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SPEAKER NOTES
Filiep Bataille
WARWICK orthopaedics

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SPORTS INJURY CONFERENCES

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27TH & 28TH JUNE 2016

THE NATIONAL FOOTBALL CENTRE, ST GEORGE'S PARK

www.sports-surgery.org

COURSE CONVENOR



PROFESSOR DAMIAN GRIFFIN

PROFESSOR OF TRAUMA & ORTHOPAEDIC SURGERY

UNIVERSITY OF WARWICK

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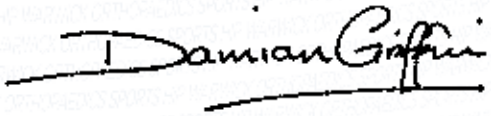
Dear Colleague,

The Sports Hip Conference will run again in 2018 as part of our portfolio of Sports Injury conferences. Some of you may have already attended the Sports Foot & Ankle, Sports Shoulder and and Sports Knee conferences. The dates for the next events will shortly be published on our website
www.sports-surgery.org

The key feature of these Sports Injury conferences is that we explore the latest ideas and most difficult problems in a relatively small group, guided by an expert international faculty.

Please do let us know if you have any thoughts about the meeting or any suggestions as to how we might develop it in the future.

With very best wishes.



PROFESSOR DAMIAN GRIFFIN
PROFESSOR OF TRAUMA & ORTHOPAEDIC SURGERY
UNIVERSITY OF WARWICK

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Filiep Bataille



Filiep Bataillie has worked in the Department of Orthopedics at AZ Herentals for twenty-three years.

He specialises in treating hip and back injuries resulting from sports to everyday wear and tear. He sees more than a hundred patients at consultations every week and, when in theatre, carries out a dozen surgical procedure per day.

AZ Herentals service has earned an international reputation for excellence among cyclists and motorcycle riders. Even Prime Minister Peeters dropped by to see Filiep after an accidental fall.

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Session 2

DEEP GLUTEAL AND PERITROCHANTERIC SPACES

Proximal hamstring repairs

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Proximal hamstring repairs

27 June 2016

I have financial relationship with the following company:

Consultant for Arthrex

Proximal Hamstring Repair

- ✓ Function
- ✓ Anatomy
- ✓ Proximal hamstring pathology
- ✓ Treatment

Function

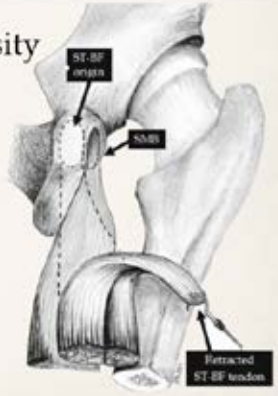
- ✓ Not important for walking or standing
- ✓ Extremely important for power activities
  - ✓ Running
  - ✓ Jumping
  - ✓ Climbing

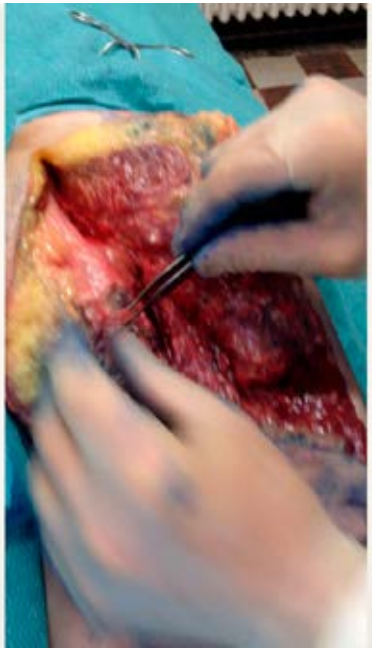


Anatomy

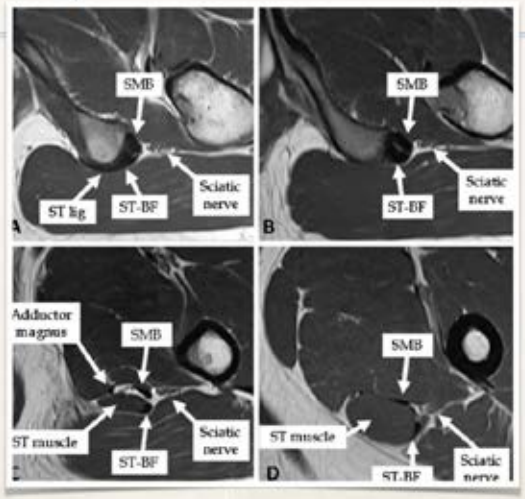
- ✓ Oblique ridge on the ischial tuberosity
- ✓ Upper/lateral: Semimembranosus
- ✓ Lower/medial: Conjoined tendon







Anatomy



Anatomy

JBJS The Journal of Bone & Joint Surgery

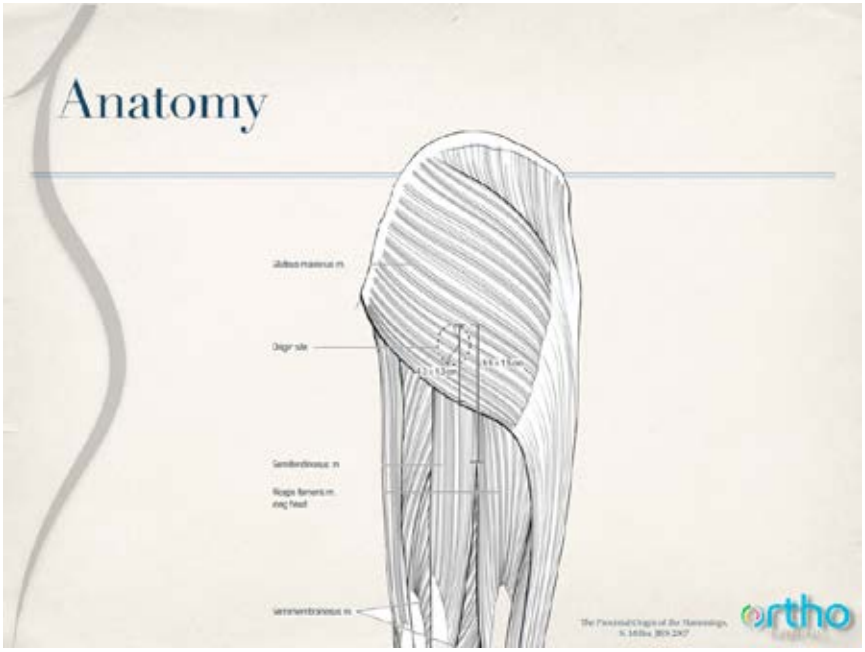
The Proximal Origin of the Hamstrings and Surrounding Anatomy Encountered During Repair

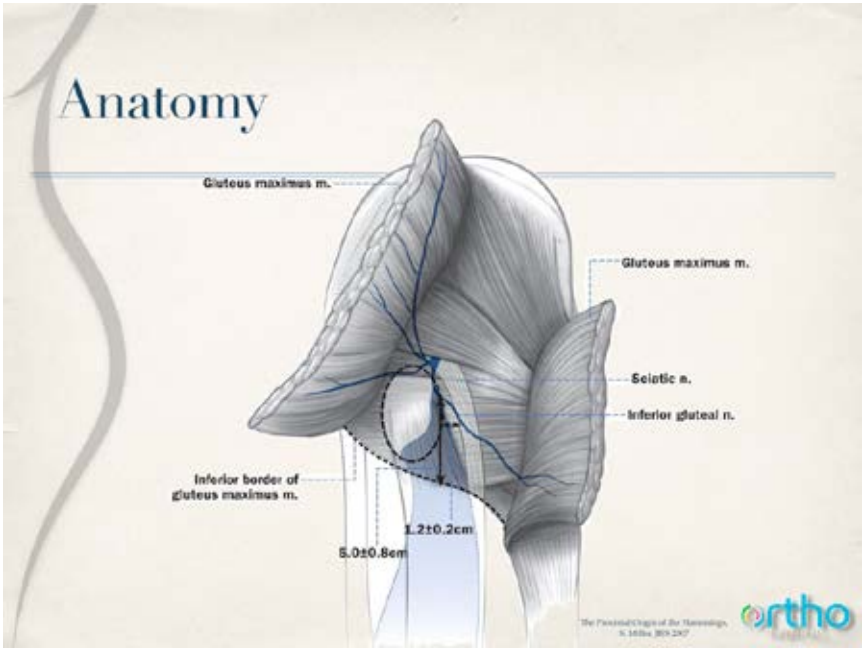
Surgical Technique

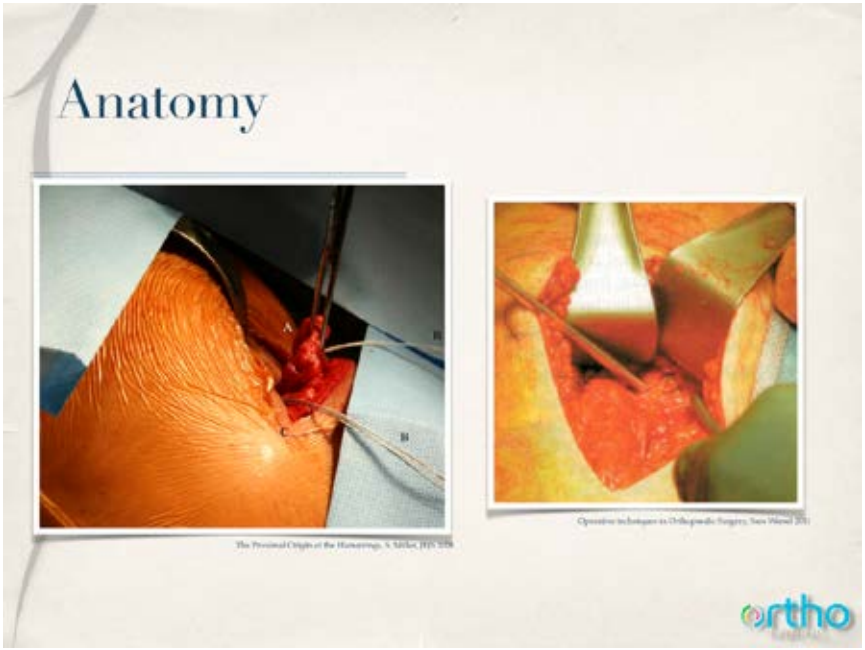
Suzanne L. Miller, MD; Gavin R. Webb, MD

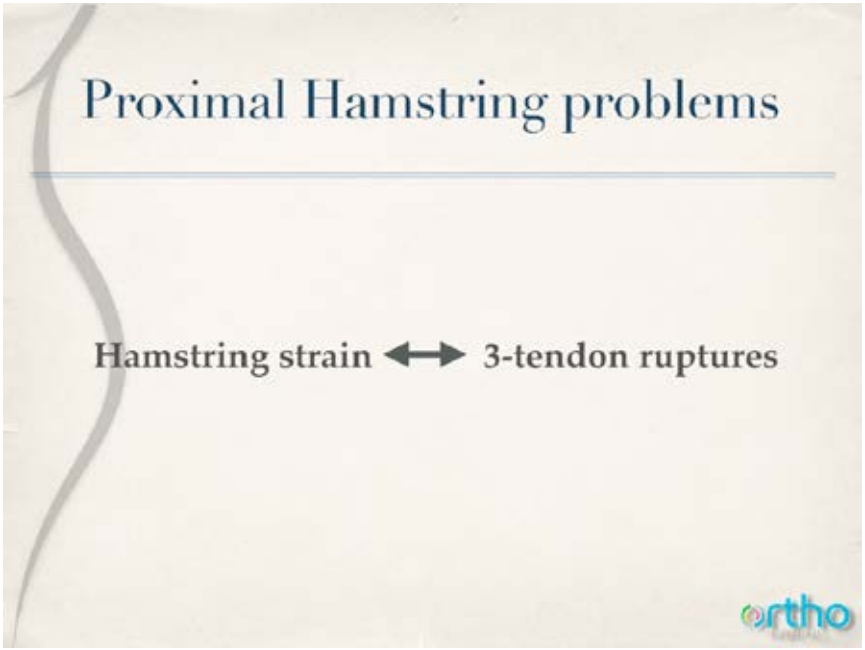
J Bone Joint Surg Am. 2008 Mar; 90 (Supplement 2 Part 1): 108 -116 . http://dx.doi.org/10.2106/JBJS.G.01281

- ✓ **Semitendinosus** and biceps femoris have a common tendon, **semimembranosus** originates just laterally.
- ✓ Proximal origin has intimate relationships with the **inferior gluteal nerve** and **artery** and the **sciatic nerve**, which may be at risk during surgical dissection and retraction.


Anatomy


Anatomy
Gluteus maximus m.
Gluteus maximus m.
Sciatic n.
Inferior gluteal n.
Inferior border of gluteus maximus m.
1.2±0.2cm
5.0±0.8cm


Anatomy


Proximal Hamstring problems
Hamstring strain ⟷ 3-tendon ruptures

HAMSTRING TENDINOPATHY

- Histology same tendinosis as other weight bearing tendons
- Tendinopathy: histopathological
  - Degeneration
  - Ischemic changes
  - Failed healing response

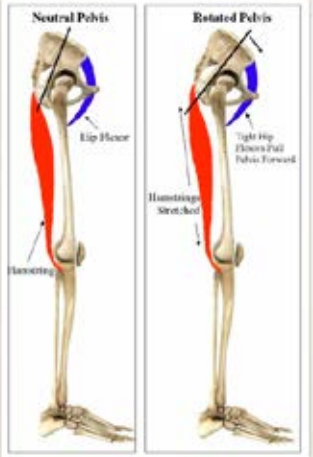


Hamstring Tendinopathy

- Fibrosis can irritate the sciatic nerve
- Gluteal pain, during sports, stretching, prolonged sitting
- Risk factors
  - Men
  - Running, Soccer, Hurdles



Hamstring Tendinopathy



- Risk factors
  - Improper warm-up
  - History of hamstring injury < 8wks
  - Increased pelvic tilt

Hamstring Tendinopathy

- Symptoms
  - Gluteal pain
  - Posterior thigh
  - Sprinting
  - Sitting

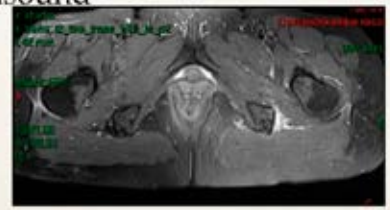
Hamstring Tendinopathy

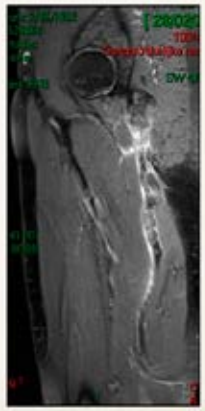
- Clinical
  - Palpable tenderness ischium
  - Knee flexion against resistance
  - Stretching
  - No neurologic signs



Hamstring Tendinopathy

- Imaging
  - MRI
  - Ultrasound





Hamstring Tendinopathy

- Increased tendon size
- Peritendinous T2 signal
- Ischial edema

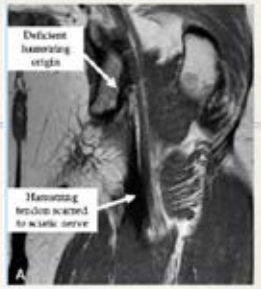
MRI appearance of the Proximal Hamstring Tendons in patients with and without Symptomatic Proximal Hamstring Tendinopathy
De Smet et al.
AJR, 2012





Imaging

- Injuries > 3 mo
  - no surrounding fluid collection
  - difficult to identify tendon edges
  - muscle atrophy
  - perineural scarring



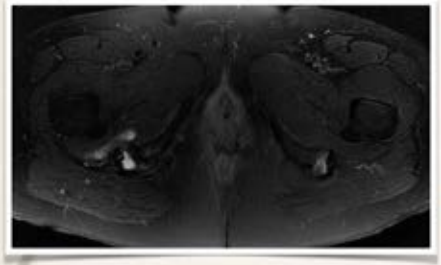


Ischial Bursitis

Carlos Guanche

- Secondary to partial ruptures of the hamstring origin
- Buttock pain
- Localised tenderness
- Tingling into buttock
- Symptoms worsen while sitting

Ischial Bursitis





3 tendon ruptures

- Swelling, bruising or discoloration
- Hamstring weakness
- Inability to walk painfree
- Palpable gap
- Prominence of retracted muscles





Conservative Treatment

- What is the best?
  - Rest, Ice, NSAID,
  - Soft tissue mobilization,
  - Eccentric strenghtening, core stabilisation
  - Stretching??
  - Ultrasound
  - Shockwave
  - Corticoid infiltration
  - PRP

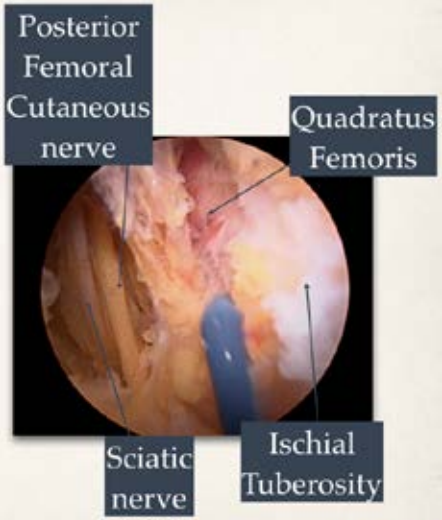
Open Surgery

- Open surgery in the deep gluteal area is limited by the **retraction of the Gluteus Maximus**
- Danger to harm
  - Inferior Gluteal nerve
  - Sciatic nerve
  - Posterior Femoral Cutaneous nerve



Deep Gluteal Area

- Endoscopic surgery
  - Better visualization than open surgery
  - Easy access to the Sciatic nerve and the proximal part of the hamstrings



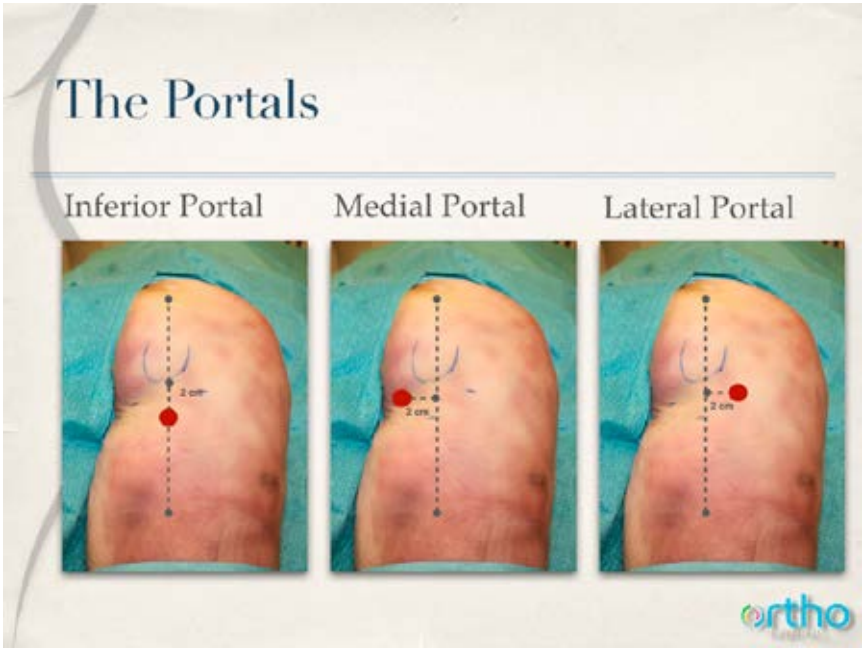
Portal placement

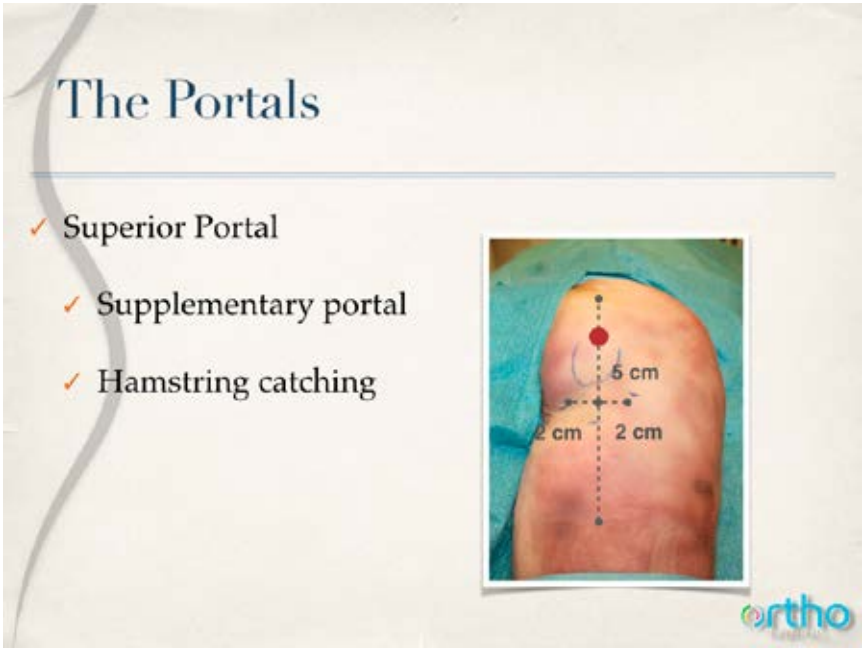
- A cadaver study in the Arthrex Lab in Munich, Germany
- Define the most optimal and safe portal placement








The Portals
Inferior Portal
Medial Portal
Lateral Portal
ortho


The Portals
Superior Portal
Supplementary portal
Hamstring catching
5 cm
2 cm
2 cm
ortho


5 cm
2 cm
2 cm
ortho

The Portals

- The **lateral portal** is posterior to the Sciatic and Posterior Femoral Cutaneous nerve.
- The **inferior** and **medial portals** are safe with a minimum distance of more than 5 cm to any of the nerves.

The Portals

- Distance of the **lateral portal** to the nerves is highly dependent on the operative movements
- Endoscopic control is possible and mandatory.
- Sciatic nerve release can be safely done to 6 cm distal from the inferior border of the ischial tuberosity

The Portals

- Start with the **inferior portal** or the *scope portal*
- Touch the Ischial Tuberosity with the obturator
- Make some space by limited blunt dissection
- Many skin adhesions

Positioning

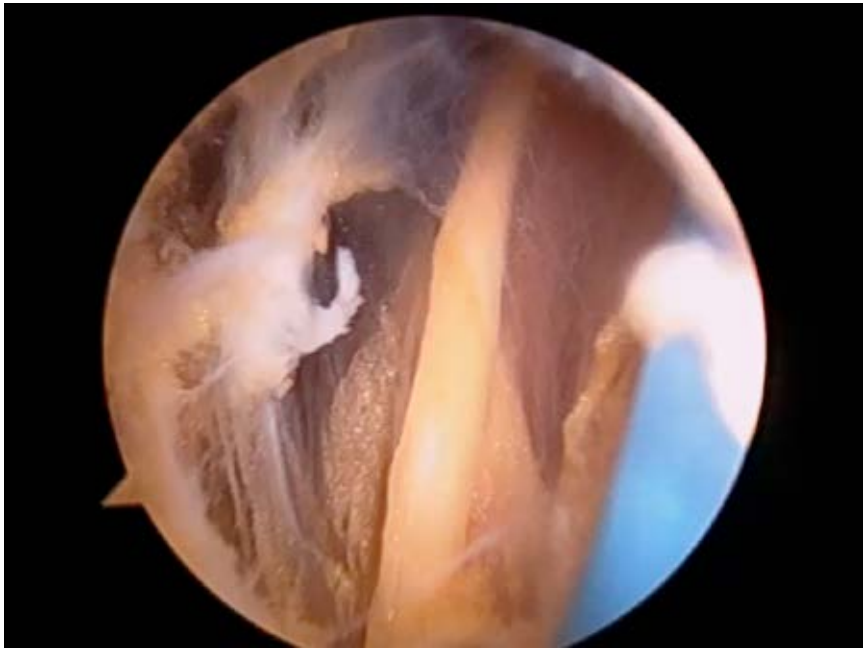
- Prone
- Leg free draped and 10° flexion

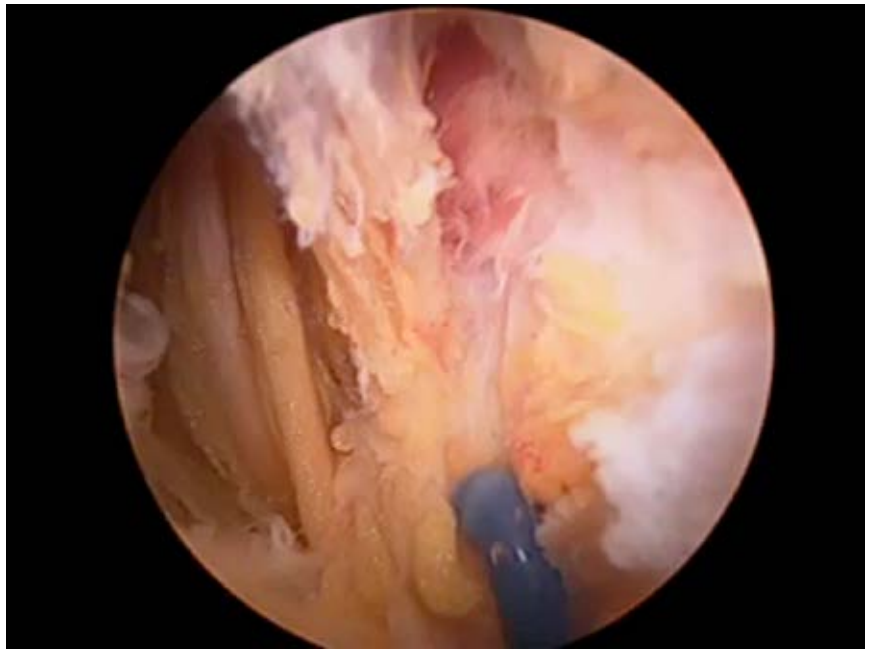


Positioning

- ✓ Landmarks
  - ✓ Tuber Ischiadicum
  - ✓ Inferior border Gluteus Maximus







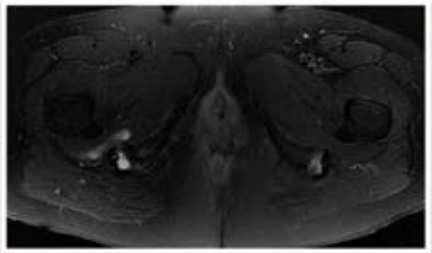
Case

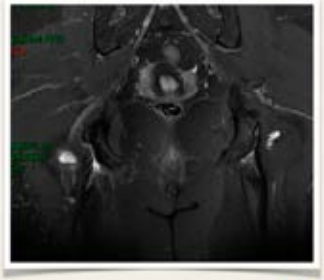
- ✓ Female, 55,
- ✓ No accident
- ✓ Pain, while sitting, since more than 1 year both tuber
- ✓ Right > Left

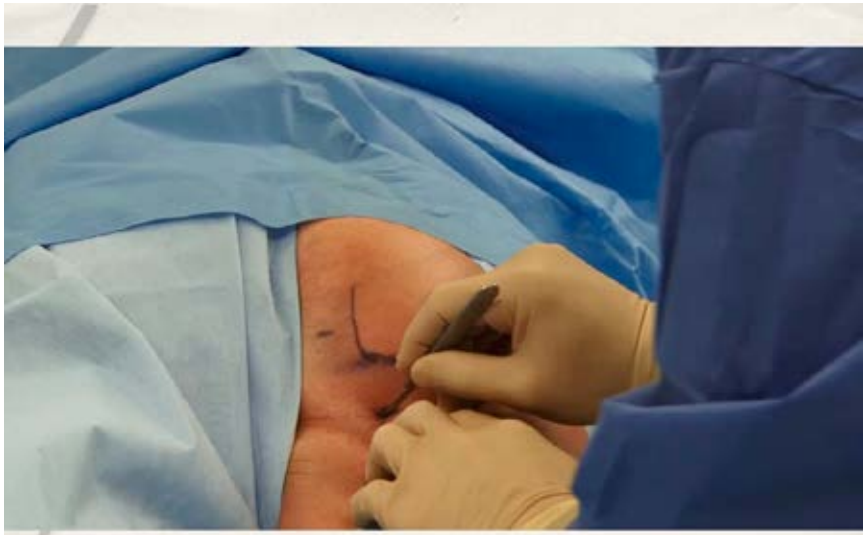


Case

- Female, 55,
- No accident
- Pain, while sitting, since more than 1 year both tuber
- Right > Left







Hamstring suturing

- Skin nerves are still in danger, as in open surgery
- Prepare the footprint
- Multiple anchors



Advantages

- Very nice view without difficulty elevating Glut. Max.
- Less danger for Inferior Gluteal Nerve
- Sciatic Nerve and Posterior femoral cutaneous nerve always under control

Conclusions:

- ✓ The gluteal area is a safe zone for endoscopic surgery with a good knowledge of the anatomy of the nerves
- ✓ The sequence of the portals is important, starting inferior, followed by medial or lateral
- ✓ Direction of all instruments has to be to the Ischial Tuberosity. Under Endoscopic control the direction can be changed

Conclusions:

- ✓ Endoscopic surgery for sciatic nerve release
- ✓ Endoscopic surgery for partial hamstring tears
- ✓ Complete ruptures in my hands better with open surgery



Thank You