm x 125mm RT
166315	9mm x 125mm LT
166316	10mm x 130mm RT
166317	10mm x 130mm LT
166318	11mm x 135mm RT
166319	11mm x 135mm LT
166320	12mm x 140mm RT
166321	12mm x 140mm LT
166322	13mm x 145mm RT
166323	13mm x 145mm LT
166324	14mm x 150mm RT
166325	14mm x 150mm LT
166326	15mm x 155mm RT
166327	15mm x 155mm LT
166328	16mm x 160mm RT
166329	16mm x 160mm LT
166330	17mm x 165mm RT
166331	17mm x 165mm LT

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Progressive™ Head/Neck Trials

31-105560	-6mm LT
31-105561	-6mm RT
31-105562	-3mm LT
31-105563	-3mm RT
31-105564	STD LT
31-105565	STD RT
31-105566	+3mm LT
31-105567	+3mm RT
31-105568	+6mm LT
31-105569	+6mm RT
31-105570	+9mm LT
31-105571	+9mm RT
31-105572	+12mm LT
31-105573	+12mm RT

Progressive™ Combination Reamers

31-473219	9mm
31-473220	10mm
31-473221	11mm
31-473222	12mm
31-473223	13mm
31-473224	14mm
31-473225	15mm
31-473226	16mm
31-473227	17mm

Cylindrical Reamers

428159	9.0mm
428160	9.5mm
428161	10.0mm
428162	10.5mm
428163	11.0mm
428164	11.5mm
428165	12.0mm
428166	12.5mm
428167	13.0mm
428168	13.5mm
428169	14.0mm
428170	14.5mm
428171	15.0mm
428172	15.5mm
428173	16.0mm
428174	16.5mm
428175	17.0mm
428176	17.5mm
428177	18.0mm

Alliance® Instrumentation Cases

595551	Insertion/ Extraction
595552	Alliance Reamers
595553	Alliance Broaches

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