

## REDEFINING THR: THE AMIS SYNERGY

The **anterior approach**, supported by years of clinical experience<sup>[16]</sup>, is the only technique that follows an **intermuscular** and **internervous** path, potentially reducing the risk of damage to periarticular structures such as muscles, tendons, vessels and nerves. Convinced of the value of the anterior approach for improving **patient wellbeing**, but at the same time acknowledging the potential challenges in its adoption, **an international group of expert surgeons**, in collaboration with **Medacta**, set out to **optimize** and **standardize** the anterior approach, to make it more **straightforward** and enhance its **reproducibility**.

The result of this collaboration was the **AMIS (Anterior Minimally Invasive Surgery)** technique, created in 2004, along with the development of dedicated instrumentation to facilitate the procedure. Today, the AMIS technique has evolved into the **AMIS Experience** and is now more than just a surgical technique. The AMIS Experience is a complete set of services that delivers **healthcare efficiencies**, including economic and commercial advantages, to the hospital and surgeon. **AMIS<sup>TM</sup>Stem-P** will enter you into Medacta International's world of the **AMIS Experience**.

### AMIS<sup>TM</sup> Experience

ANTERIOR MINIMALLY INVASIVE SURGERY  
IN HIP REPLACEMENT



## REFERENCES

[1] Everett S, Afzal I, Dora C, Crawford E, Field R. Medacta AMIS<sup>TM</sup>Stem: International, Multicentre, Prospective, Observational Study - ODEP Study 5 Year Results. EFORT 2017 Vienna. [2] Viè P. AMIS<sup>TM</sup>Stem-H Radiological Assessment 5 Years Outcomes. Data on file: Medacta. [3] Retrospective and prospective study to evaluate the AMIS<sup>TM</sup>Stem H performance, study approved by Swiss Ethic (Zurich canton) on 24 of March 2016 (BASEC-Nr 2015-00132). [4] Prof. W.R. Walsh. Evaluation of implant fixation in an ovine model. Data on file: Medacta. [5] Bonhomme F, Delaunay C, Simon P, Lefebvre Y, Clavert P, Kapandji AI, Kempf JF. Comportement d'un tige fémorale droite en arthroplastie totale primaire non cimentée de la hanche chez les patients de moins de 65 ans. Rev de Chir Orthop 2001; 87:802-814. [6] Hardy DC, Frayssinet P, Guilhem A, Lafontaine MA, Delinche PE. Bonding of Hydroxyapatite Coated Femoral Prostheses. J Bone Joint Surg Br. 1991 Sep; 73(5):732-40. [7] Hardy DC, Delinche PE. Aspects Radiologiques de l'Arthroplastie Fémorale Revetue d'Hydroxyapatite et correspondance Histologiques Acta Orthop Belg. 1993; 59(1):229-334. [8] Hardy DC, Frayssinet P, Delinche PE. Projection d'Hydroxyapatite sur Prothèses Articulaires - Progrès ou Illusion? Acta Orthop Belg. 1993; 59(1):98-103. [9] Frayssinet P, Hardy D, Conte P, Delinche P, Guilhem A, Bone G. Histological analysis of the bone-prosthesis interface after implantation in humans of prostheses coated with hydroxyapatite. The Journal of Orthop Surg. 1993; 7(3):246-53. [10] Pirou P, Bugyan H, Casalonga D, Lizée E, Trojani C, Versier G. Can hip anatomy be reconstructed with femoral components having only one neck morphology? A study on 466 hips. J Arthroplasty. 2013 Aug; 28(7):1185-91. [11] Heidelberg Lab-Report. Orthopädische Universitätsklinik Heidelberg. 2008. Data on file: Medacta. [12] Löhr JF, Schütz U, Drobny T, Munzinger U. Revision Arthroplasty with the SLR-Revision Shaft. 20 years of Zweymüller hip endoprosthesis, 4th Vienna Symposium. Zweymüller K (ed) - Bern; Göttingen; Toronto; Seattle: Huber, 2002. [13] Moreau P. Cementless HA coated Quadra stem - 7 Years Clinical Outcomes. M.O.R.E. Journal. 2012 Jan; 2:3-6. [14] Zweymüller K. 20 years of Zweymüller cement free hip endoprosthesis. Jatro Orthopädie 1999 Dez; 5:2-7. [15] Dorn U, Kiss H, Engelhardt C, Dohnalek C, Steindl M, Zweymüller K. Results of Femoral Revision THR using the SLR stem: Minimum 2 years follow-up. 20 years of Zweymüller hip endoprosthesis, 4th Vienna Symposium. Zweymüller K (ed) - Bern; Göttingen; Toronto; Seattle: Huber, 2002. [16] AMIS Publication Review - M.O.R.E. Journal Supplement, April 2016. 99.98.publ rev.01 [17] Australian Orthopaedic Association National Joint Replacement Registry (AOANJRR). Hip, Knee & Shoulder Arthroplasty Annual Report 2017, AOA, Adelaide. Table HT17 and Figure HT7

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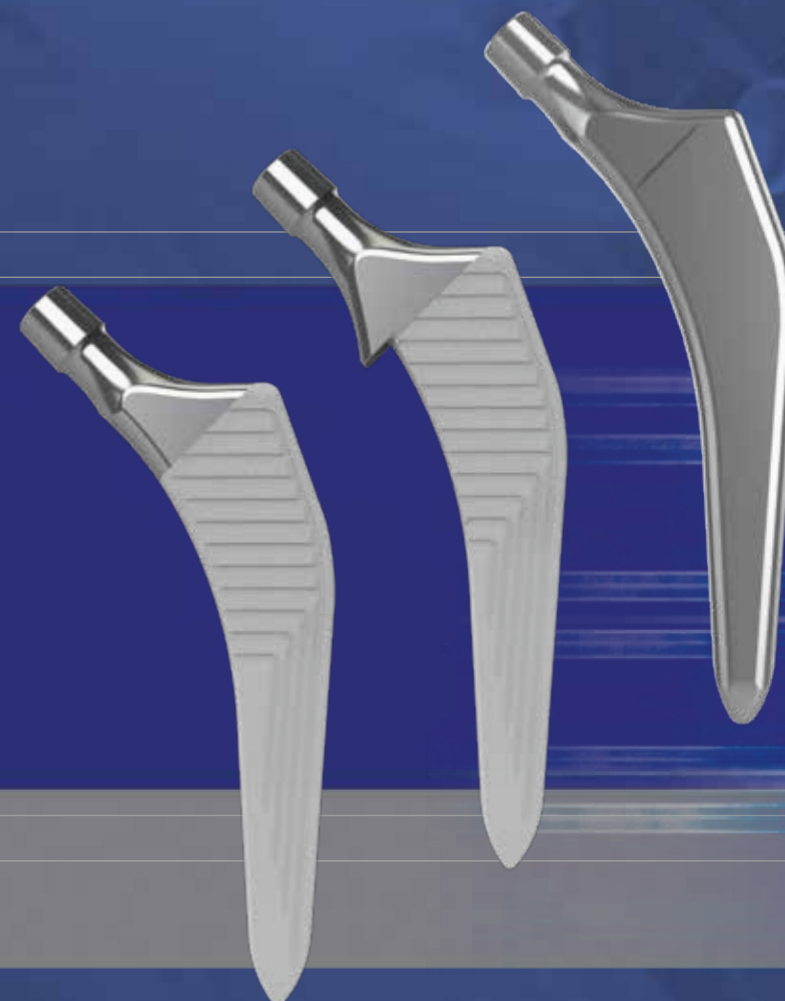
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# AMIS<sup>TM</sup>Stem-P SYSTEM

THE LOGICAL EVOLUTION OF HIP STEM DESIGN

HERITAGE MEETS PROGRESS



Brochure

Joint Spine Sports Med

## AMISTEM-P: HERITAGE MEETS PROGRESS

AMIS<sup>®</sup>Stem-P is the evolution of a **successful** and **proven** femoral stem concept, originally born to simplify the **AMIS** approach without compromising **implant stability**.

On the basis of the **remarkable clinical heritage** of AMIS<sup>®</sup>Stem-H<sup>[1,2,3]</sup>, AMIS<sup>®</sup>Stem-P was developed with the goal of providing an **improved load transfer** through the application of a **state-of-the-art coating (MectaGrip)** on the proximal part of the stem.

### SPECIFICALLY DESIGNED FOR AMIS

AMIS<sup>®</sup>Stem-P maintains the same geometry as the AMIS<sup>®</sup>Stem-H. Its triple tapered design characterized by a reduced lateral flare and an **optimized length**, which allows for an **easier stem implantation** and **reduced bone removal**.

### SUCCESSFUL CLINICAL HERITAGE

AMIS<sup>®</sup>Stem-H's **solid clinical history**<sup>[1,2,3]</sup> laid the groundwork for the development of AMIS<sup>®</sup>Stem-P.

**98,4%**<sup>[3]</sup>

Survival rate for aseptic loosening at 8 years

ODEP  
**7A**

### PERFORMANCE COATING

**MectaGrip** coating aims to provide an **enhanced proximal fill** at the metaphyseal level, and a **mechanically stronger bone implant interface**, this results in potentially **improved load transfer**.<sup>[4]</sup> The whole endosteal part of the stem is **Hydroxyapatite** coated.<sup>[5,6,7,8,9]</sup>

### MEETING TODAY'S CHALLENGES

**Young** and **active** patients are the toughest challenge in THA today. The revision rate for patients younger than 55 years is significantly higher across pathologies<sup>[17]</sup>.

**Mechanically stronger bone implant interface** will help meet these challenges allowing **higher loads** to be transferred.

### EXTENSIVE PRODUCT RANGE

Literature tells us that femoral offset should increase progressively with stem size.<sup>[10]</sup> AMIS<sup>®</sup>Stem's comprehensive product range and **anatomically progressing head centers** help an **efficient restoration of the joint biomechanics** in an increasing patient population.



**A.O.R.E.**  
Excellence  
CLINICAL PROGRAM

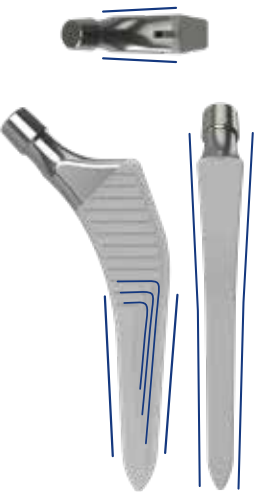
## DESIGN FEATURES

### NECK

The mirror polished surface helps **minimize soft tissue damage** and liner wear.

### SHAPE

The triple tapered design provides **axial** and **rotational stability**.<sup>[11,12]</sup> The trapezoidal shaped cross-section is designed to help promote effective stability and facilitate preservation of bone vascularization, since the diaphysis is not completely filled.<sup>[13,14,15]</sup>



### TIP

The bullet-shaped distal tip facilitates insertion and decreases risk of damaging the inner cortex.

### SURFACE TREATMENT

AMIS<sup>®</sup>Stem-P & AMIS<sup>®</sup>Stem-P Collared: macrostructures help **increase stability** and enhance contact surface area by 10-15%.<sup>[12]</sup>

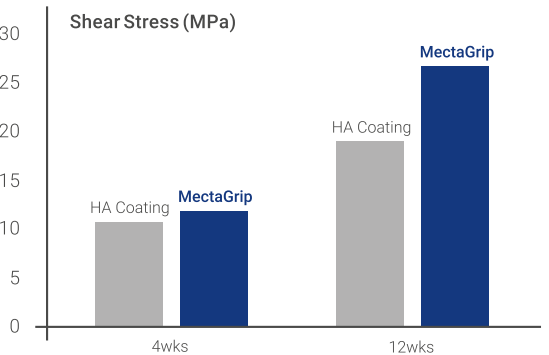
AMIS<sup>®</sup>Stem-C: mirror polished surface helps to prevent the formation of cracks or gaps in the cement mantle.<sup>[6]</sup>

### COLLARED OPTION

Helps to prevent subsidence in patients with Dorr Type C bone and helps increase rotational stability.

## MATERIAL

AMIS<sup>®</sup>Stem-P is made of **Titanium Niobium Alloy** (ISO 5832-11) and **sandblasted** along its length, producing a surface with 2.5 to 6µm roughness. Successively a layer of **MectaGrip**, 300µm of pure **Titanium** deposited through **Plasma Spray** technology, is applied on the proximal 50% of the stem. **Finally, 80µm of Hydroxyapatite (HA)** is applied to the entire length of the stem.



### MECTAGRIP

Professor William Walsh's animal study<sup>[4]</sup> demonstrates how a surface treated with **MectaGrip** coating can achieve a stronger bone implant interface compared to a surface treated with Hydroxyapatite alone.



## PRODUCT RANGE

Neck length increases size by size to allow for **anatomical head center growth**.<sup>[10]</sup> Vertical offset does not change when adding lateral offset for each size implant, thus **leg length is not affected** when changing from standard to lateralized.

AMIS <sup>®</sup> Stem-P	11 Standard sizes (from 00 to 9) with a 135° CCD angle 9 Lateralized sizes (from 0 to 8) with a 127° CCD angle
AMIS <sup>®</sup> Stem-P collared	11 Standard sizes (from 00 to 9) with a 135° CCD angle 9 Lateralized sizes (from 0 to 8) with a 127° CCD angle
AMIS <sup>®</sup> Stem-C	9 Standard sizes (from 0 to 8) with a 135° neck-shaft angle 9 Lateralized sizes (from 0 to 8) with a 127° neck-shaft angle

