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BATEMAN UPF™ Universal Proximal Femur A Proven Prosthesis



Five years of experience in over 4000 cases have demonstrated the clinical efficacy of this unique hip prosthesis. Primary articulation occurs at the internal universal bearing to reduce shear stress and motion at the metal-cartilage interface.

Bearing design allows a stem movement of 360° rotation and 50° oscillation in any plane. The end limit in oscillation prevents the outer head from moving into an unfavorable varus position.

When assembled, the components effectively lock together to help prevent possible disassembly during normal activities.

The Bateman UPF prosthesis has been successfully used for a growing number of indications.

From 3M--dedicated to orthopedics with innovation, quality and service.



3M

Bateman UPF Universal Proximal Femur

Concept

The Bateman UPF™ Universal Proximal Femur is a unique dual bearing femoral head prosthesis which has been successfully proven in over five years of clinical use. Primary indications for the prosthesis are those fresh fractures, nonunions and related aseptic necroses of the femoral head and neck usually treated with conventional femoral head prostheses. The unique function of the prosthesis has led some surgeons to extend the indications to more complex elective surgery associated with total hip reconstruction and revision surgery.

Advantages of the UPF prosthesis over conventional one-piece femoral head prostheses such as the Thompson and the Austin-Moore types are the following:

- Articulation of the metal Outer Head component against cartilage is secondary to the primary articulation between a 22 mm metal head and an UHMWPE Bearing Insert within the Outer Head. The shear stress on acetabular cartilage is therefore less, favoring a better long-term result.
- Joint biomechanics and leg length can be better adjusted to anatomical levels in the presence of bone loss since there is a selection of femoral component neck lengths in addition to the selection of Outer Head sizes.
- Improved logistics, reduced hospital inventory and greater surgical flexibility are provided by a selection of several different femoral component types and sizes with each Outer Head size.
- Conversion to a two-piece total hip, if eventually required, can normally be done without the trauma of removing the femoral component.

The Bateman UPF prosthesis also provides the surgeon with a more conservative surgical concept than the conventional two-piece total hip prosthesis due to the following considerations:

- Little or no reaming of the acetabulum is required.
- The surgical procedure is simpler and less traumatic to the patient.
- The Outer Head self-aligns to an anatomically neutral position within a virtually normal acetabulum.
- The postoperative complications associated with acetabular cup loosening are eliminated.
- Future revision to a two-piece total hip is still available and may be accomplished without disturbing the femoral component.

Description of the Prosthesis and Instrumentation

The Bateman UPF Universal Proximal Femur is comprised of three components.



Femoral Component

The femoral component is fabricated from Mediloy® I cast cobalt-chromium-molybdenum alloy, per ASTM standard F75-74. The highly polished 22 mm diameter head forms a low friction articulation with the mating spherical surface of the UHMWPE Bearing Insert. Three conventional stem configurations are available, namely the Aufranc-Turner type, the straight Moore type and the curved Austin-Moore type. Additional surgical flexibility is

provided by availability of standard and long neck lengths in all stem styles. The Aufranc-Turner type is also available in stem lengths of 93 mm, 108 mm, 190 mm, 241 mm and 305 mm.

Bearing Insert

The Bearing Insert is machined from Medimer® I ultrahigh molecular weight polyethylene (UHMWPE). The inserts are uniquely designed to snap-fit over the 22 mm diameter head of the femoral component and precisely engage the bore of the mating Outer Head component. The six slotted segments function as a hinge-lock mechanism which, when fully seated into the Outer Head, effectively retain the Bearing Insert within the Outer Head and lock the 22 mm head within the Bearing Insert.

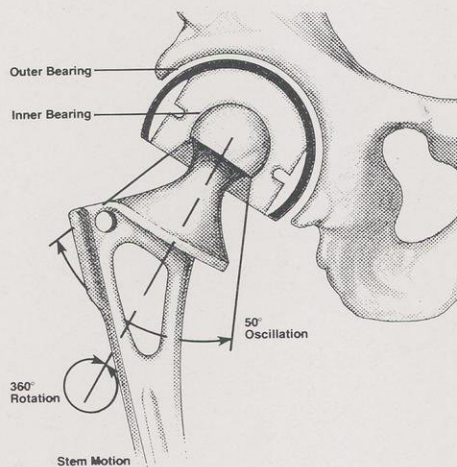
Outer Head

The Outer Head component is fabricated from Mediloy® I cast cobalt-chromium-molybdenum alloy, per ASTM standard F75-74. Each head is slightly greater than a hemisphere, essentially duplicating the anatomical geometry of the femoral head. The outer surface is highly polished and mates with the articular cartilage of the preserved acetabulum.

The universal internal bearing of the Bateman UPF prosthesis permits 360° rotation of the stem and, by careful design of the bevel of the Bearing Insert and the neck of the stem, a 50° oscillation in any plane. This end limit of internal bearing motion prevents the outer head from moving into an unfavorable varus position—a problem clinically encountered with the old style

Cup Arthroplasty prostheses. At the limit of the 50° motion, the neck contacting the beveled surface of the Bearing Insert will move the outer head in the acetabulum.

For most patient activity primary articulation will be in the inner bearing, favoring extended viability of the articular cartilage and improved long-term results.



Clinical Use

In a paper presented at the 1977 meeting of the American Orthopaedic Association, James E. Bateman, M.D., Orthopaedic and Arthritic Hospital, Toronto, Canada, reported on his accumulated series of hip arthroplasties utilizing the Bateman UPF Universal Proximal Femur. The surgical series totaled 400 hips (374 patients) over a 4-year period, representing the longest and largest UPF prosthesis series known to exist at a single institution. The excellent results reported substantiate the use of the

prosthesis not only as an alternative to conventional femoral head prostheses, such as the Austin-Moore and the Thompson, but also as an alternative to total hip reconstruction (THR) in certain cases in which the acetabulum can be suitably shaped.

The general results of Dr. Bateman's clinical series of 400 hips and the clinical results of the follow-up study on 149 hips in that series have shown the following:

- The Bateman UPF™ Universal Proximal Femur is safe and effective for a wide variety of surgical indications for patients who are now 12-48 months postoperative.
- The UPF™ prosthesis functions *in situ* as a multiple bearing when day-to-day activities are performed.
- Patients assessed their hip surgery results Good to Excellent in 96.6% of cases, 12-48 months postoperative.

- Hip ratings of 12-48 month postoperative hips are Good to Excellent in 84% of cases (modified Harris scoring).
- Fair to Excellent hip ratings were established in 92% of cases.

Additional clinical and technical information, an insertion technique film, and a written surgical protocol are available. Please call our toll free number: **800-631-8304**.
In New Jersey call: (201) 797-7300.

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