stryker®

Joint Replacements

MIS

Direct Anterior Approach

The Right Procedure
and the Right Implant
for the Right Patient

Stryker thanks the following surgeons for their clinical expertise in the development of this surgical approach:
Martin Krismer M.D. Full Professor, Franz Rachbauer M.D. Associate Professor and Michael Nogler M.D. Associate Professor, Department of Orthopaedics, University of Innsbruck.

Introduction

Stryker's priority is the well-being of your patient. The company is devoted to finding and creating new approaches to orthopaedic surgery that help patients to live healthier, more active lives.

The Stryker Minimally Invasive Training Program is based on the principles of responsibility to your patients and openness to choose different approaches in order to improve total joint arthroplasty. As a result Stryker has invested significantly in providing both surgeons and their staff with a comprehensive training program to help perform reproducible MIS techniques.

This program includes:

- Training seminars
- Cadaver workshops
- Surgeon visits
- Anatomy courses
- Specific OR staff training

For further details please contact your local Stryker repesentative.

History of the Direct Anterior Approach

Over the years a number of surgical approaches for hip replacement have been described in medical literature. Anterior approaches to the hip are first credited to Sprengel in 1878 and Bardenheuer in 1907. However, the more familiar Smith-Peterson approach was later described in more detail in 1917 and 1949. This technique showed how the hip could be approached by exploiting the inter-nervous plane between the tensor fasciae latae and the sartorius.

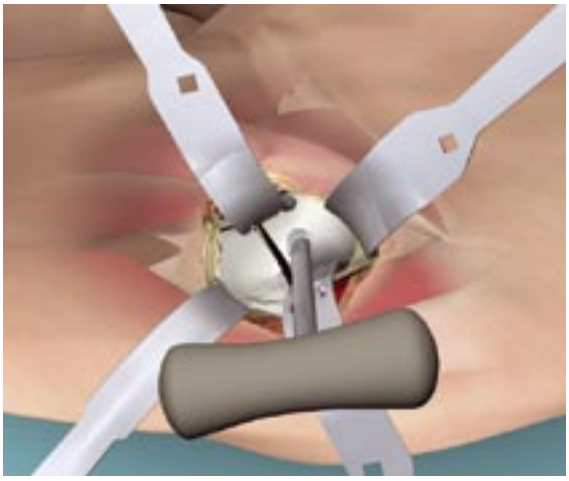
The Smith-Peterson approach was also seen as providing excellent exposure of the acetabulum and suitable for a variety of indications including THA, Hemiarthroplasty, Pelvic Osteotomies and Congenital dislocations.

More recently the orthopaedic community has shown significant interest in Minimally Invasive Surgery or MIS techniques. The aim of MIS in joint replacement is to minimize incision length and reduce both soft tissue and ligament disruption in order to allow faster patient rehabilitation and reduced pain. This should be conducted using reliable implants and instrumentation to ensure that implant positioning and patient outcomes are not compromised.

Stryker have worked closely with the surgeon group from the University of Innsbruck to modify the Smith–Peterson approach and develop a comprehensive program for surgeons who wish to improve patient outcomes by adopting a more reliable muscle sparing or MIS technique.

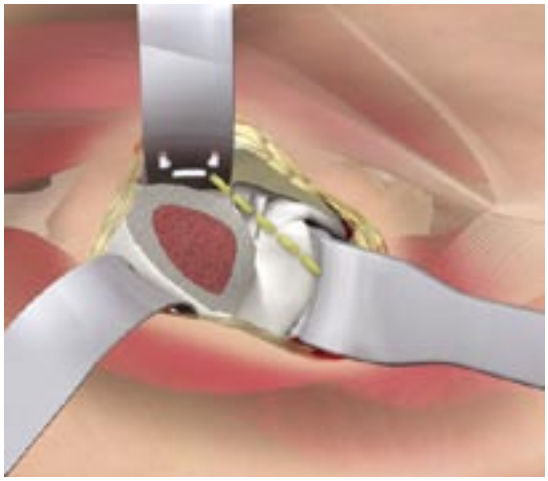
Introduction to the Innsbruck Technique

The entire procedure is performed with a single-incision anterior approach. Using a modified Smith-Peterson anterior technique, the gluteal muscles remain attached to the ileum providing a safe intermuscular and inter-nervous plane to gain direct, unimpeded access to the hip capsule.



The capsulotomy is then performed using an H-shaped incision and retained whilst the femoral neck resection is conducted in situ using two parallel cuts to create a bony disc. After removal of the bony disc, the femoral head can be easily removed without significant effort or damage to the surrounding soft tissues.

Mobilization of the capsule from the femur and correct placement of the specially designed retractors then allow direct access to the femoral canal by elevating the femur out of the wound.



After implantation of both the acetabular and femoral components the joint can then be reduced, and the capsule closed to decrease risk of dislocation. The direct anterior approach may be safely and adequately performed in over 95% of patients who undergo total hip arthroplasty.

Post-Operative Benefits

Patients who are operated on using this technique normally experience only minimal pain on the first day after the operation and can be moved without any problem. The minimal pain and excellent mobility allow the patient to recover more quickly.

Michael Nogler M.D.

…as if I´ve never been injured.
Schoepf S.

…I feel as if I were 20 years younger. No matter how they did it. Incredible!
Marmonti E.

The ultimate goal is always long term survival of the implant and this should not be compromised by the approach.

Franz Rachbauer M.D.

In our clinical expierience the Innsbruck Direct Anterior Approach can successfully be performed in the majority of patients requiring THR.

Martin Krismer M.D.

I trusted them to the fullest and now I can continue my work properly.
Buerger D.

Stryker MIS Implants

In addition to providing a strong clinical history, the hip implants which Stryker believes are best suited for the Innsbruck Direct Anterior Approach cover a variety of designs and philosophies. These include both straight and anatomic stems as well as cemented and cementless femoral and acetabular components.

The unique and comprehensive Stryker hip portfolio allows us to provide clinically proven implants that meet the demands of minimally invasive approaches to the joint.

ABGII – The ABGII system is one of the foremost ranges of cementless total hip replacement prosthesis. Used extensively throughout the world it has demonstrated excellent and consistent clinical results. [1-6]

Accolade – The Accolade TMZF femoral component merges clinically successful concepts with the highest standards of science and technology into a single system. The tapered wedge design provides firm mediolateral stability within the femoral canal which is supported by extensive clinical experience. [7, 8]

Trident - Stryker's outstanding Trident Acetabular System and selection of bearing options further extents the freedom of surgical choice in line with the individual demands of the patient.

Contemporary Cup - Introduced in 1991 this cemented cup provides multiple options, including a standard cup range with hood and flanged design to enhance cement pressurisation.

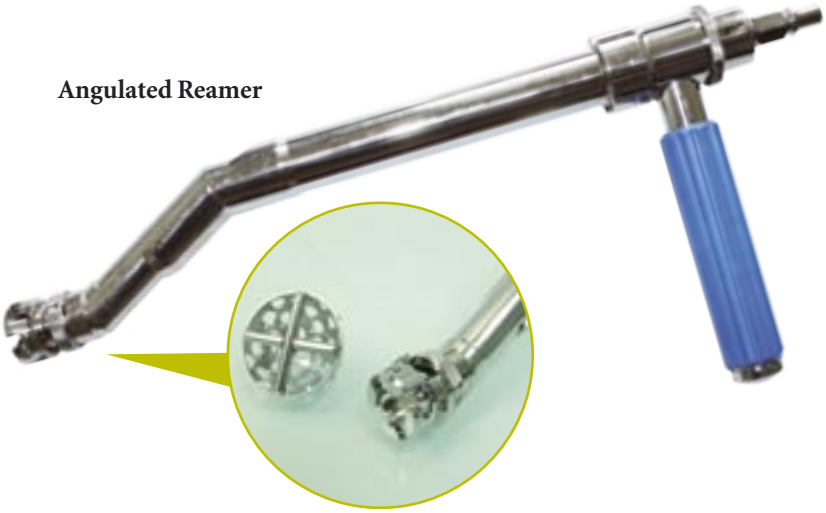
Stryker MIS Instrument Portfolio

Minimally invasive total joint arthroplasty requires new solutions in instrumentation to avoid compromising the mechanical alignment of the prosthesis. Whilst implants and materials have been significantly improved within the last few decades, the development of the Innsbruck Direct Anterior Approach has seen Stryker invest significant resources in ensuring that our instrumentation remains the best available for this approach.

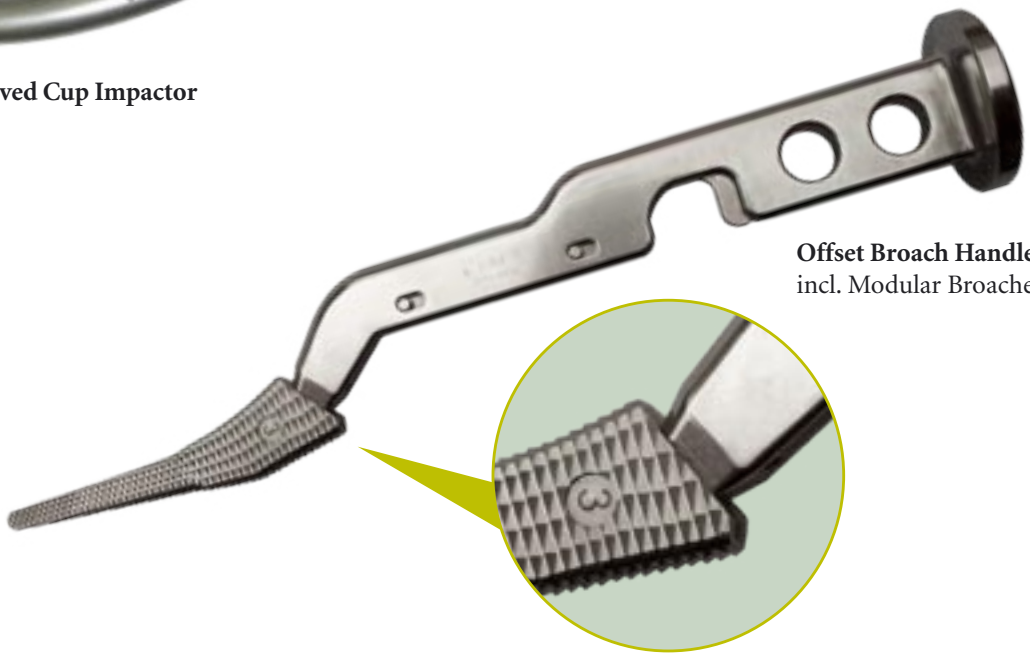
Femoral and Acetabular Instrumentation

As with any MIS approach the use of straight instrumentation can require more tension to be placed on the soft tissues. The Stryker 'Offset' Broach Handles and 'Curved' instrumentation help to overcome this problem and allows for good positioning of the components whilst simultaneously reducing the length of incision.

Angulated Reamer



Curved Cup Impactor



Offset Broach Handle
incl. Modular Broaches

Retractors and Light Pipe

The Stryker retractors have been reduced in size and designed to minimize further disruption of the soft tissues. The innovative 'Light Pipe' design allows for additional lighting to be focussed directly into the incision without impeding the surgical field of view.

Supporting Instrumentation

The CORE microsystem is designed to be a highly versatile system to cover multiple bone cutting specialties. It offers precise cutting with both Stryker sagittal saws and the new dual cut blades. These blades are a patented design which provide greater cutting efficiency resulting in faster cuts and less heat generated at the point of blade contact.

Stryker Colorado MicroDissection Needle provides precision in cutting and coagulation without the expense and inconvenience of a laser. The low wattage required reduces bleeding with minimal tissue damage.

Post-operative pain management is an important element when seeking earlier patient discharge. The Stryker PainPump2 provides the versatility of a PCA with the advantages of a disposable product. It offers the flexibility of customizing settings such as infusion rates in line with the individual needs of each patient.

Stryker Training

The Stryker High Performance MIS Hip Seminars provide surgeons with an introduction to the Innsbruck Direct Anterior Approach and include live surgery, cadaveric instruction & presentations regarding the technique, basic anatomy and results to date.

The programme comprises of the following:

Day 1

•Anatomical considerations for THA
•Dedicated instrumentation to avoid intraoperative complications
•Clinical results
•Cadaver workshop

Day 2

•Live surgery (cementless / cemented)
•Key operative steps
•Patient selection
•Post operative care
•Minimizing operative learning curve
•Hip navigation

The courses are held regularly at the University Hospital in Innsbruck.

Scientific advice is given by:
Prof M. Krismer
(Head of Orthopaedic Department)
Prof M. Nogler
Prof F. Rachbauer
Dr E. Mayr

For further information on the Stryker High Performance MIS Hip Seminars please contact your local Stryker representative.

Catalogue Information

Accolade Retractor Tray

1440-1130S	Narrow Hohmann Retractor X3
1440-1135S	Wide Hohmann Retractor
1440-1140	Blunt Narrow Retractor
1440-1105S	Left Acetabular Retractor
1440-1110S	Right Acetabular Retractor
4849-8-005	Femoral Elevator
1440-1020	Retractor Impactor
1440-0010	Retractor Tray

Accolade Femoral Upgrade Tray

1440-1000	Accolade Neck Resection Guide
1440-1050	Alignment Rod for Neck Resection Guide
1440-1010	Femoral Head Extractor
5900-0050	Shoulder T-Handle
1440-1700	Offset Neck Trial Forceps
1440-1070	Femoral Head Impactor
1440-0040	Femoral Instrument Tray
1020-1400	Offset Broach Handle X2

Trident Acetabular Instruments

MPF3100CHA01	Angulated Reamer* - AO
MPF3100CHA02	Angulated Reamer* - Stryker
MPF3100CHA03	Angulated Reamer* - Hudson
MIH-004-00-0	Trident Cup Impactor

Outer Cases

1440-0001	Single High Case
1440-0002	Double High Case

Stryker Colorado MicroDissection Needle

NIO3A	3cm - Straight
E1135	5” - Straight Sleeve, 3mm , 45 Degree
E1136	6” - Straight Sleeve, 3mm , 45 Degree
E1137	7” - Straight Sleeve, 3mm , 45 Degree

Stryker Disposable Light Pipes (Sterile)

1440-1079	Light Pipe

Stryker PainPump 2

525-158	With 2.5 in ExFen Catheter- English
525-156	With 2.5 in ExFen Catheter- Italian/Spanish
525-157	With 2.5 in ExFen Catheter- French/German

*Currently available only with the Cutting Edge Reamers

ABG II General Instruments Tray

1440-1130S	Narrow Hohmann Retractor X3
1440-1135S	Wide Hohmann Retractor
1440-1140	Blunt Narrow Retractor
4849-8-005	Femoral Elevator
1440-1020	Retractor Impactor
1440-1010	Femoral Head Extractor
5900-0050	Shoulder T-Handle
4849-8-020	Self-Retaining Retractor incl. Valves
4845-2-980	ABG II Offset Neck Trial Forceps
4849-6-355	Tray / Case

ABG II Femoral Upgrade Tray

1020-1400	Offset Broach Handle X2
4849-8-108	ABG II MIS Modular Hollow Chisel 8mm
4849-8-112	ABG II MIS Modular Hollow Chisel 12mm
4849-8-116	ABG II MIS Modular Hollow Chisel 16mm
4845-2-970	ABG II MIS Trial Neck
4845-2-951	ABG II MIS Broach N°1 Right
4845-2-952	ABG II MIS Broach N°2 Right
4845-2-953	ABG II MIS Broach N°3 Right
4845-2-954	ABG II MIS Broach N°4 Right
4845-2-955	ABG II MIS Broach N°5 Right
4845-2-956	ABG II MIS Broach N°6 Right
4845-2-957	ABG II MIS Broach N°7 Right
4845-2-958	ABG II MIS Broach N°8 Right
4845-2-961	ABG II MIS Broach N°1 Left
4845-2-962	ABG II MIS Broach N°2 Left
4845-2-963	ABG II MIS Broach N°3 Left
4845-2-964	ABG II MIS Broach N°4 Left
4845-2-965	ABG II MIS Broach N°5 Left
4845-2-966	ABG II MIS Broach N°6 Left
4845-2-967	ABG II MIS Broach N°7 Left
4845-2-968	ABG II MIS Broach N°8 Left
4849-6-350	Tray / Case

Stryker Core Micro Powertools

5400-34	CORE Sagittal Saw
5400-33-527	Micro Dual Cut MIS Blade
5100-4	CORE Cord
5100-001E	CORE Non-Irrigation Console
5100-50E	CORE Irrigation Console

stryker®

Joint Replacements

Trauma

Spine

Micro Implants

Orthobiologics

Instruments

Interventional Pain

Navigation

Endoscopy

Communications

Patient Handling Equipment

EMS Equipment

Learn more about MIS Joint Replacements...
Call your Stryker sales representative.

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2. Hydroxyaptite-coated hip prostheses. Early results from an international study. Tonino A. J, et al. Clinical Orthopeadics 312: pp 211-225. 1995
3. ABG Prostheses - Results at % years. Nourissat C. et al. Cahiers d'Enseiggnement de la SOFCOT 50 pp208-219 (French) or Cahiers D'Enseiggnement de la SOFCOT 51: pp227-23/8 (English) 1995
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