

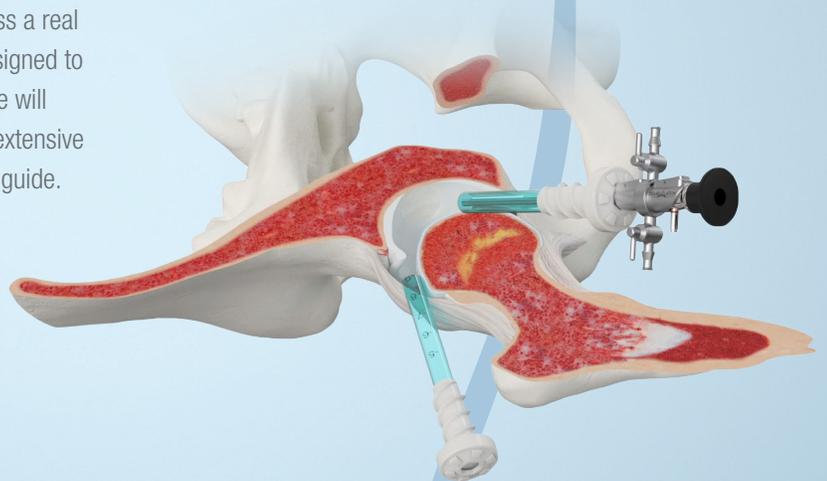


Hip Access Made EZ

A Written Technique Guide Featuring the Paradigm™ Hip System

Designed by some of the world's leading hip surgeons, the Paradigm™ Hip System is a complete portfolio of products constructed with safety in mind to provide surgeons with simple and reproducible solutions for arthroscopic hip repairs.

The anatomy of the hip joint makes easy and effective access a real challenge until now. Paradigm's access instruments are designed to simplify this process and reduce procedural steps safely. We will address several tried-and-true tips and pearls gained from extensive experience in the operating room throughout this technique guide.



Technique featured by

Tony Andrade, MB BS, FRCS (Tr and Orth)*

Consultant Orthopaedic Surgeon
Circle Reading Hospital, United Kingdom

Thomas H. Wuerz, MD, MSc, MS, FAAOS*

Board Certified Orthopedic Surgeon
Boston Sports and Shoulder Center and New England Baptist Hospital
Boston, MA, USA

**CONMED
SURGICAL
TECHNIQUE**

*Paid CONMED Consultant

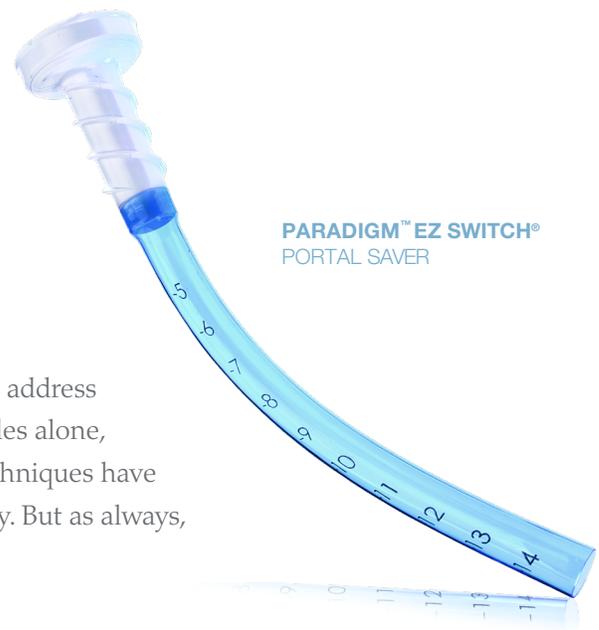
Gaining Access to the Hip Joint Using the Paradigm™ Hip System

Authored by Tony Andrade, FRCS (Tr and Orth) and Thomas Wuerz, MD

Hip Arthroscopy can be an effective method of treatment for a variety of hip conditions including but not limited to femoroacetabular impingement and labral tears.

Just as in other areas of orthopedic surgery, techniques to address hip pathologies develop and evolve. In the last two decades alone, advancements in minimally invasive and arthroscopic techniques have improved our ability to treat patients effectively and safely. But as always, there is still work to be done.

Arthroscopic surgery of the hip presents unique challenges because of the difficulty to access the joint space with minimal visualization. “While increasingly recognized as an effective procedure for the treatment of femoroacetabular impingement and related hip disorders, hip arthroscopy is considered a technically challenging procedure whose learning curve is not well defined.”¹ It can take an experienced surgeon years to feel proficient in their hip arthroscopy skills, dependent on factors such as the opportunity to train or volume of cases in their practice. But challenging as it may be, the appeal of training to be a hip arthroscopist prevails, as shown in the number of hip arthroscopies performed annually which grew 600% between 2006 and 2010² and continues to be one of the highest growing areas in Orthopedic Surgery. ■



¹Nawabi, Danyal H. et al. “Learning curve for hip arthroscopy steeper than expected.” Journal of Hip Preservation Surgery vol. 3, Suppl 1 hnw030.007. 14 Sep. 2016, doi:10.1093/jhps/hnw030.007

²Bozic KJ, Chan V, Valone FH 3rd, Feeley BT, Vail TP. Trends in hip arthroscopy utilization in the United States. J Arthroplasty. 2013 Sep;28(8 Suppl):140-3. doi: 10.1016/j.arth.2013.02.039. Epub 2013 Aug 1. PMID: 23916639



Tony Andrade, MB BS, FRCS (Tr and Orth)

Consultant Orthopaedic Surgeon, Circle Reading Hospital, United Kingdom. London Hospital Medical College, Hip and Knee Fellowship, Sportsmed-SA, Adelaide, Australia. Visiting Fellow in Trauma Surgery at the Hennepin County Medical Center in Minneapolis, MN USA.

Mr. Tony Andrade is an Orthopedic Surgeon practicing in Reading, UK at the Reading Orthopedic Center. He completed his surgical training in the Wessex region of the South of England, and was fellowship trained in hip and knee surgery at Sportsmed-SA, in Adelaide, South Australia, where he was first exposed to hip arthroscopy. He was also a visiting fellow in trauma surgery at the Hennepin County Medical Center in Minneapolis, USA. He is widely recognized as a pioneer of hip arthroscopy in the UK, where he has been at the forefront of the evolving surgical techniques in arthroscopic hip preservation surgery. He is recognized as an international expert of acetabular labrum reconstruction techniques for failed labral repairs. Mr. Andrade has been an active member of the International Society of Hip Arthroscopy (ISHA – The Hip Preservation Society), since it was founded in 2008, and has held various positions from Membership Secretary of the organization, Vice President and most recently President as of October 2020. Mr. Andrade is regularly invited to lecture nationally and internationally on hip arthroscopy and other associated topics and has been heavily involved with teaching on national and international courses.



Thomas H. Wuerz, MD, MSc, MS, FAAOS

Board Certified Orthopedic Surgeon. Boston Sports and Shoulder Center & New England Baptist Hospital, Boston, MA, USA. Eberhard-Karls-University of Tuebingen, School of Medicine, Germany. Sports Medicine Fellowship, Rush University Medical Center, Chicago, IL USA. International Society for Hip Arthroscopy Traveling Fellowship, Steadman Clinic, Vail, CO USA and Schulthess Klinik, Zurich, Switzerland.

Dr. Thomas Wuerz graduated from medical school at the University of Tuebingen in Germany. After research at the Massachusetts Institute of Technology and the Massachusetts General Hospital, he completed two years of orthopedic surgery residency at the Inselspital in Berne, Switzerland. He then returned to Boston for a two-year NIH Career Development Grant after earning a master's degree at the London School of Economics in Health Policy and Economics. He completed an orthopedic surgery residency at the Cleveland Clinic and a sports medicine fellowship at Rush University in Chicago. He was then awarded the Traveling Fellowship of the International Society of Hip Arthroscopy (ISHA – The Hip Preservation Society) training at the Steadman Clinic in Vail, Colorado, and the Schulthess Klinik in Zurich, Switzerland, focusing on hip arthroscopy and hip preservation surgery. He started working at the New England Baptist Hospital as an attending physician before joining the Boston Sports and Shoulder Center. Dr. Wuerz is actively involved with ISHA and the Arthroscopy Association of North America (AANA). He is also regularly invited to lecture nationally and internationally on hip arthroscopy and other associated topics and has been heavily involved with teaching on national and international courses.

**CONMED
SURGICAL
TECHNIQUE**

Gaining Access to the Hip Joint

Using the Paradigm™ Hip System

Authored by Tony Andrade, FRCS (Tr and Orth) and Thomas Wuerz, MD

PORTAL PLACEMENT

In Hip Arthroscopy, we typically work within two to three portals. We will examine each portal's function and discuss placement in this segment.

The Anterolateral Portal (ALP) is typically established first, usually under fluoroscopic guidance, and allows access to the central compartment. Safely establishing this portal is critical to avoid iatrogenic damage and can be challenging at times, as it is achieved without direct visualization. Typically, the ALP is created 1-2 cm anterior and 1-2 cm superior to anterosuperior border of the greater trochanter.

Historically, the **Anterior Portal (AP)** would be established next, enabling access to the central compartment anteriorly and to the peripheral compartment, and is plotted at the intersection between the superior ridge of the greater trochanter and a line drawn longitudinally from the anterior superior iliac spine (ASIS). Recently however, more arthroscopists are opting to use a modified version of this portal, referred to as the Mid-Anterior Portal.

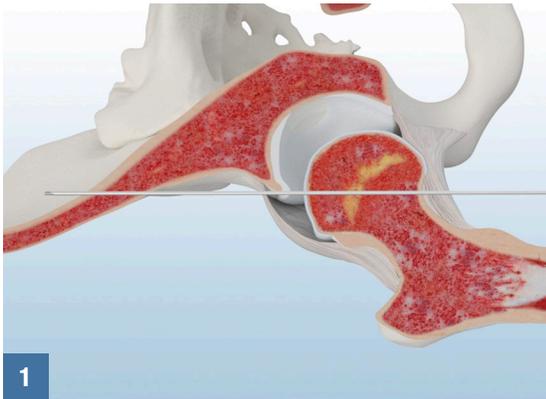
The Mid-Anterior Portal (MAP) is a modification of the Anterior Portal. As it is located further away from important anatomic structures (e.g. lateral femoral cutaneous nerve) and also at times provides a better angle of access to the labrum for repair thus ultimately resulting in increased safety, the MAP is generally preferred to the Anterior Portal. The MAP is typically slightly more lateral and distal in comparison to the AP.

The **Distal Anterolateral Accessory (DALA) Portal** provides access to the central and peripheral compartment. This portal can provide an even flatter angle to the acetabular rim, which has shown to decrease the risk of joint penetration when placing labral repair anchors, by allowing access to place them more safely, closer to the edge of the acetabulum. This facilitates a potentially more anatomic labral repair without eversion and therefore may enable a better labral suction seal. This portal can also be helpful for the femoral osteochondroplasty. The DALA portal is typically placed about 4-5cm distal to the ALP along the level of the anterior edge of the femur, resulting in an equilateral triangle with the ALP and MAP.

A **Posterolateral Portal (PL)** is used much less frequently and provides posterior hip joint access. This can be helpful for removal of loose bodies, for posterior labral repairs, or for shuttling the graft into the joint when performing a labral reconstruction. The portal somewhat mirrors the ALP about 1-2 cm off the posterior edge of the greater trochanter about 1-2 cm proximal of it.

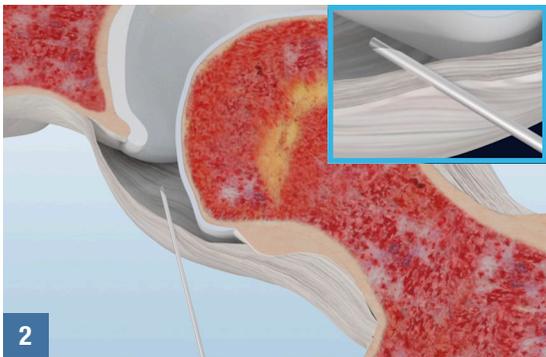
ACCESSING THE HIP JOINT

Access into the hip joint is typically gained by inserting a spinal needle, then dilating wide enough to fit a scope sheath and/or metal sled or cannula. In order to minimize iatrogenic damage, the spinal needle must be appropriately sited to gain access through the capsule into the joint.

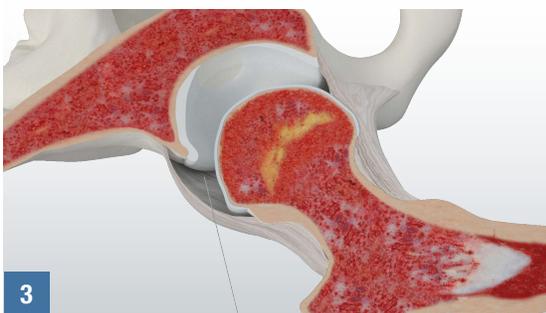


STEP 1: After adequate traction of the joint has been established and confirmed fluoroscopically, access to the joint can be considered. Under fluoroscopic guidance and using CONMED's Paradigm™ Tactile Needle, insert the needle as described in the section above titled Portal Placement. The tip of the needle should aim towards the top of the cotyloid fossa.

NOTE: You can utilize the nub at the handle of the needle to emphasize which direction the beveled tip of the needle is facing in the joint.



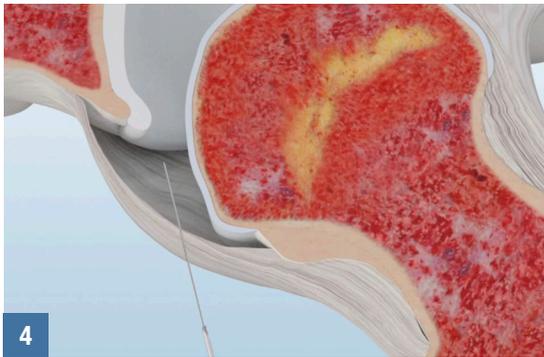
STEP 2: Upon entering the joint space, the surgeon should feel a tactile confirmation that empty space has been encountered. With resulting loss of the negative intra-articular pressure, an air arthrogram should be visible. According to surgeon preference, either fluid (saline) or air can be injected into the joint at this stage to achieve better joint dilatation.



STEP 3: Insert a guidewire through the Tactile Needle, and then remove the needle, leaving the guidewire in the joint. The tip of the guidewire should be in the lunate fossa confirming intra-articular position. The guidewire should be seen close to the femoral head but not be obscured by it under fluoroscopic imaging for ideal position.

NOTE: The Tactile Needle does not have a stylet and is cannulated to accommodate a guidewire.

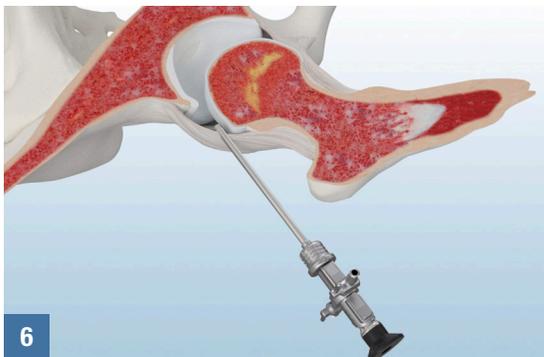
CONMED
SURGICAL
TECHNIQUE



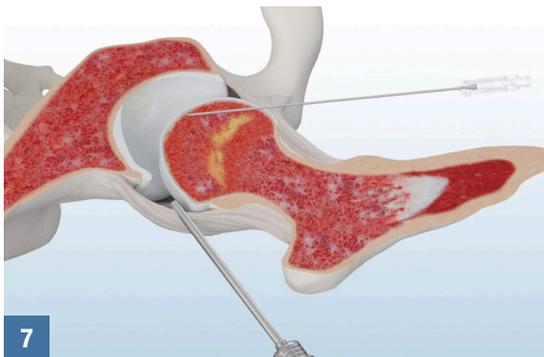
STEP 4: Insert a cannulated switching stick over the guidewire while retracting it a short distance to make sure the guidewire does not break, then remove the guidewire.



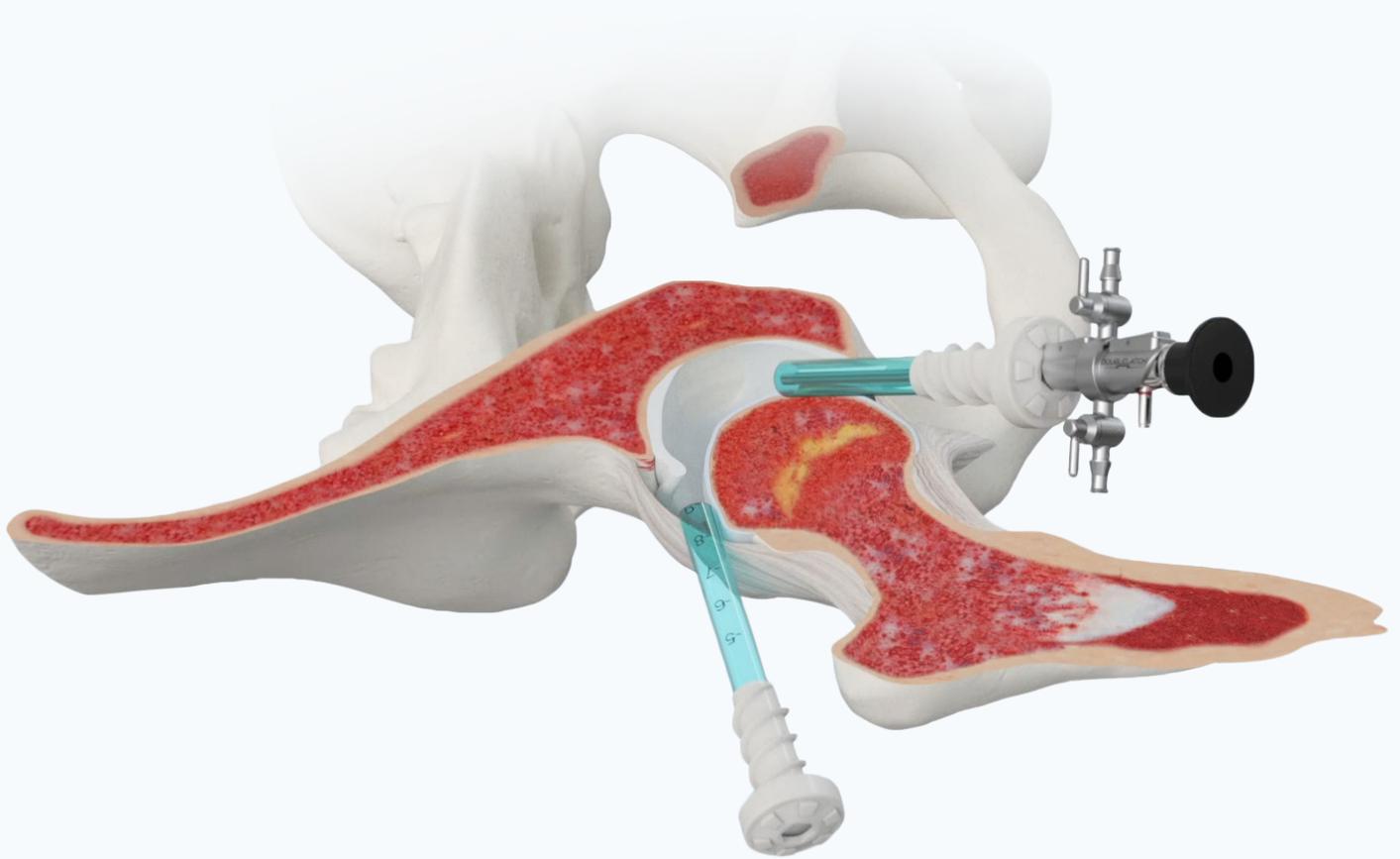
STEP 5: According to surgeon preference, utilize the CONMED dilator(s) until the portal is effectively dilated and ready for scope insertion.



STEP 6: Introduce the CONMED DoubleLatch® Bridge System and remove the switching stick. Visualization is achieved with insertion of the arthroscope.



STEP 7: For the second portal, insert the needle to pierce the capsule and enter joint space under direct visualization. Repeat steps two through six to establish subsequent portals.

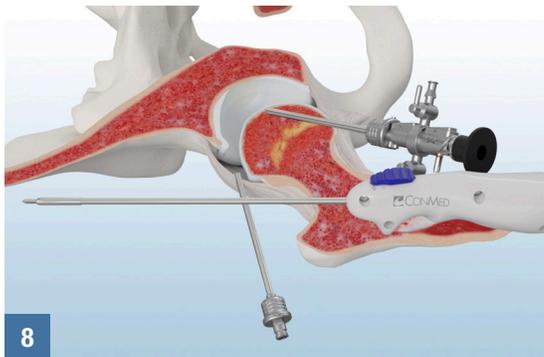


Use the Paradigm™ Tactile Access Kit and EZ Switch® System for easy access to the Hip Joint.

**CONMED
SURGICAL
TECHNIQUE**

CAPSULOTOMY

Once portal access is achieved, some form of capsulotomy is usually required to allow better visualization and maneuverability within the joint. There are different methods and techniques for opening the capsule. Some result in a larger capsulotomy for the widest maneuverability, while others aim for a minimal capsulotomy to preserve the structural integrity and reduce iatrogenic damage. Regardless of technique, it is important to note that proper capsular management is critical to the success of the procedure and the patient's recovery post op.



STEP 8: Insert the Paradigm™ Retractable Blade into the Anterolateral Portal, leaving the arthroscope in the Mid-Anterior Portal for visualization. The distal end of the handle on the Retractable Blade can screw into the metal cannula, providing additional control and column strength while cutting.

NOTE: Starting the capsulotomy in the ALP allows confirmation that the labrum is not being penetrated.

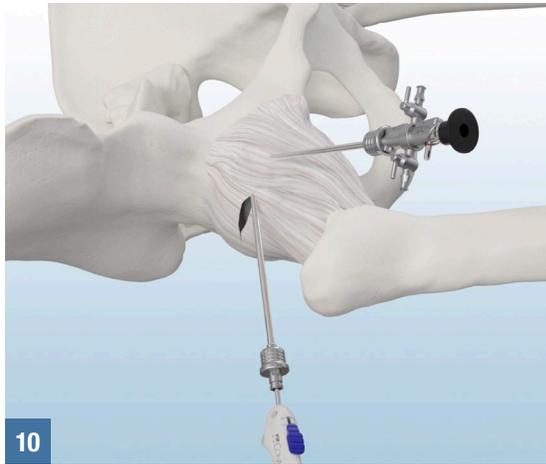


STEP 9: Once soft tissue is cleared, push forward on the retractable lever to expose the blade in the joint.

NOTE: The lever will click into place when the hood is fully extended or retracted, providing tactile confirmation.

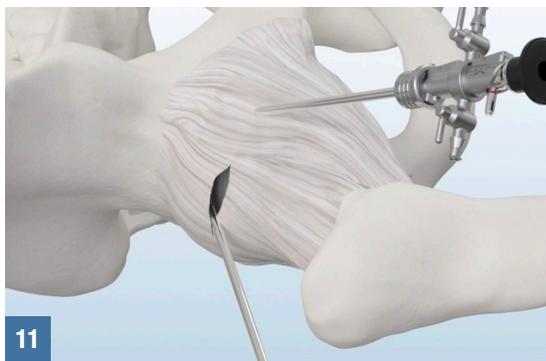
When the metal cannula is flush against the Retractable Blade, you may notice increased force required to advance or retract the hood.





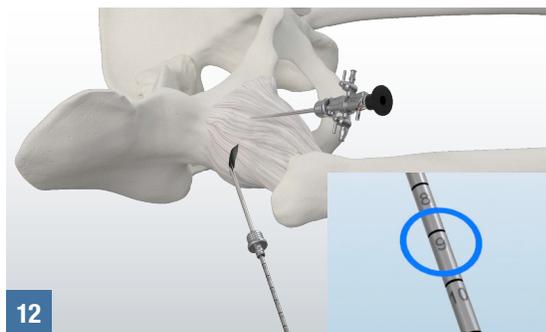
STEP 10: To start an interportal capsulotomy, create an incision from the anterolateral portal back towards the mid-anterior portal, leaving an appropriately sized cuff between the labrum and the capsulotomy to allow for later repair. The length of capsulotomy can be adjusted depending on access and maneuverability required within the central compartment.

NOTE: The incision can be extended as posteriorly as the piriformis tendon and as anteromedially as the psoas tendon. For a minimal capsulotomy technique, simply extend the initial portal by 2-3 mm in each direction. This will allow adequate visualization and maneuverability without the need for a formal interportal capsulotomy.



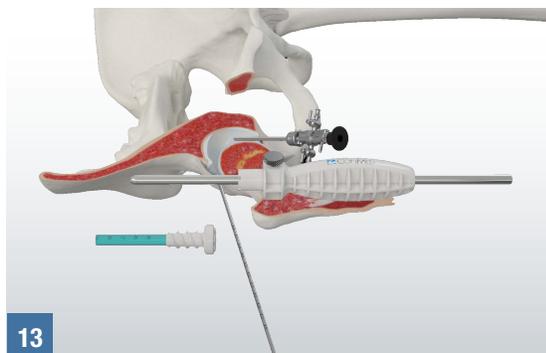
STEP 11: Pull the lever on the Retractable Blade back to completely cover the blade, and then remove it from the joint.

NOTE: Use coblation as necessary to ensure haemostasis before proceeding to the next step.



STEP 12: Insert the Reference Tool into the Anterolateral Portal portal through the DoubleLatch[®] cannula. Remove the DoubleLatch[®] cannula and use the Reference Tool to identify the ideal length of the EZ Switch[®]. Read the number closest to the skin portal. Leave the Reference Tool in the portal.

NOTE: The black laser line on the distal tip of the Reference Tool represents where the EZ Switch[®] will end once cut. By having the EZ Switch[®] end just on the inside of the capsule, it will help maintain a clear pathway into the joint space.

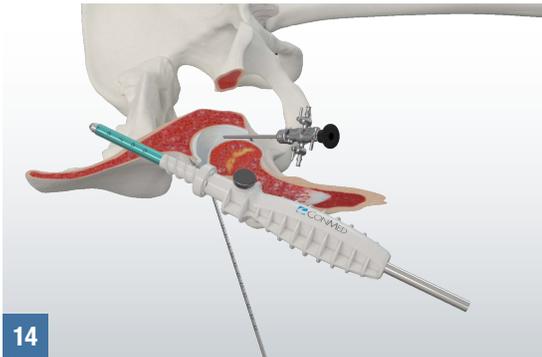


STEP 13: Cut the first EZ Switch[®] at the identified length. The numbered markings on the EZ Switch[®] match the numbered markings on the Reference Tool.

NOTE: To accommodate for possible tissue swelling throughout the duration of the procedure, it is recommended to cut between $\frac{1}{2}$ to 1 measurement longer than the measured length. If the EZ Switch[®] is too long, slightly unscrew the white threaded portion of the device.

**CONMED
SURGICAL
TECHNIQUE**

MAINTAINING ACCESS WITH THE PARADIGM™ EZ SWITCH®

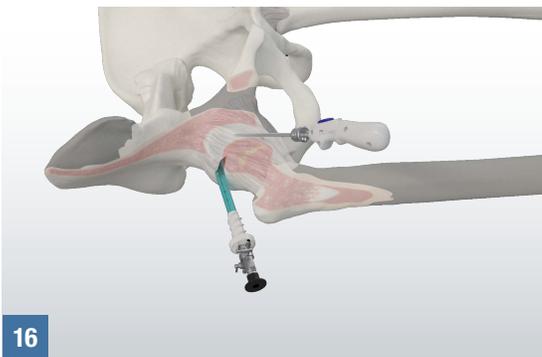


STEP 14: Load the EZ Switch® onto the obturator. Match the distal end of the EZ Switch® up with the laser line on the distal end of the obturator. Use the metal thumb screw on the white obturator handle to adjust the obturator length to match the length of the EZ Switch®. Match the crown cut of the EZ Switch® hub up to the crown cut end of the obturator.

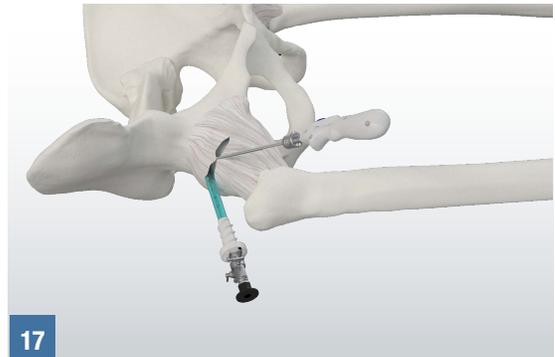
NOTE: For even easier insertion of the EZ Switch® onto the obturator, wet the obturator and EZ Switch® seals.



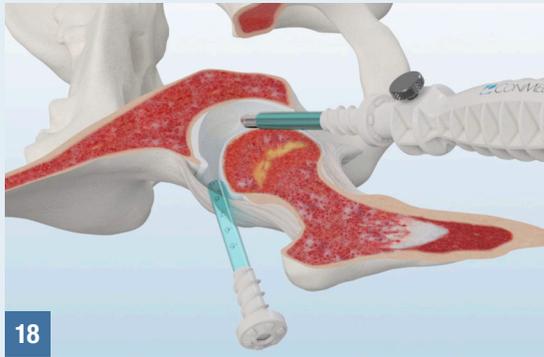
STEP 15: Insert the first EZ Switch® into the joint. The EZ Switch® obturator is cannulated to be inserted over the Reference Tool. Screw in the white threaded portion of the EZ Switch® to help facilitate a secure dermal fixation. Once the EZ Switch® is in place, remove the obturator and Reference Tool.



STEP 16: Switch portals so that the arthroscope is in the Anterolateral Portal and the Retractable Blade is in the Mid-Anterior Portal.



STEP 17: Push forward on the retractable lever to expose the blade in the joint. Continue the incision through the capsule until the desired length of capsulotomy is achieved, and then repeat step 11.



STEP 18: Repeat steps 12 through 15 to insert the second EZ Switch® Portal Saver into the next portal.

NOTE: Should you consider a T-Shaped Capsulotomy, then you may need to reposition your Anterolateral Portal. To do this, remove the EZ Switch® and reposition the reference tool and repeat steps 14 and 15.

TIPS & TRICKS

MANAGING FLUID WHILE USING EZ SWITCH®

The EZ Switch® was designed without an outflow port, to reduce overall working length resulting in ideal instrument management. If outflow is desired, a dual port scope sheath may be utilized. If field of view becomes disrupted during the arthroscopy, and a dual port scope sheath is unavailable, you may insert a sled or slotted cannula, or device with suction, into the EZ Switch® and allow fluid to escape until the field of view is clear.

UTILIZING EZ SWITCH® THROUGH VARYING CAPSULOTOMY TECHNIQUES

MINIMAL CAPSULOTOMY

Ensure you have enough working room within your capsulotomy for the EZ Switch®. Depending on the size of the capsulotomy, this may require adding 2-3 mm in length to provide adequate access through the capsule.

If the EZ Switch® portal saver backs out slightly during the arthroscopy, even if the threads are still engaged, be sure to reinsert the obturator before screwing the threads back in. This will prevent any kinking or twisting of the flexible body during reinsertion.

REINSERTING EZ SWITCH® DURING THE PROCEDURE

If at any point during the procedure you need to regain your portal or if fluid causes the EZ Switch® to back out slightly, insert the obturator back into the EZ Switch® portal saver and screw the threads back in for maximum grip, as outlined in steps 14 and 15.

T-SHAPED CAPSULOTOMY

If you are utilizing a T-Shaped Capsulotomy, then you may need to reposition your portals during the arthroscopy. To do this, remove the EZ Switch®, reposition the reference tool and follow the instructions for inserting the EZ Switch® as outlined in steps 14 and 15.

CONMED
SURGICAL
TECHNIQUE

ORDERING INFORMATION

To order any of our Paradigm™ Hip System products, please call CONMED Customer Service at: (US) 1-866-4CONMED

PARADIGM™ HIP SYSTEM

- Paradigm™ EZ Switch® System..... PEZS01A
- Paradigm™ Access Kit and
EZ Switch® SystemPEZS02A
- Paradigm™ Tactile Access Kit
and EZ Switch® System..... PEZS03A
- Paradigm™ EZ Switch®
Portal Saver PEZS04
- Paradigm™ Retractable Hook Blade PRBH
- Paradigm™ Retractable Straight Blade PRBS

For more information about our entire Paradigm™ Hip System or DoubleLatch® Bridge System, please visit <https://www.CONMED.com/en/products/orthopedics/hip/>



Hip Access Made EZ Featuring the Paradigm™ Hip System

CONMED Corporation
11311 Concept Blvd.
Largo, Florida 33773

Toll Free: 1-866-4CONMED
International: 727-214-3000
www.CONMED.com

**CONMED
SURGICAL
TECHNIQUE**

This material provides information regarding how to use CONMED medical devices and instruments in surgical procedures. It is not medical advice and each surgeon should use their own professional judgment before using to treat a particular patient. Surgeons should be trained in the use of such devices before surgery and should always refer to the product labeling including the Instructions for Use before using any medical device.