

Profemur® L

Simply Versatile™



Stem Material
Titanium Alloy (Ti6Al4V)
and HA coating, thickness
[µm] 180 +/- 50

Dual Taper Geometry
Provides optimal primary
fixation and load transfer

Driving Platform

Dimpled impaction platform
for stem impaction

Lateral Shoulder

On anterior, posterior and medial
sides, the surface presents grooves
perpendicular to stem longitudinal
axis and parallel with each other,
providing a larger bone-stem
contact surface for bone on-growth
and preventing stem subsidence

**Distal Rectangular Section
and Grooves**

Parallel to the stem longitudinal
axis on all sides are designed to
protect the stem against
rotational stresses

Sizes

The Profemur® L
Primary Stem
is available in sizes 1-11



MicroPort
Orthopedics

Full Function, Faster™

Profemur® L

Design Features



Proven design philosophy

The Profemur® L stem has been developed based on the wide experience of the hydroxyapatite (HA) fully coated stems¹. The double taper geometry of the self-locking cementless stem allows optimal metaphyseal primary stability and load transfer; this is designed to encourage a rapid bone response to the HA extensive coating².



Implant Stability

Medial curvature

Horizontal and vertical macrostructures³ to distribute loading forces and promote rotational stability

Reduced lateral shoulder to facilitate easy insertion



Implant Specifications

Titanium stem surface with full Hydroxyapatite coating 180 µm thickness to enhance osteointegration and fixation

Modular or classic option

11 sizes (1-11)

History

Over the last decades, Total Hip Arthroplasty has become a standard procedure. In order to obtain an optimal result, a perfect reconstruction and balance of the hip are essential. Simultaneous correction of leg length, offset, rotation, varus or valgus deformity seems to be impossible with one single hip system⁴⁻⁵.

The choice of classic femoral stem options combined with modularity is offering the surgeon a highly valuable tool to achieve optimal hip reconstruction even in challenging cases. The PROFEMUR® L Stem has been designed with the aim of combining flexibility with the proven features of a fully hydroxyapatite coated stem philosophy.

The concept of an extensive hydroxyapatite (HA) coating for the fixation of a tapered femoral stem was introduced 30 years ago with the intent of achieving durable biological fixation while preserving normal periprosthetic bone activity.

The value of uncemented fixation using HA-coated implants is now widely accepted⁶.

The double progressive taper shape of the metaphyseal portion aims to reduce the possible risk of subsidence, while the rectangular cross-section of the stem provides resistance to torsion. The medial curvature, resting on the calcar and filling the proximal femur, serves the primary stability of the implant. The transverse and longitudinal macro-structures on the stem continue to distribute load during long term anchorage of the implant. The slowly absorbing hydroxyapatite provides an additional stimulus for trabecular bone formation onto the roughened surface of the implant.

References

1. Hydroxyapatite coating enhances fixation of implants". Søballe K, et al., Acta Orthop Scand. 1990 Aug;61(4):299-306
2. Reikeras O, Gunderson RB; Excellent results of HA coating on a grit-blasted stem; Acta Orthop Scand.2003;74(2):140-5
3. An Interview with: J.C. Cartillier and J.P. Vidalain – ARTRO Group Maîtrise Orthopédique – January 2000 - No. 90 (French and English version)
4. Georg W Omlor, Hannah Ullrich, Knut Krahmer, Alexander Jung, Günther Aldinger, Peter Aldinger; A stature-specific concept for uncemented, primary total hip arthroplasty; 10-year results in 155 patients using two stem shapes and modular necks; Acta Orthop. 2010 Feb; 81(1): 126–133
5. Traina F, De Clerico M, Biondi F, Pilla F, Tassinari E, Toni A: Sex differences in hip morphology: is stem modularity effective for total hip replacement?. J Bone Joint Surg Am. 2009, 91 (Suppl 6): 121-8.
6. Vidalain J, Twenty year results of the Corail stem; Int Orthop. 2011 Feb; 35(2): 189–194.

Disclaimer

Individual results and activity levels after surgery vary and depend on many factors including age, weight and prior activity level. There are risks and recovery times associated with surgery and there are certain individuals who should not undergo surgery.