

AMIS[®] *Experience*
ANTERIOR MINIMALLY INVASIVE SURGERY
IN HIP REPLACEMENT

The **AMIS Experience** is much
more than a surgical technique

it is a **complete set of services** that
delivers **healthcare efficiency** with
no additional costs



With the **patient** in mind, our
innovations are designed to become
part of their **life experience**

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AMIS Experience

The **anterior approach** is the only approach that follows both an **intermuscular** and **internervous** path, potentially **reducing the risk of damage to periarticular structures**, including muscles, tendons, vessels and nerves.

Its use in Total Hip Replacement goes back many years¹ and advantages have been extensively reported in the literature². However, we recognize that it can be challenging to adopt³.

Convinced of the **value** of the **anterior approach** for **improving patient wellbeing**, but at the same time acknowledging the potential challenges, an international group of expert surgeons (now the AMIS Education Board), 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.

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When it was clear that the AMIS procedure had the potential to deliver important clinical advantages, effective and comprehensive education of the technique became the goal.

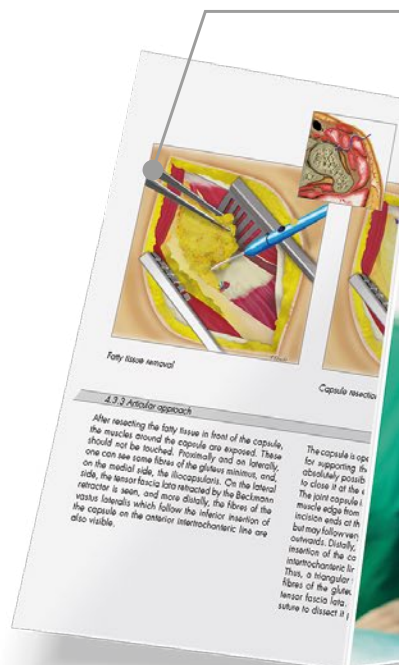
The **M.O.R.E. (Medacta Orthopaedic Research and Education) Institute** was created and, together with the AMIS Education Board, became responsible for the **development** and **continuous improvement** of the **AMIS Education Program**, with a mission to:

- provide ongoing surgeon training and proctorship
- encourage the sharing of experiences between surgeons
- reduce, as much as possible, challenges in the early phase of the learning curve

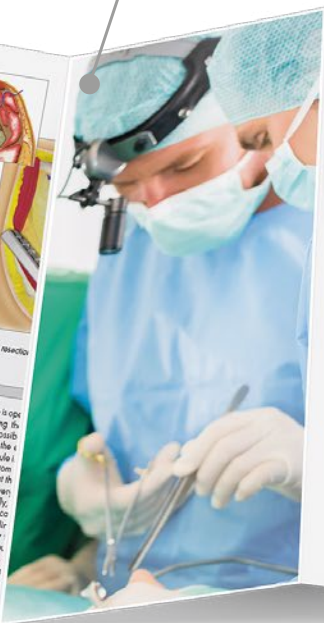


M.O.R.E.
I N S T I T U T E

SURGICAL TECHNIQUE



MEDICAL EDUCATION



DEDICATED IMPLANTS



ADVANCED INSTRUMENTATION



TOOLS AND SERVICES



More than an **Anterior Approach**

SURGICAL TECHNIQUE

AMIS is an evolution of the anterior approach: simpler, more reproducible and less invasive⁴

MEDICAL EDUCATION

The M.O.R.E. AMIS Education Program has proven to be of the highest standard of extensive medical education, demonstrating to effectively ease the learning curve

DEDICATED IMPLANTS

Specifically designed to facilitate implantation through the anterior approach, with success evidenced by clinical outcomes and customer satisfaction

ADVANCED INSTRUMENTATION

Developed specifically to make the AMIS technique easier and more reproducible

TOOLS & SERVICES

Additional support elements provided by Medacta to further help the surgeon

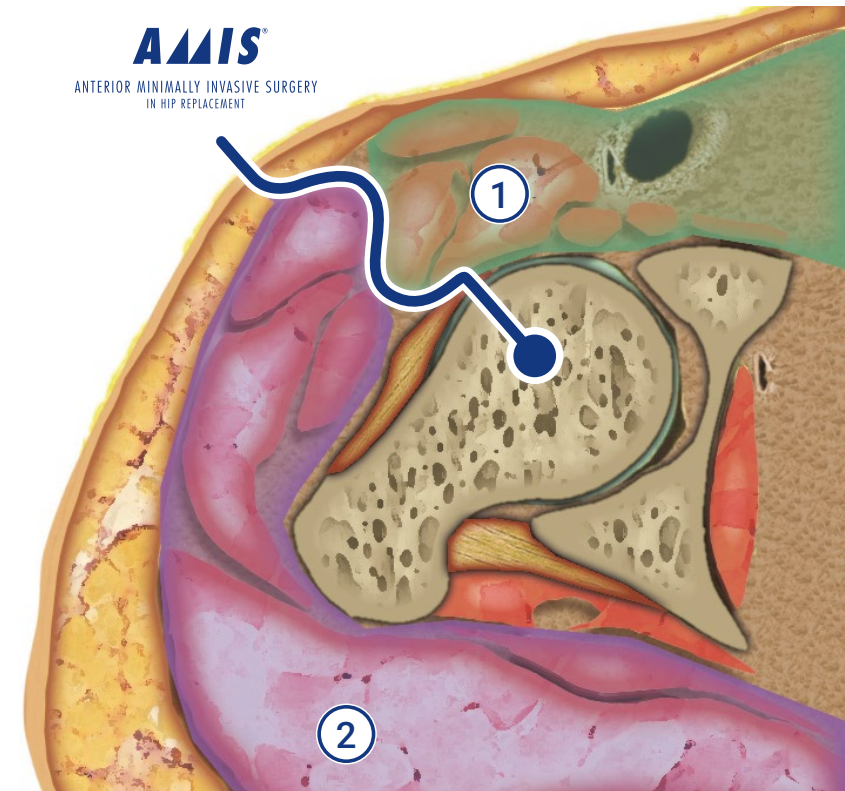
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Surgical Technique

The **AMIS technique** is a **minimally invasive anterior approach**, following an **INTERMUSCULAR AND INTERNERVOUS** pathway, protecting and preserving periarticular structures.

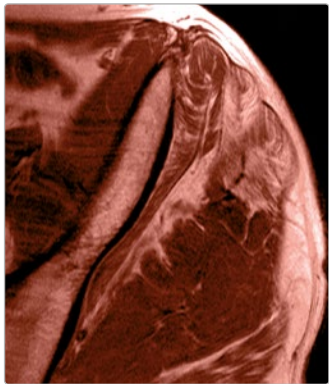
Consequently, the AMIS technique potentially delivers the following advantages for the patient:

- **Significantly shortened rehabilitation**⁵
- **Faster return to daily activities**⁴
- **Decreased post-operative pain**⁶
- **Immediate post-operative muscle tone preservation**⁷
- **Decreased blood loss**⁷
- **Shorter hospitalization**⁷
- **Reduced risk of dislocation**^{4,6,7}

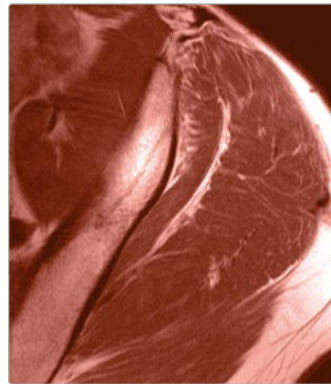


1. Femoral nerve 2. Gluteal nerve

MRI one year post-op⁸



Conventional approach



AMIS approach

These advantages are predominantly experienced by the patient in the short-term, however, the approach may deliver potential MEDIUM - TO LONG -TERM BENEFITS^{8,9}.

Literature shows that with the AMIS approach:

- **Patients feel no residual trochanteric pain or limping**⁸
- **There is a reduced risk of muscle degeneration**⁸
- **There are potential advantages for revision surgery**^{9,10}

The **AMIS technique** is seen as an **evolution** of the **anterior approach**

It is quite **different than other MIS anterior approaches**.
This **unique procedure** is differentiated by specific surgical steps:

Avoids excessive use of retractors

Reduced risk of damaging soft tissues and less need for extra instruments

Easier osteotomy of the femoral head

No need to dislocate the hip or perform a double osteotomy

Possible capsule preservation

Patients may feel their hip is more stable

Easier femoral exposure, with fewer releases

Simplified surgical technique, with improved joint stability

The **AMIS Experience** allows the surgeon to truly **maximize** the benefits of using the **anterior approach**

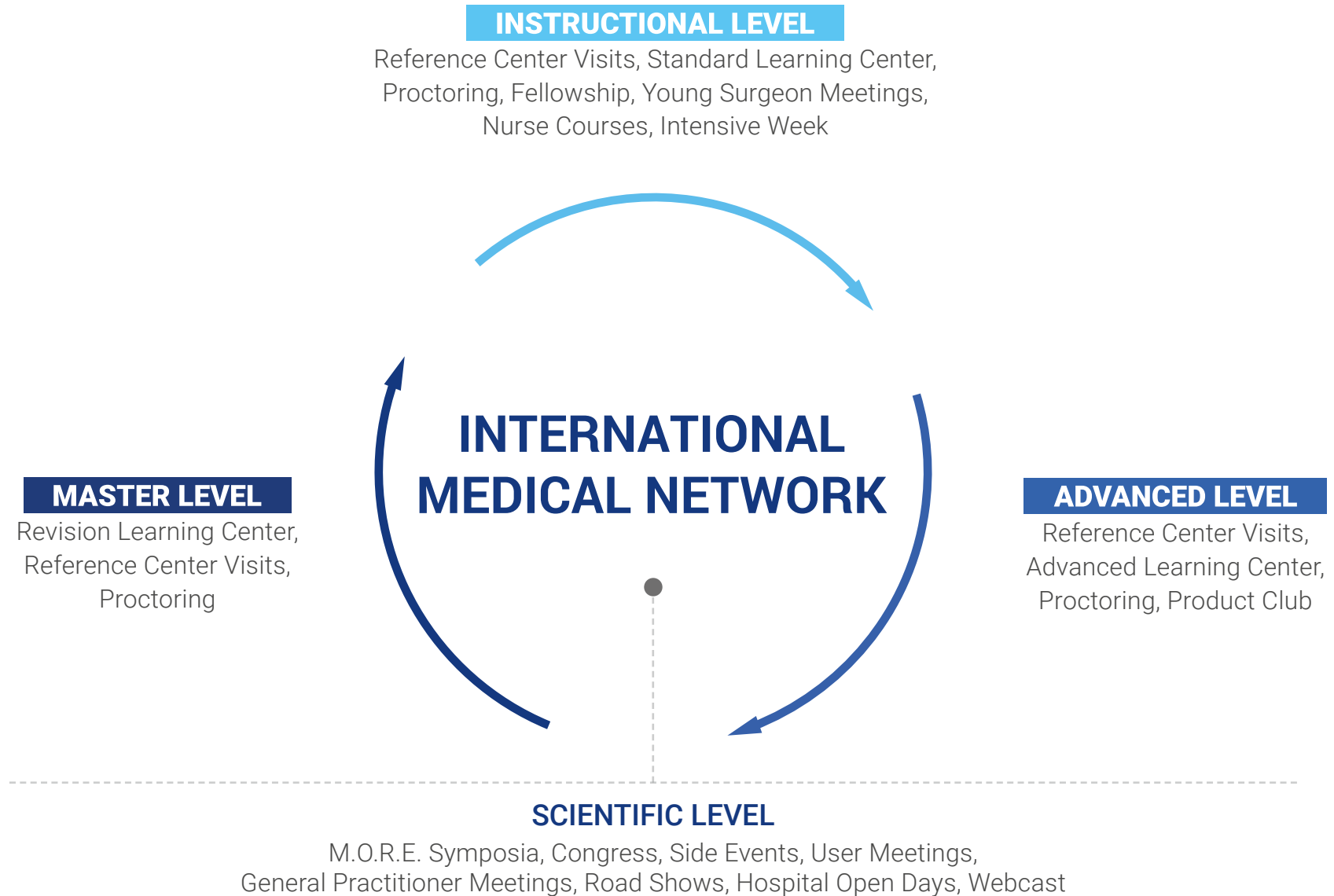
Medical Education

The M.O.R.E. Institute offers effective and continuous education to surgeons, with an aim to **improve patient outcomes** and **surgical proficiency**.

Close collaboration between Experts and the M.O.R.E. Institute, has resulted in the on-going development and evolution of the Educational program.

The M.O.R.E. Institute was founded on, and encourages the concept of, **sharing experiences** across the international medical community. It has become a **unique** and **global** education platform, **tailored** to the individual's needs.

M.O.R.E. Opportunities



INSTRUCTIONAL LEVEL



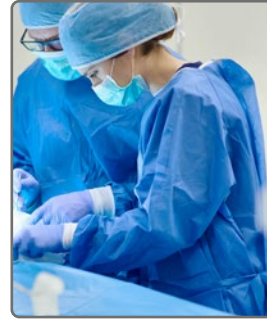
EVALUATE

Surgical Technique

EXPLORE

Medacta Products/
Services

By visiting a **Reference Center**



EXPERIENCE

a network of Experts, with
mentoring of initial cases

EVOLVE

with the M.O.R.E. continuous
education program

By taking advantage of **Proctoring**

1

2

3



DEEPEN

the scientific knowledge
of the Anterior Approach

PRACTICE

the technique during assisted
cadaver workshops

By attending a **Learning Center**



ADVANCED LEVEL

MASTER LEVEL



SHARE

your experience, improve
your technique and widen
patient selection

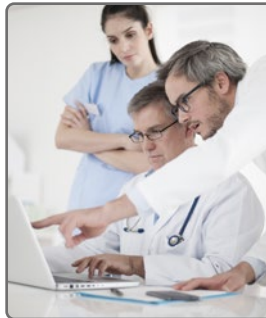
By meeting with **Experts**

4

5

EXPECT MORE

with an Education Path
tailored to your needs



MASTER

the AMIS Surgical Technique
and Medacta Products

By focusing on **Revision Cases**

Dedicated **Implants**

Medacta implants are designed to be **AMIS friendly** and reduce potential challenges during implantation. They are well established and **their reliability is supported by clinical evidence and customer success.**

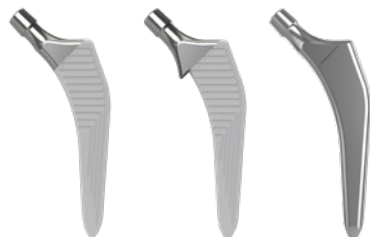


A comprehensive system of rectangular tapered stems

Medacta's P-Family Hip System, which includes Quadra-P, AMIStem-P and SMS, is a family of tapered rectangular stems. P-stems feature **proximal coating** and **progressive neck lengths**, with a range of stem lengths and canal filling dimensions which give clinicians the ability **to match** an implant to the **patient's bone morphology**.



AMIS[®]Stem SYSTEM

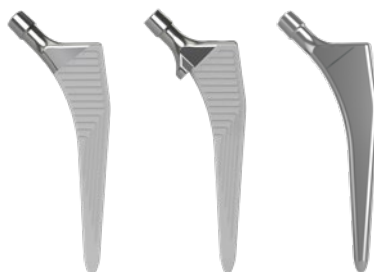


98,4%

Survival rate at minimum 8 years*
All cases done with AMIS[®]Stem-H
through AMIS approach¹¹

First stem specifically
designed for AMIS

QUADRA SYSTEM



99,6%

Survival rate at minimum 10 years*
All cases done with QUADRA-H
through AMIS approach¹²

More than 15 years
of clinical success

SAS



Bone-preserving, short,
metaphyseal-fitting cementless stem

A valuable solution especially
for young and active patients
with Dorr A and B+ femurs

MasterLoc[®]



Progressive triple offset
with reduced distal geometry

Follows the flat tapered wedge
philosophy with a long history
of clinical success¹³

Mpact[®] SYSTEM

NO-HOLE



TWO-HOLE



MULTI-HOLE



DM



98,8%

Survival rate at minimum 2 years*
All cases done with Mpact No-hole & Two-hole through AMIS approach¹⁴

100%

Survival rate at minimum 2 years¹⁷



Mectagrip

Hemispherical cup with a highly
porous coating - Mectagrip

TWO-HOLE



MULTI-HOLE &
MULTI-HOLE THIN



A complete hemispherical cup system that allows
for efficient treatment of demanding patients,
both in primary and revision surgeries



3D Metal

3D printed engineered
biomaterial structure

Advanced **Instrumentation**

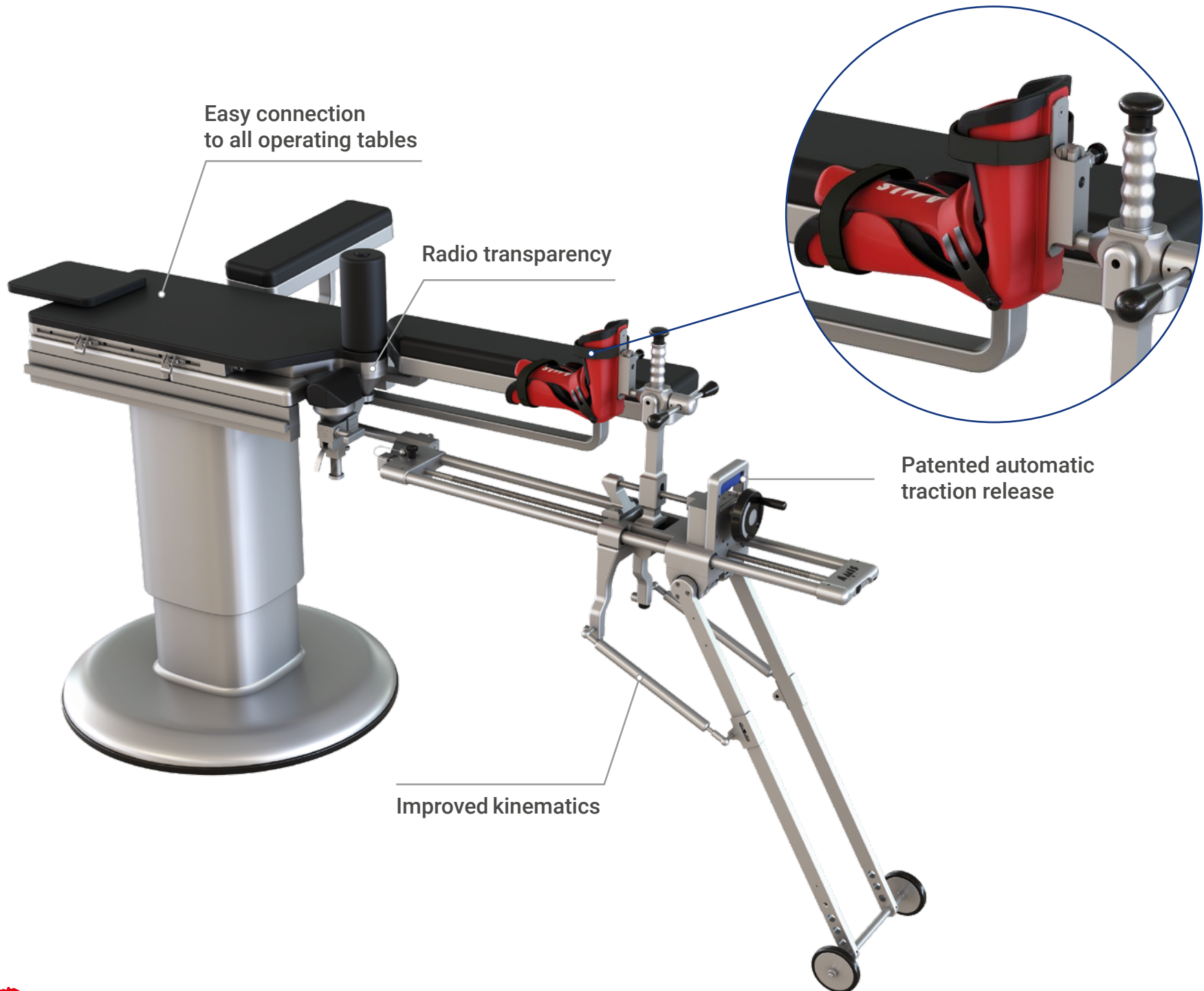
The **AMIS specific instrumentation** streamlines, **simplifies and facilitates reproducibility** of the anterior approach.

AMIS MOBILE LEG POSITIONER THE NEVER SLEEPING ASSISTANT

This orthopaedic table extension is the main facilitator of the AMIS technique: it provides for an easy and stable leg positioning, which allows a simple and reproducible procedure.

Benefits:

- **NO additional cost**
- **Patented automatic traction release**
- **Easy connection to all operating tables**
- **Radio transparency**
- **Ease of use**
- **Improved kinematics**
 - Deep hyperextension
 - Optimal rotation center
 - Excellent rotational stability
- **AMIS shoe, easy to assemble**



In addition to the AMIS Mobile Leg Positioner, the set of AMIS instruments are included at **NO** additional **cost**:



SELF-RETAINING RETRACTORS

Avoids the excessive use of Hohmann or Cobra retractors, reducing the risk of soft tissues damage

RADIO-TRANSPARENT SOLUTIONS

To make fluoroscopy easier





OFFSET REAMERS AND CUP IMPACTOR

For easier access to the hip joint



AMIS BROACH HANDLE

Designed at 45° to avoid the need for extra femoral releases to effectively expose the femur



As we continue to develop and improve the AMIS technique, there is a consequent evolution of the AMIS instrumentation. **It is Medacta's commitment to keep developing solutions that will further improve the learning curve, reduce possible technical complications and optimize reproducibility of the procedure.**

Tools & Services

Medacta is committed to finding **innovative solutions** that can contribute to **improving and enhancing patient care and experience**, in addition to delivering **economic value** to the healthcare system. Medacta has developed several additional solutions/services to support the AMIS surgeons and add value to their patients' experience.

MYPRACTICE DEVELOPMENT PLAN

A unique package of services to aid surgeons organize educational meetings with patients, general practitioners and caregivers. It **assists surgeons in the promotion of the AMIS technique and patient education**, with a series of patient-oriented documents and marketing tools.



MYHIP PLANNER - 3D PREOPERATIVE PLANNING SOFTWARE FOR THR*

An intuitive and reliable platform with advanced analytical features empowering the surgical decision-making process.

The software is **designed to define the optimal surgical strategy** according to each patient's anatomy, hip joint biomechanics and functional needs, potentially **improving surgical outcomes and patient satisfaction**.²²

MYHIP-PLANNER.MEDACTA.COM



*Availability depending on country-specific registrations

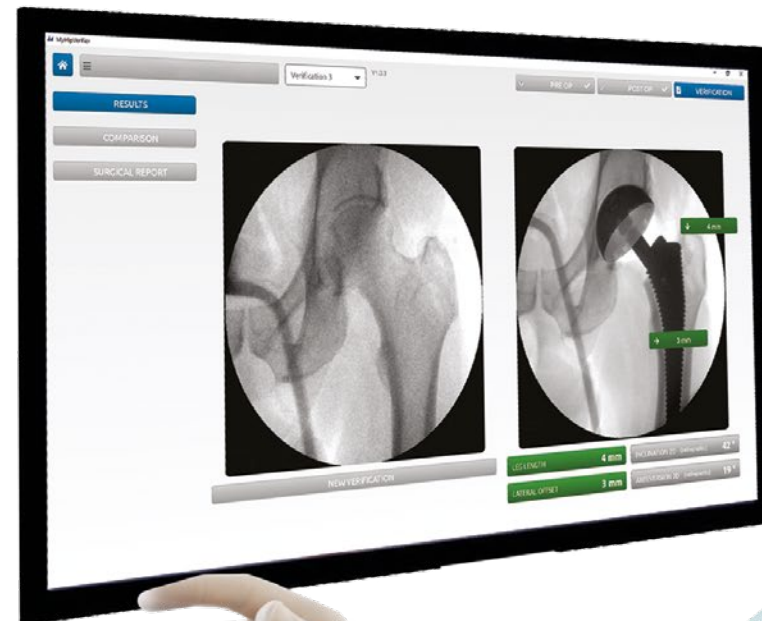
MYHIP VERIFIER - INTRAOPERATIVE VERIFICATION SOFTWARE FOR THR*

An easy-to-use, non-invasive platform providing an intraoperative assessment of implant positioning.

The software is designed to **increase confidence and reproducibility**, potentially reducing surgical outliers and **improving patient outcomes and well-being**.

MYHIP-VERIFIER.MEDACTA.COM

*Availability depending on
country-specific registrations





POP - PATIENT OPTIMIZED PATHWAY

POP is an easy-to-use interactive tool designed to **support healthcare professionals** in the delivery of patient education, information, preparation, rehabilitation, follow-up and monitoring, before, during and after surgery.

Furthermore, it can enable better management of patient **expectations**, increase patient **compliance** and improve the overall **patient care experience**.

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**MEDICAL TEAM
INTERFACE**



**PATIENT
INTERFACE**



Medacta has created the **Propel** program to aid its stakeholders in achieving the best outcomes at the lowest cost in the outpatient setting. Medacta has a wide breadth of products that are perfectly positioned for an outpatient surgical setting.

AMIS IS A NO COST SOLUTION

It facilitates performing anterior THA in an outpatient setting:

- **The AMIS dedicated instruments, and Mobile Leg Positioner are provided free of charge**
- **AMIS has potential clinical advantages that can ultimately reduce the cost of care**
 - Reduced instances of dislocation
 - Less post-operative pain and precautions
 - Reduced blood loss during surgery



Get MORE from your **AMIS Experience** and discover **AMIS BIKINI**

As part of the AMIS EXPERIENCE offer, AMIS Bikini represents an **ADVANCED level** of our anterior minimally invasive surgical offer that surgeons can experience within the **comprehensive AMIS educational program**.

ADVANCED EDUCATIONAL PROGRAM

With the support of a network of world-renowned experts, we offer several **tailored educational options** to learn with confidence the AMIS Bikini and its advantages, thereby reducing any possible difficulties and challenges related to this technique.



AMIS BIKINI:

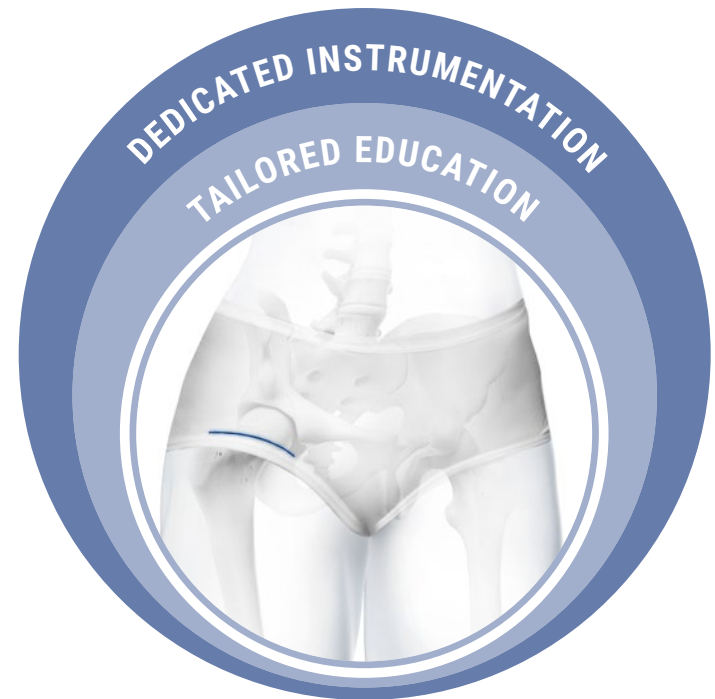
the evolution of the AMIS approach

The AMIS Bikini represents the **natural evolution of the AMIS approach**. This procedure follows the same intermuscular pathway, but utilizes an inguinal skin incision performed within the skin fold of the “bikini line”, or frontal groin crease.

The result is an aesthetically pleasing cosmetic scar along the natural “Langer’s lines” of the skin which can be hidden when wearing underwear or swimwear (e.g., a bikini).

The AMIS Bikini combines all the benefits of the AMIS technique with the additional advantages of the groin crease incision:

- Better cosmetic/aesthetic appearance.^{18,19,20,21}
- Enhanced wound healing environment and lower rate of wound complications (also indicated for patients with high BMI).^{18,19,20,21}



Innovative Instrumentation

The dedicated AMIS Bikini instruments have been designed to enable the surgeon to perform an **optimized** and **reproducible** implantation via a bikini incision, further **minimizing the risk of soft tissue damage** with respect to the traditional AMIS instruments.

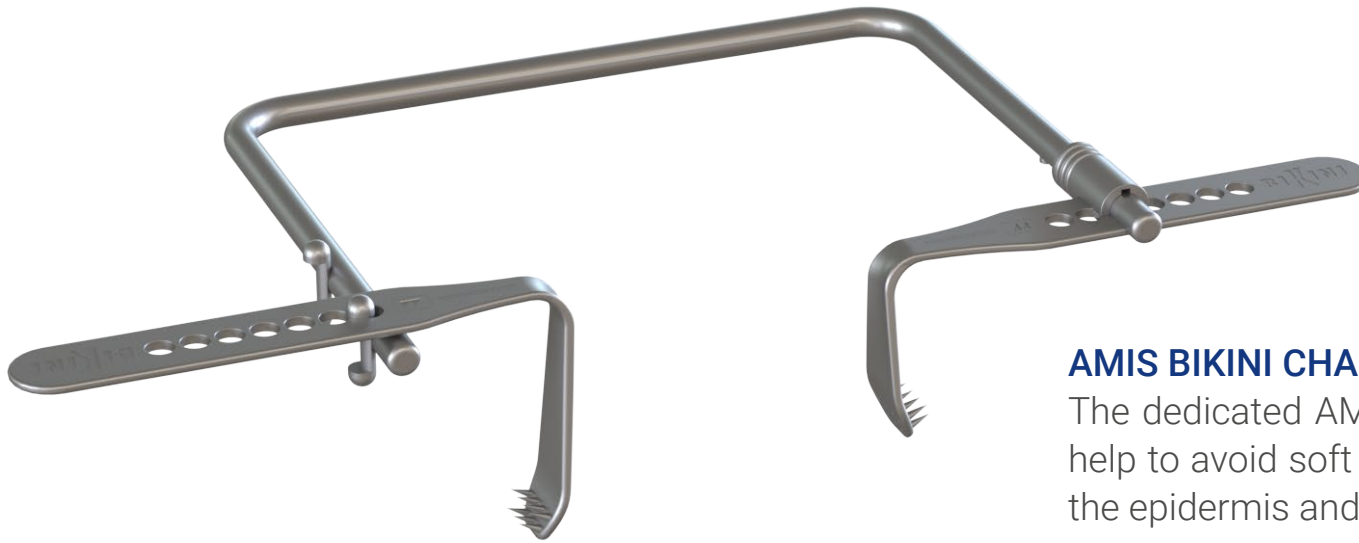
AMIS BIKINI BROACH HANDLE

This tool features a unique curvature and offset which allow for fewer instances of impingement or skin irritation when broaching the femur.

The innovative geometrical shape of these handles provide different features that contribute to potentially decreasing the risk of femoral fractures:

- Less impingement
- Better rotational stability (control of anteversion while broaching)
- Less capsular release
- Less hyperextension





AMIS BIKINI CHARNLEY BLADE

The dedicated AMIS Bikini Charnley Blades help to avoid soft tissue injury, especially at the epidermis and dermis level.

AMIS BIKINI BECKMANN

The dedicated AMIS Bikini Beckmann offers stability and the sparing of soft tissues, especially at the epidermis and dermis level.



Economic benefits

The **AMIS technique** is a procedure that delivers **economic benefits**, with potential for the hospital to gain **return on investment**.

NO ADDITIONAL COSTS

Pursuing the **AMIS Experience** comes at **NO additional cost** to either the surgeon or the hospital!

ECONOMIC SAVINGS

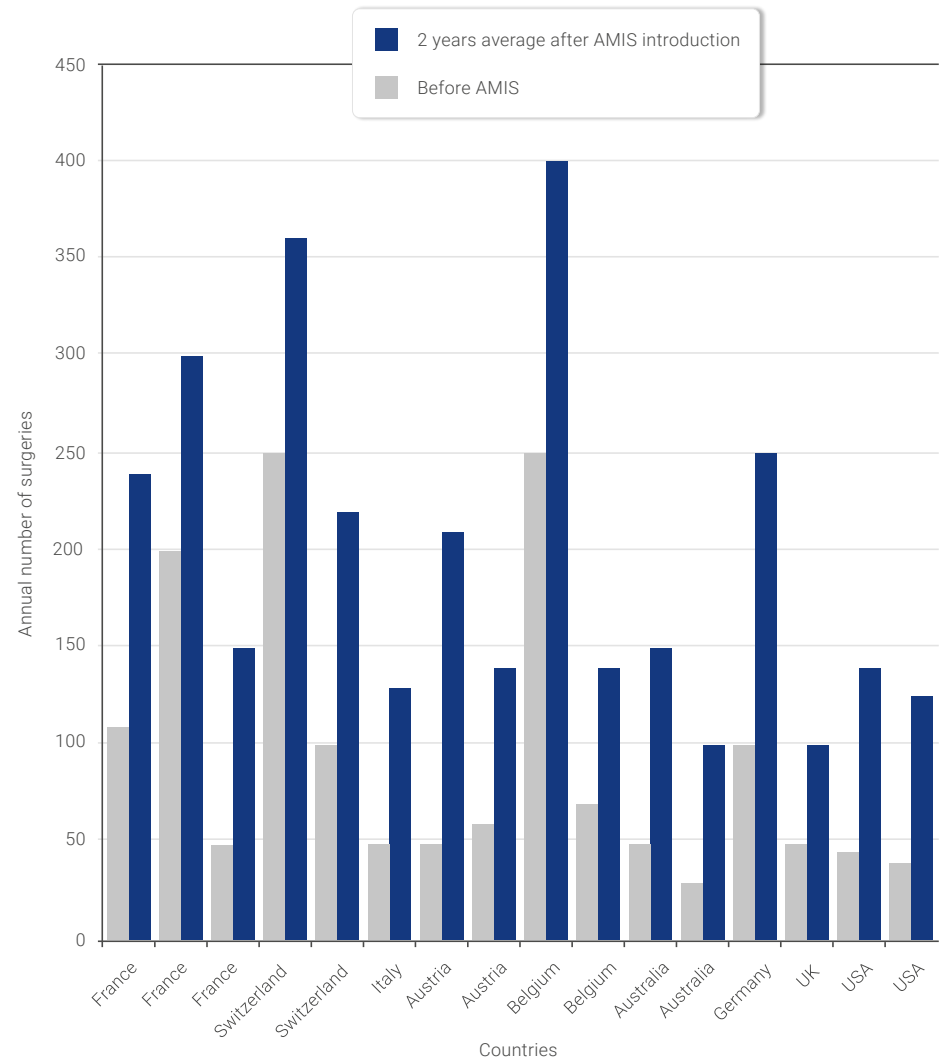
The **clinical benefits** of the AMIS technique together with a well **streamlined** and **carefully defined** surgical approach, guided by the **dedicated instrumentation** and the **special leg positioner**, can **optimize** the overall **cost** associated with the arthroplasty procedure¹⁶.

IMPROVED O.R. EFFICIENCY

The **AMIS technique** **only requires 1 assistant**; the overall cost of the procedure can be reduced by reducing the size of the O.R. team.

EXCELLENT MARKETING TOOL

The frequently reported benefits of the **AMIS** approach make it a procedure **often requested** by patients. It is possible for **surgeons to double their practice**¹⁷ in an average of two years.



Surgeon Testimonies

“ I had thought anterior approaches were all kind of the same but when I did the Medacta lab, I realized it was a very different procedure. AMIS was a much more controlled – a much better procedure. ”

(Surgeon from USA)

“ The intensity of training with Medacta was much greater and much better. (...) The engagement (with AMIS expert surgeons) was incredibly helpful in speeding up the learning curve. ”

(Surgeon from USA)

“ With AMIS I operate without stress. This technique brings financial advantages for the patient, for the surgeon, for the clinic/hospital and for the insurance. ”

(Surgeon from Germany)

“ I only need one assistant, the post-operative care is considerably less and the stationary treatment and the rehab requirement (outpatient/inpatient) are shorter. (...) In the last 3 years I operated on about 99% of patients with AMIS. ”

(Surgeon from Germany)

“ (since starting with AMIS) My practice has grown immensely. ”

(Surgeon from USA)



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REDEFINING BETTER
IN ORTHOPAEDICS
AND SPINE SURGERY

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This document is intended for the US market.