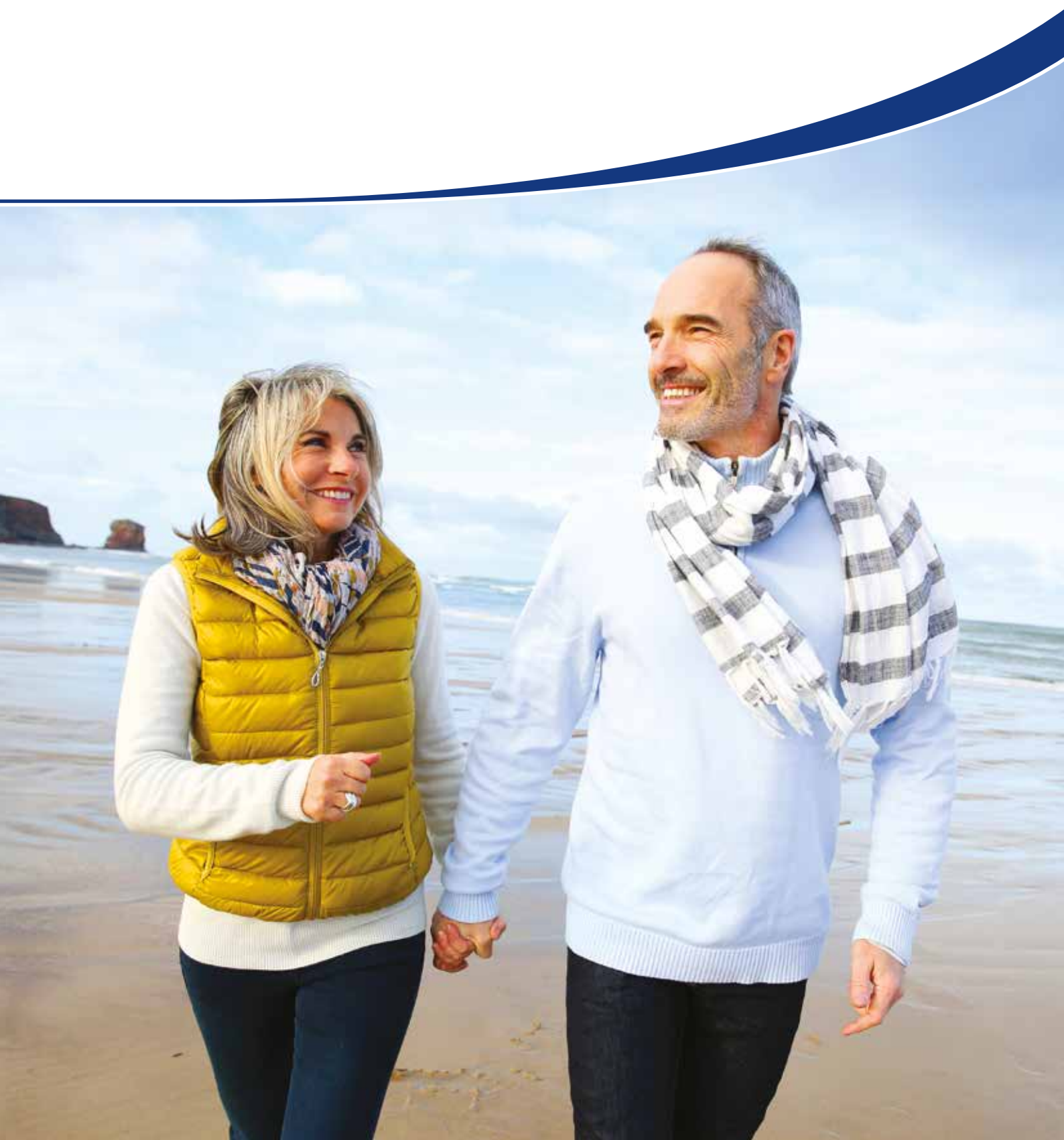


**AMIS®**

ANTERIOR MINIMALLY INVASIVE SURGERY  
IN HIP REPLACEMENT

**Medacta**  
International 

Strive to improve your quality of life with  
**AMIS**



# STRIVE TO IMPROVE YOUR

The **AMIS** (Anterior Minimally Invasive Surgery) approach is a true intermuscular and internervous surgical technique.

In fact, the anterior approach is one of the only techniques which follows intermuscular and internervous planes to reduce the risk of injury to muscles, tendons, vessels and nerves.<sup>[13]</sup>

The AMIS technique is intended to improve the quality of your life and hasten your recovery after a Total Hip Replacement (THR).



AMIS®

AMIS can potentially provide you with the following benefits:

- No muscles cut <sup>[1,12]</sup>
- Decreased post-operative pain <sup>[1,3]</sup>
- Shorter rehabilitation <sup>[3,4]</sup>
- Shorter hospital stay <sup>[2,12]</sup>
- Smaller skin scar <sup>[3]</sup>
- Faster return to daily activities <sup>[2,10,11]</sup>
- Reduced blood loss <sup>[3,12]</sup>
- Reduced risk of dislocation <sup>[4,5]</sup>
- Reduced risk of limping <sup>[6,7,8,9]</sup>

# QUALITY OF LIFE WITH AMIS

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This brochure has been produced to help you feel comfortable and safe about your operation. It addresses questions you may have about the surgery and your post-operative recovery.



# STRIVE TO IMPROVE YOUR



# QUALITY OF LIFE WITH AMIS

## INTRODUCTION

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The hip joint is the articulation area between the pelvis and the leg. It supports the weight of our body and enables us to stand, walk, run and jump. These movements all subject our hip to heavy, bearing loads so it's not surprising that the hip joint is liable to injury or to the development of degenerative joint diseases such as osteoarthritis.

A consequence of any joint disease is **pain**.

Hip pain can limit your daily activities, affects your mood, your health and **your general wellbeing**.

**Do you want to get rid of the pain?  
A hip replacement may help.**

There are a number of solutions, both surgical and non-surgical to treat the pain in your hip. Ask your doctor what is the most suitable treatment for your age, activity level and expectations.

In the case of advanced osteoarthritis, the hip pain and stiffness may severely limit your lifestyle. If that's the case, your doctor may suggest you undergo a total hip replacement.

# 1 - THE HIP AND OST



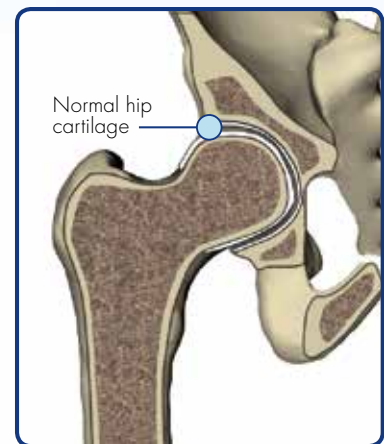
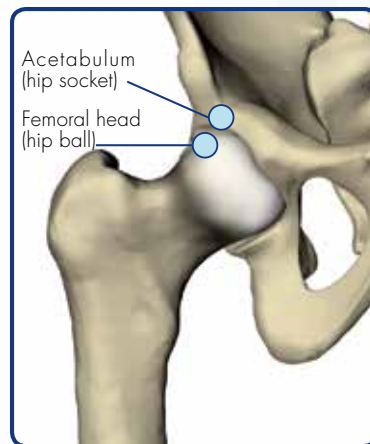


# OSTEOARTHRITIS

## ANATOMY OF THE HIP JOINT

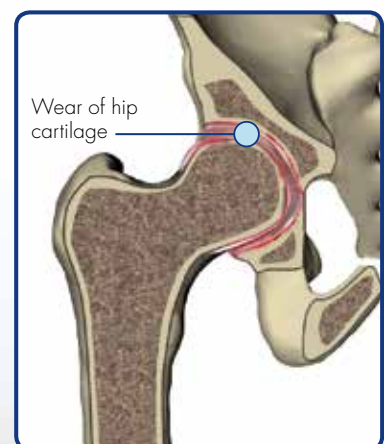
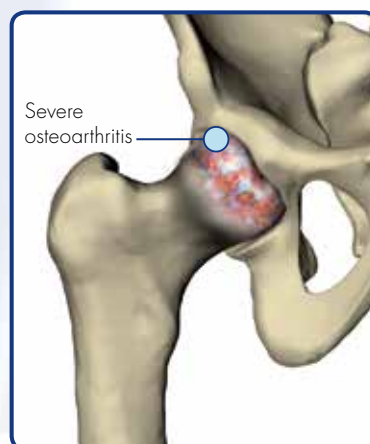
The hip joint is formed by the articulation of the rounded head of the femur and the cup-like acetabulum of the pelvis. It forms the primary connection between the bones of the lower limb and the axial skeleton of the trunk and pelvis.

The surface of the femoral head and the acetabulum (where the bones come into contact), is coated by a smooth tissue called articular cartilage. This cartilage, together with a substance called synovial fluid is what prevents the bones from rubbing against each other and from becoming damaged.



## OSTEOARTHRITIS OF THE HIP

The main cause of hip joint disease is wear of the articular cartilage: 'The Osteoarthritis'. This wear is perceived in the body as pain. At first, the pain is only present when a load is bearing on the joint however, over time, the severity of the osteoarthritis increases to a point when it is painful, even at rest. The increase in intensity of the pain is a slow process, sometimes developing over many years. This can also lead to stiffness in the joint. Hip replacement is a common treatment of severe osteoarthritis. Successful hip replacement brings dramatic pain relief and strong improvement in hip function.



# 2 - TOTAL HIP REPLACE

## WHAT IS TOTAL HIP REPLACEMENT?

A total hip replacement surgical procedure removes the damaged or diseased parts of your hip joint and replaces them with new, man-made polyethylene (a plastic material) or ceramic and metallic components.

These artificial components consist of a **femoral stem** with a **head** (ball) and a **cup** (hip socket).

The femoral stem is made of metal; usually a titanium, cobalt chrome alloy or stainless steel. This is to ensure maximum biocompatibility. The head is made of either ceramic or metal. The cup is made of polyethylene, (if cemented) or of metal (cementless) with a porous surface which encourages bone integration.

A cup liner, made of ceramic or polyethylene is also used to ensure longevity of your artificial joint, even when under stress caused by normal, day to day activities. All material used in a total hip replacement procedure are totally biocompatible.



### CUP

Metal or polyethylene  
*Cementless or cemented*



### LINER

Ceramic or polyethylene



### HEAD

Ceramic or metal



### FEMORAL STEM

Metal - *Cementless or cemented*





# MENT

## WHY TOTAL HIP REPLACEMENT SURGERY?

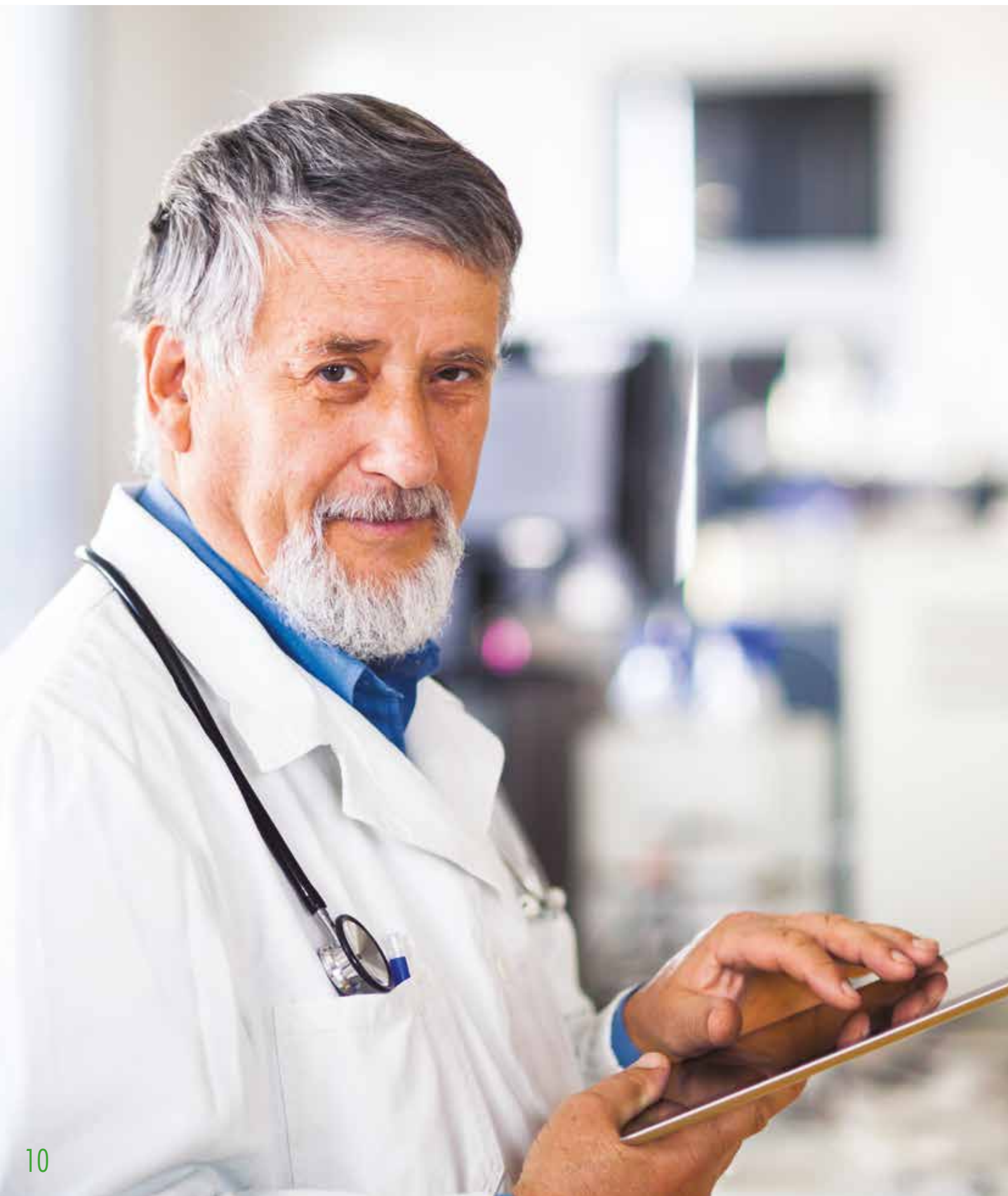
With almost 70 years of history, total hip replacement surgery is a very common and safe procedure for the treatment of severe osteoarthritis.

The main benefits of a successful total hip replacement are:

- 1 Reduction in hip pain**  
The pain will be rapidly and dramatically reduced and usually eliminated.
- 2 Recovery of mobility**  
Your hip will function with less effort, almost regaining its original mobility.
- 3 Improvement in quality of life**  
Your everyday activities and your social life will no longer be limited by pain and reduced mobility.



# 3 - THE AMIS APPROACH



## WHAT IS MINIMALLY INVASIVE SURGERY?

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True Minimally Invasive Surgery is characterized by the preservation of muscles and tendons encountered during surgery to the hip joint capsule in addition to a reduced skin incision.

## AMIS does not cut muscles and does respect nerves.

The anterior approach is one of the only techniques which follows inter-muscular and inter-nervous planes to reduce the risk of injury to muscles, tendons, vessels and nerves.<sup>[13]</sup>

For this reason, AMIS is the ideal minimally invasive surgical approach as it is fundamental to a faster recovery. **AMIS is intended to improve the quality of your life and hasten your recovery after a Total Hip Replacement.**

Your doctor will assist in providing more details.<sup>[14]</sup>



# 4 - WHY AN AMIS TOT

## AMIS CAN POTENTIALLY PROVIDE YOU WITH THE FOLLOWING BENEFITS

### 1 Decreased post-operative pain

The AMIS approach can reduce post-operative pain as muscles are not cut.<sup>[1,3]</sup>

### 2 Shorter rehabilitation

Post operative rehabilitation can start on the day of your operation, subject to your doctor's approval.<sup>[3,4]</sup>

### 3 Shorter hospital stay

The AMIS technique can often reduce the time you are required to stay in hospital. Your surgeon may still recommend an extended hospital stay however as this is dependent on your post-operative condition.<sup>[2,12]</sup>

### 4 Smaller skin scar

With AMIS, the skin incision is often shorter and therefore scar tissue is reduced.<sup>[3]</sup>

### 5 Faster return to daily activities

The AMIS technique allows you to return to daily activities in a shorter time frame. You may drive when able to get in and out of the car comfortably, have excellent control of your legs and are no longer taking pain medications.<sup>[2,10,11]</sup>

### 6 Less blood loss

The preservation of muscles and vessels during surgery usually reduces your blood loss. Transfusions are rare and blood clots in the legs (deep venous thrombosis) are therefore less likely.<sup>[3,12]</sup>

### 7 Reduced risk of dislocation (separation of the Hip 'ball and socket')

The risk of dislocation is reduced because the AMIS technique accesses the hip from the front of your body, allowing the muscles to be preserved. This helps maintain hip stability which can possibly reduce the risk of dislocation.<sup>[4,5]</sup>

### 8 Reduced risk of limping

AMIS is characterised by a surgical technique that protects the various muscles, blood vessels and nerves encountered during exposure of the hip joint. Minimising muscle and nerve damage potentially reduces the incidence of limping.<sup>[6,7,8,9]</sup>

# AL HIP REPLACEMENT?



## GOAL OF AMIS

The primary goal of an AMIS Total Hip Replacement is to minimize harm to muscles, blood vessels and nerves surrounding the joint.

# 5 - GETTING READY FOR



## TESTS & CHECKS

Before undergoing a total hip replacement, your doctor will perform a complete physical examination to evaluate your condition and to ensure that there are no factors that could interfere with your surgery.



# R YOUR OPERATION

## TESTS

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Your doctor may ask you for blood and urine tests and possibly a cardiogram, prior to your surgery.

## CHECK YOURSELF

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### 1 Check your skin

If your hip and leg have any skin infections or irritations, contact your orthopaedic surgeon prior to surgery; he or she will tell you how to best prepare your skin for surgery.

### 2 Check your teeth

The incidence of infection after a hip replacement is very low but, even an infection far away from the hip joint can still spread through your bloodstream to your new hip. Prevention is the best way to avoid early problems; you should contact your dentist to have your teeth checked before your total hip replacement surgery.

## MEDICATIONS

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Prior to surgery, provide your surgeon with a complete list of the medications you are taking including doses and times. He or she will inform you if you need to stop or change any medication.

## SPECIAL EQUIPMENT

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After your procedure special equipment such as support stockings and crutches may be required. You can rent or buy these in specialised shops. Your doctor or physio-therapist will assist with providing further details.

# 6 - IN THE HOSPITAL



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TAKE WITH YOU

## THE DAY OF YOUR OPERATION

The surgical procedure will take approximately 1 to 2 hours.

There will be pre-surgical preparation followed by post-surgery monitoring in the recovery room.

Special care is taken to ensure you are not in pain following your procedure.

## AFTER THE OPERATION

Specialised personnel will, from day one after your procedure, take care of your recovery by defining the most suitable rehabilitation program for you and accompany you through the gradual recovery process.

Rehabilitation can usually start on the day of your procedure; subject to your doctor's approval. You may progress to weight bearing activities as tolerated and may discontinue assistive devices as your comfort level improves. Although a patient's recovery varies from person to person, most people discontinue assistive devices within two weeks post-operatively.

- 1 A complete list of your routine medications including doses and times
- 2 Your X-Rays
- 3 All papers for hospital admission including a copy of your insurance cards (if applicable)
- 4 Any equipment (crutches, stockings, etc.) prescribed for you by your doctor or physiotherapist.



# 7 - TAKING CARE OF Y

## LONG TERM CARE OF YOUR TOTAL HIP

Follow your orthopaedic surgeon's instructions carefully to minimise any potential complications which can affect your recovery and your implant lifetime. These complications, however, are quite infrequent and some simple rules can dramatically reduce their likelihood.

## DON'T FORGET

- 1 Lead a healthy and active lifestyle
- 2 If you suffer a fever, throat inflammation or any infection, be sure to tell your doctor that you have a hip implant
- 3 Undergo regular, general check-ups

### References:

- <sup>[1]</sup> *Arthroplastie totale de hanche par voie antérieure et son évolution mini-invasive*; F. Laude et al.; EMC; 2004, 44-667-B
- <sup>[2]</sup> *Single-incision anterior approach for total hip arthroplasty on an orthopaedic table*; JM Matta et al; Clin Orthop Relat Res, 2005 Dec, (441): 115-24
- <sup>[3]</sup> *Minimally Invasive total hip arthroplasty: anterior approach*; F. Rachbauer; Orthopäde, 2006 Jul;35(7):723-4, 726-9
- <sup>[4]</sup> *Mini-incision anterior approach does not increase dislocation rate: a study of 1037 total hip Replacement*; T Siguier et al; Clin Orthop Relat Res, 2004 Sep, (426): 164-73
- <sup>[5]</sup> *What's new in hip arthroplasty*; MH Huo et al; JBJS Am; 2005 Sep, 87(9):2133-46
- <sup>[6]</sup> *Rapid Rehabilitation and recovery with minimally invasive total hip arthroplasty*; RA Berger et al; Clin Orthop Relat Res, 2004, (429): 239-247
- <sup>[7]</sup> *The minimally invasive anterior approach to hip arthroplasty*; RE Kennon et al; Orthopäde, 2006 Jul, 35 (7): 731-7

# OUR NEW HIP

If you have any concerns about your new hip don't hesitate to contact your doctor to discuss and, finally,

...enjoy your new hip!



<sup>[8]</sup> Dislocation after hip hemiarthroplasty: anterior versus posterior capsular approach.; JB Bush et al; Orthopedics. 2007 Feb;30(2):138-44

<sup>[9]</sup> Muscular damage after total hip arthroplasty: conventional versus minimally invasive anterior approach.; Dr Dora, Dr Kalberer; AOA 2008, Australia, Hobart

<sup>[10]</sup> Abductor Tendons and Muscles Assessed at MR Imaging after Total Hip Arthroplasty in Asymptomatic and Symptomatic Patients. C. Pfirrmann et al., Radiology 2005, 235: 969-976.

<sup>[11]</sup> MR imaging of the abductor tendons and muscles after total hip replacement in asymptomatic and symptomatic patients. PD Dr. Dora, EFORT 2007

<sup>[12]</sup> Der anteriore Zugang für die minimal-invasive HTEP. C Dora; Leading Opinions Sept 2006, 1/2006

<sup>[13]</sup> Single-Incision Direct Anterior Approach for Total Hip Arthroplasty Using a Standard Operating Table; TP Lowell; The Journal of Arthroplasty Vol. 23 No. 7 Suppl. 1 2008

<sup>[14]</sup> The minimally invasive anterior approach to hip arthroplasty; RE Kennon et al; Orthopäde, 2006 Jul, 35 (7): 731-7



## Redefining Better in Orthopaedics and Neurosurgery

# AMIS<sup>®</sup>

ANTERIOR MINIMALLY INVASIVE SURGERY  
IN HIP REPLACEMENT

For further information visit the website:

[mynewamiship.com](http://mynewamiship.com)



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AMIS Patient Information

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