

## **QUADRA-P: HERITAGE MEETS PROGRESS**

The **Quadra-P System** offers a **complete set of stems developed** preserving the characteristics important to the clinical success of Quadra-H while incorporating proven innovative key features

to address the modern challenges in THA.

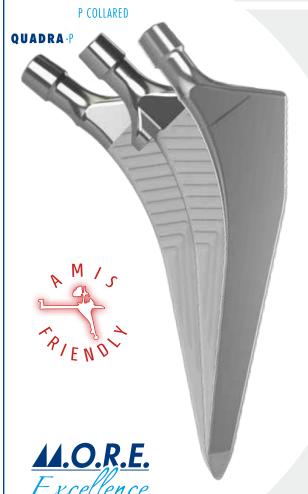
#### SUCCESSFUL CLINICAL HERITAGE

**QUADRA-H**'s solid clinical history laid the grounds for the development of **QUADRA-P**.

99,6% SURVIVAL RATE at minimum 10 years' All cases done with QUADRA-H through 10a\*

AMIS approach<sup>[2]</sup>

P CEMENTED



#### **PERFORMANCE COATING**

The MectaGrip coating on the Quadra-P and Quadra-P Collared aims to provide an enhanced proximal fill at metaphyseal level, and a mechanically stronger bone implant interface, resulting in potentially improved load transfer<sup>[4]</sup>.

## **MEETING TODAY'S CHALLENGES**

Literature shows that young and active patients can be considered the challenge of modern arthroplasty<sup>[17]</sup>. To address the high demands coming from very active and younger patients, QUADRA-P & QUADRA-P Collared feature proximal MectaGrip coating providing:

- A **stronger bone-implant interface**, that will higher loads to be transfered
- An **optimized distribution of the loads**, thanks to the proximal position of the **MectaGrip** coating

#### PROGRESSIVE HEAD CENTER GROWTH

Neck lengths throughout the **Quadra-P System** increase size by size, based on AMIStem's experience. This allows for **progressive head center growth** and to more **efficiently restore the hip joint biomechanics** in a growing patient population.



# CHALLENGES

## **DESIGN FEATURES**

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

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

**TIP:** Double tapered distal tip reduces the risk of stress peak in the diaphysis.



#### **MACROSTRUCTURES:**

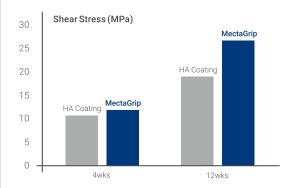
**QUADRA-P & QUADRA-P Collared:** horizontal and vertical macrostructures increase contact surface area by 10-15%<sup>[13]</sup> nincreasing axial and rotational stability.

**COLLARED OPTION:** additional help to stabilize the stem.

**CEMENTED OPTION**: mirror polished surface helps to prevent the formation of cracks or gaps in the cement mantle<sup>[6]</sup>.

### **MATERIAL**

QUADRA-P & QUADRA-P Collared are made of Titanium Niobium Alloy (ISO 5832-11) and sandblasted along its length. Successively 300µm of MectaGrip, pure Titanium deposited through Plasma Spray technology, are applied on the proximal 50% of the stem. Finally, 80µm of Hydroxyapatite (HA) are 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.

12 Ctandard sizes (from 00 to 10)

QUADRA-P Cemented is made of High Nitrogen Sainless Steel (ISO 5832-9) and mirror polished along its length.

## PRODUCT RANGE

**QUADRA-P System** is a complete range of products implantable with a single instrument platform allowing for intra-op flexibility. Vertical offset does not change when adding lateral offset for each size implant, thus **leg length is not affected** when changing from standard (135° neck-shaft angle) to lateralized (127° neck-shaft angle).

QUADRA-P	Regular Neck	12 Standard sizes (from 00 to 10)
		11 Lateralized sizes (from 0 to 10)
	Short Neck	11 Standard sizes (from 0 to 10)
		11 Lateralized sizes (from 0 to 10)
OHADDA D Colleged		12 Standard sizes (from 00 to 10)
QUADRA-P Collared		11 Lateralized sizes (from 0 to 10)
OLIADDA D.O		9 Standard sizes (from 0 to 8)
QUADRA-P Cemented		9 Lateralized sizes (from 0 to 8)



## QUADRA®-P

## 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. QUADRA-P will enter you into Medacta International's world of the AMIS Experience.





## REFERENCES

[1] EverettS, Afzall, DoraC, CrawfurdE, FieldR. MedactaAM/Stem:International, Multicentre, Prospective, Observational Study-ODEP Study 5 Year Results. EFORT 2017 Vienna. [2] VièP.AM/Stem-HRadiological Assessment 5 Years Outcomes. Data on file: Medacta. [3] Retrospective and prospective study to evaluate the AM/STEM Hperformance\*; study approved by Swiss Ethic (Zurich canton) on 24 of March 2016 (BASEC-Nr. 2015-00132). [4] W. R. Walsh, M. H. Pelletier, N. Bertollo, V. Lovric, T. Wang, P. Morberg, W. C. Harington Parr, D. Bergadano, Bone ongrowth and mechanical fixation of implants in cortical and cancellous bone, Journal of Orthopaedic Surgery and Research (2020) 15:177. [5] Bonnometf, Delaunay (C. Simon P. Lefebover V, Clavert P. Rapandiji M. Kempf. JF. Comportement d'un tige fémorale doite en archivaire to calculate to the primative non cimente de la hance chez les patients de moins de Chir Orthop 2001; 87:802-814. [6] Hardy D.C., Frayssinet P. Guilhem A. Lafontaine MA, Delince PE. Bonding of Hydroxyapatite Coated Femoral Prostheses. J Bone Joint Surg Br. 1991 Sep; 73(5):732-40. [7] Hardy D.CR. Delince PE. Aspects Radiologiques del Arthroplastie Fémorale revetue d'Hydroxyapatite et correspondence Histologiques Acta Orthop Belg. 1993; 59(1):229-334. [8] Hardy D.CR. Frayssinet P, Delince PE. Projection d'Hydroxyapatite et correspondence Histological analysis of the bone-prosthesis interface after implantation in humans of prostheses coated with hydroxyapatite. Plejournal of Orthop Surg. 1993; 7(3):246-53. [10] Piriou P, Buygan H, Casalonga D, Lizée, 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):1185-1191. [11] Heidelberg q. 2008. Data on file: Medacta. [12] Libri JF. Schütz U, Drobny T, Munzinger U. Revision Arthroplasty with the SLR-Revision Shaft. 20 years of Zweymüller K (ed)—Bern. Göttingen, Toronto, Seattle-Huber, 2002. [13] MoreauP Cementless HA coated Quadra stem: Yvears Clinical Outcome

This document is not intended for the US market. All trademarks are property of their respective owners and are registered at least in Switzerland. Please verify approval of the devices described in this document with your local Medacta representative



