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CLINIQUE  
UNIVERSITAIRE  
DU SPORT

CENTRE HOSPITALIER UNIVERSITAIRE DE TOULOUSE

# GROIN PAIN

## CONCEPTS & CLASSIFICATIONS

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# What causes pain?

Adductors

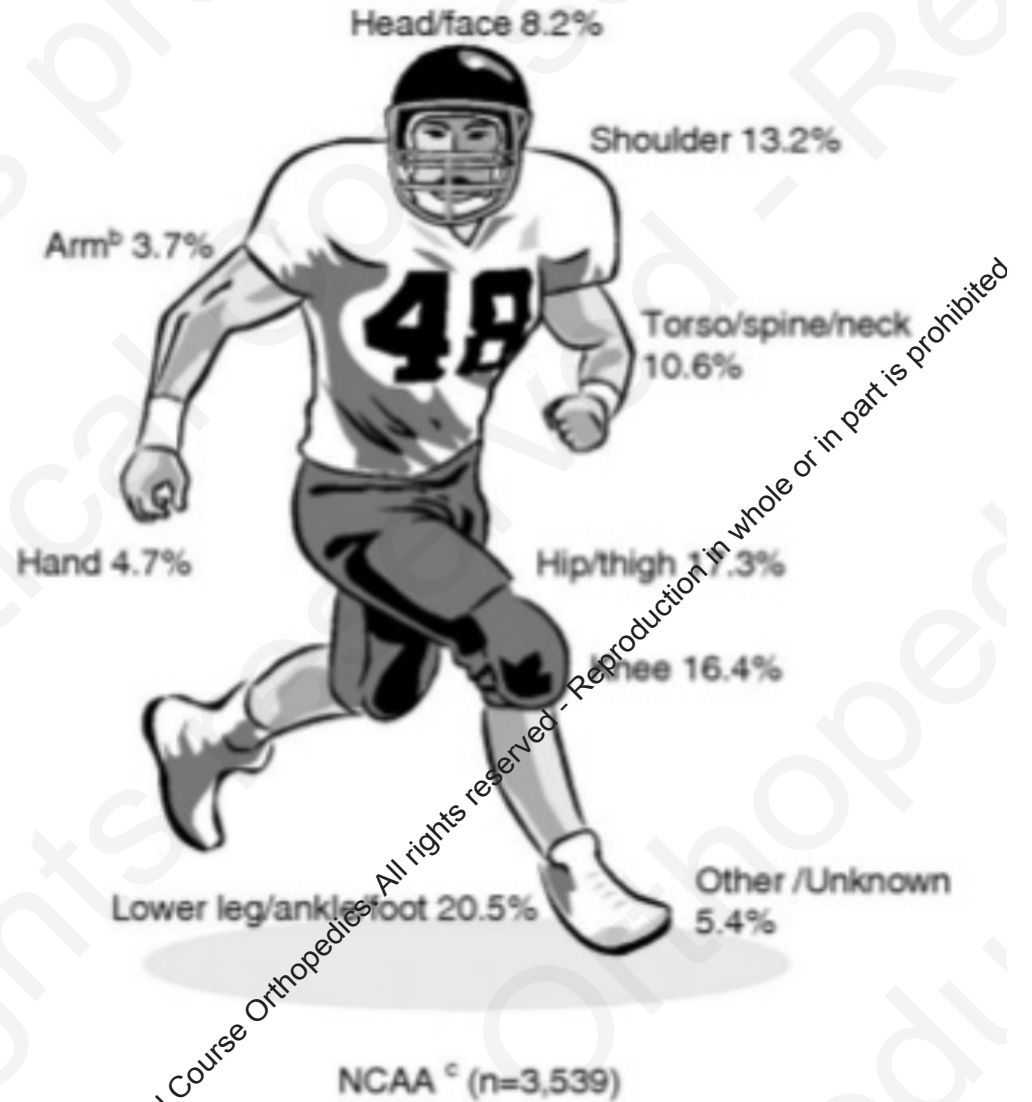
Ilio-psoas

Ischios

Inguinal Canal

Pubis

CAFA



Shankar et al. Am J Sports Med. 2007

# A concept : Many words for many situations

Journal of Hip Preservation Surgery Vol. 3, No. 1, pp. 16–22  
doi: 10.1093/jhps/hnv083  
Advance Access Publication 31 March 2015  
Mini Symposium



## MINI SYMPOSIUM

### Sportsman's hernia? An ambiguous term

Alexandra Dimitrakopoulou<sup>1,\*</sup> and Ernest Schilders<sup>1,2</sup>

1. The London Hip Arthroscopy Centre, The Wellington Hospital, St Johns Wood, London, NW8 9LE, UK and
2. Fortius Clinic, 17 Fitzhardinge Street, London W1H 6EQ, UK

Cochrane Database of Systematic Reviews

### Should ice technique versus other open techniques for inguinal hernia repair

Bruno Amato , Lorenzo Moja, Salvatore Panico, Giovanni Persico, Corrado Rispoli, Nicola Rocco, Ivan Moschetti



### Doha agreement meeting on terminology and definitions in groin pain in athletes

Adam Weir, Peter Brukner, Eamonn Delahunt, Jan Ekstrand, Damian Griffin, Karim M Khan, Greg Lovell, William C Meyers, Ulrike Muschaweck, John Orchard, Hannu Paajanen, Marc Philippon, Gilles Reboul, Philip Robinson, Anthony G Schache, Ernest Schilders, Andreas Serner, Holly Silvers, Kristian Thorborg, Timothy Tyler, Geoffrey Verrall, Robert-Jan de Vos, Zarko Vuckovic and Per Hölmich

Br J Sports Med 2015 49: 768-774

Sportsman's hernia

Sports hernia

Inguinal hernia

Incipient hernia

Cryptic

Hernia

Gilmore's groin

Hockey player's syndrome

Groin pull

Sports groin

Chronic symphysis syndrome

Athletic

Pubalgia

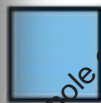
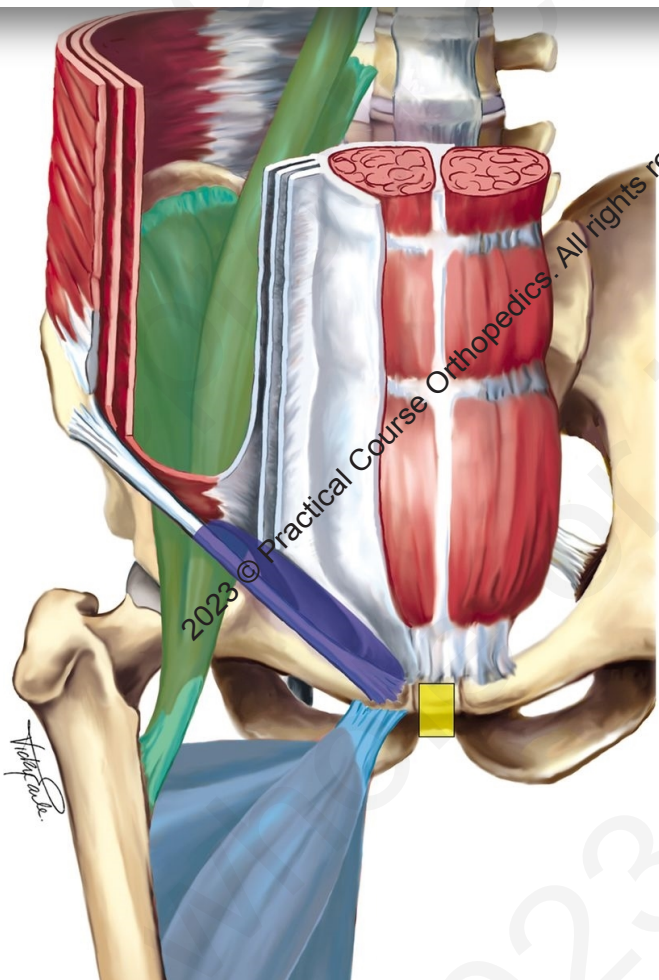
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## Doha agreement meeting on terminology and definitions in groin pain in athletes

Adam Weir,<sup>1</sup> Peter Brukner,<sup>2</sup> Eamonn Delahunt,<sup>3,4</sup> Jan Ekstrand,<sup>5</sup> Damian Griffin,<sup>6</sup> Karim M Khan,<sup>1,7</sup> Greg Lovell,<sup>8</sup> William C Meyers,<sup>9</sup> Ulrike Muschawek,<sup>10</sup> John Orchard,<sup>11</sup> Hannu Pajanen,<sup>12</sup> Marc Philippo,<sup>13,14,15</sup> Gilles Reboul,<sup>1,16</sup> Philip Robinson,<sup>17</sup> Anthony G Schache,<sup>18</sup> Ernest Schilders,<sup>19</sup> Andreas Serner,<sup>21</sup> Holly Silvers,<sup>20</sup> Kristian Thorborg,<sup>21</sup> Timothy Tyler,<sup>22</sup> Geoffrey Verrall,<sup>23</sup> Robert-Jan de Vos,<sup>24</sup> Zarko Vuckovic,<sup>1</sup> Per Hölmich<sup>1,21</sup>



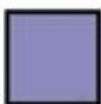
Adductor-related groin pain

Adductor tenderness AND pain on resisted adduction testing



Iliopsoas-related groin pain

Iliopsoas tenderness AND/OR pain on hip flexor stretching



Inguinal-related groin pain

Pain in inguinal canal region AND tenderness ± aggravated w/ abdominal resistance OR Vasalva



Pubic-related groin pain

Local tenderness pubic symphysis + bone



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## Doha agreement meeting on terminology and definitions in groin pain in athletes

Adam Weir,<sup>1</sup> Peter Brukner,<sup>2</sup> Eamonn Delahunt,<sup>3,4</sup> Jan Ekstrand,<sup>5</sup> Damian Griffin,<sup>6</sup> Karim Khan,<sup>1,7</sup> Greg Lovell,<sup>8</sup> William C Meyers,<sup>9</sup> Ulrike Muschaweck,<sup>10</sup> John Orchard,<sup>11</sup> Hannu Paajanen,<sup>12</sup> Marc Philippon,<sup>13,14,15</sup> Gilles Rebol,<sup>1,16</sup> Philip Robinson,<sup>17</sup> Anthony G Schache,<sup>18</sup> Ernest Schilders,<sup>19</sup> Andreas Sermer,<sup>21</sup> Holly Silvers,<sup>20</sup> Kristian Thorborg,<sup>21</sup> Timothy Tyler,<sup>22</sup> Geoffrey Verrall,<sup>23</sup> Robert-Jan de Vos,<sup>24</sup> Zarko Vuckovic,<sup>1</sup> Per Hölmich<sup>1,21</sup>

### Entities defined during the meeting

Adductor-related groin pain  
Iliopsoas-related groin pain  
Inguinal-related groin pain  
Pubic-related groin pain  
Hip-related groin pain

### Other musculoskeletal causes

Inguinal or femoral hernia  
Posthernioplasty pain  
Nerve entrapment  
▶ Obturator  
▶ Ilioinguinal  
▶ Genitofemoral  
▶ Iliohypogastric  
Referred pain  
▶ Lumbar spine  
▶ Sacroiliac joint  
Apophysitis or avulsion fracture  
▶ Anterior superior iliac spine  
▶ Anterior inferior iliac spine  
▶ Pubic bone

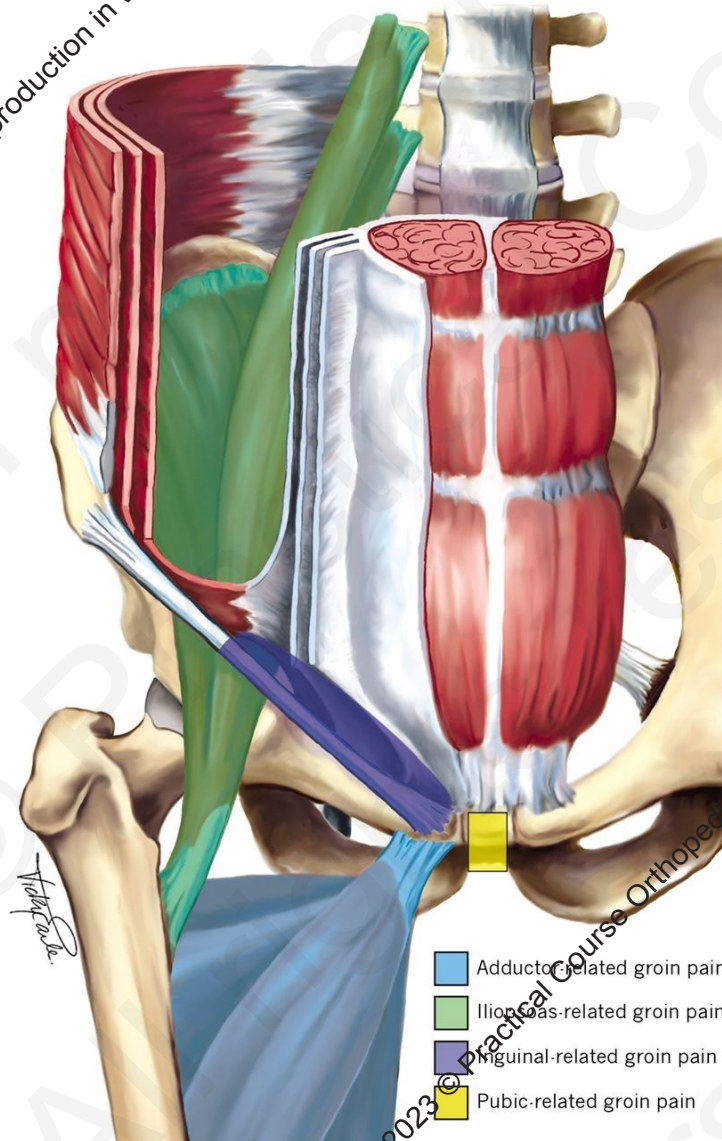
### Not to be missed

Stress fracture  
▶ Neck of femur  
▶ Pubic ramus  
▶ Acetabulum  
Hip joint  
▶ Slipped capital femoral epiphysis (adolescents)  
▶ Perthes' disease (children and adolescents)  
▶ Avascular necrosis/transient osteoporosis of the head of the femur  
▶ Arthritis of the hip joint (reactive or infectious)  
Inguinal lymphadenopathy  
Intra-abdominal abnormality  
▶ Prostatitis  
▶ Urinary tract infections  
▶ Kidney stone  
▶ Appendicitis  
▶ Diverticulitis  
Gynaecological conditions  
Spondyloarthropathies  
▶ Ankylosing spondylitis  
Tumours  
▶ Testicular tumours  
▶ Bone tumours  
▶ Prostate cancer  
▶ Urinary tract cancer  
▶ Digestive tract cancer  
▶ Soft tissue tumours

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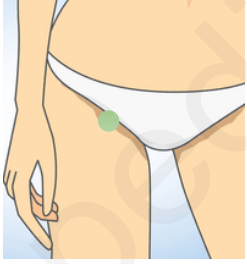
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# Go back to Clinics



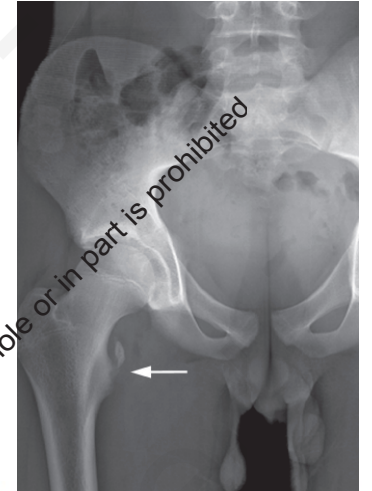
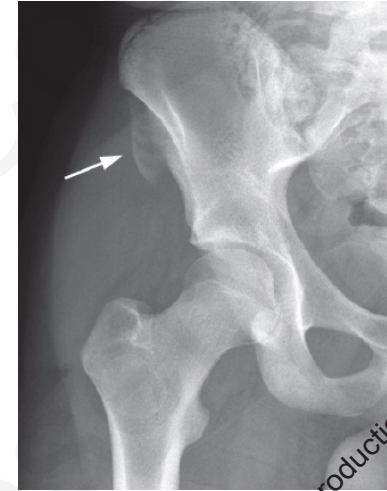
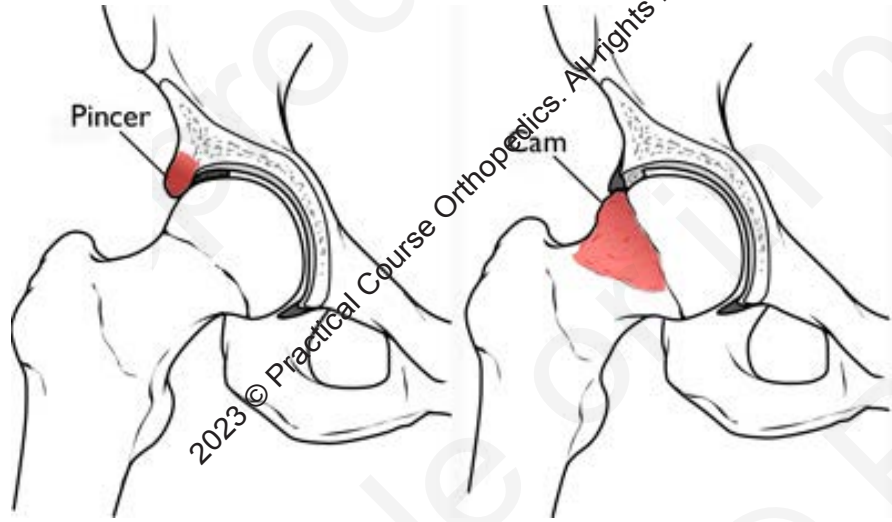
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# FAI & Bone impingements

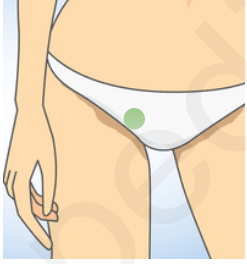
FADIR Pain



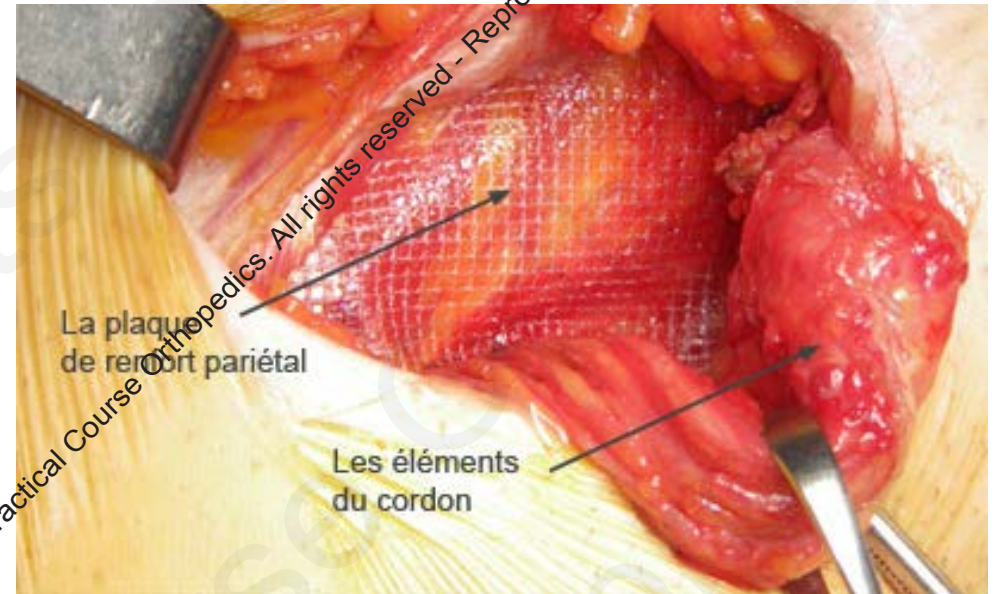
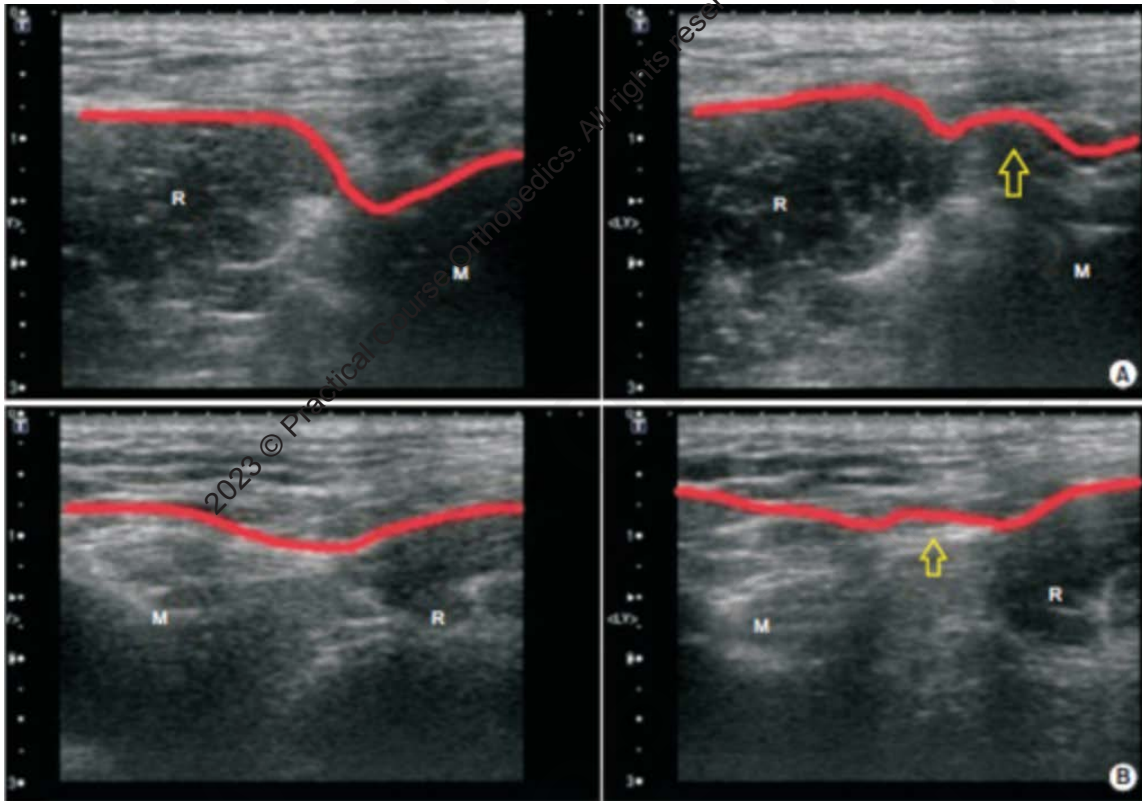
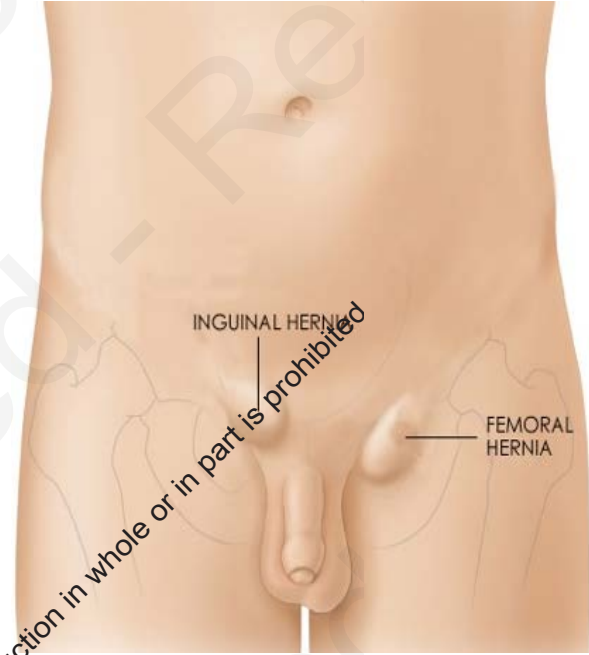
**Anterior inferior iliac spine avulsion fracture: a case report in soccer playing adolescent twins**

Nicolas Reina, Frank Accadbled and Jérôme Sales de Gauzy

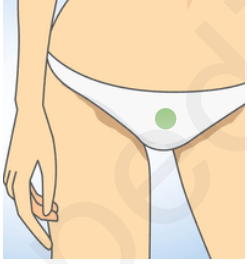




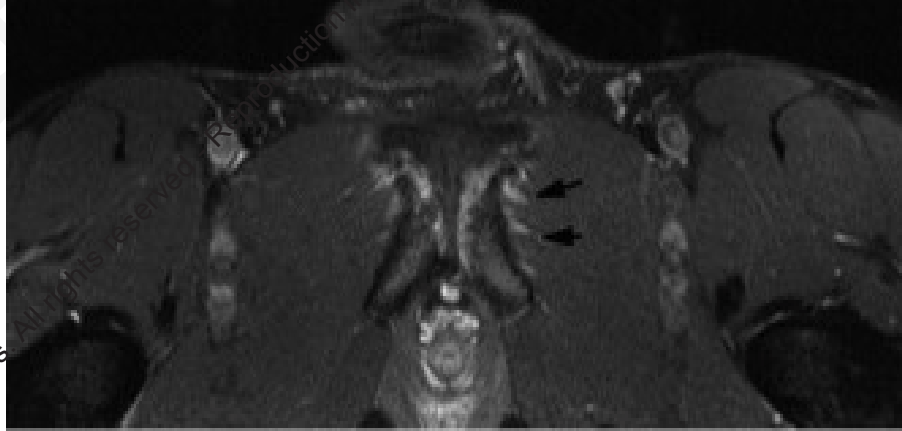
# Hernia – Inguinal Disruption



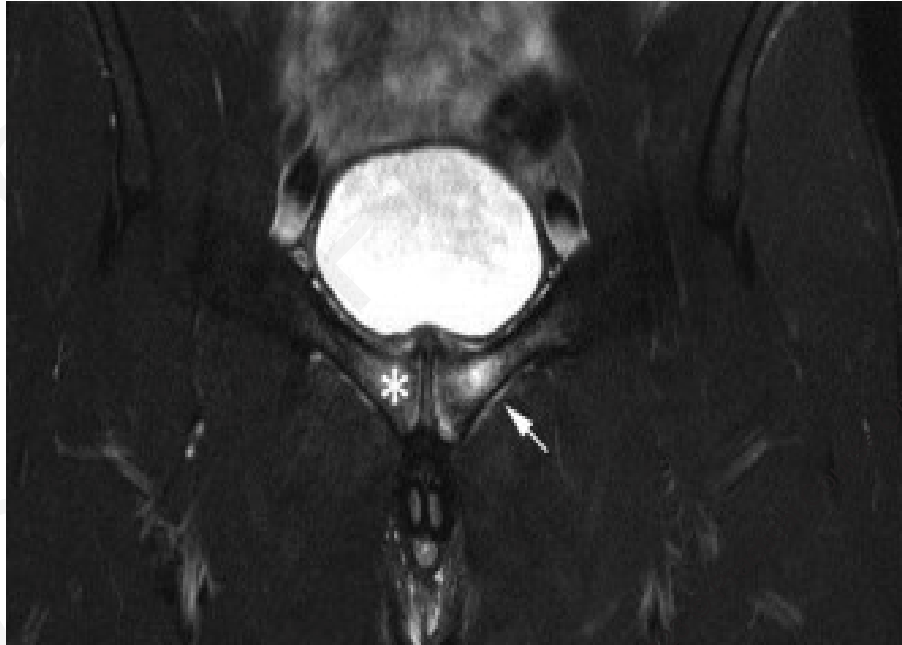




# Pubic Pain / Symphysis



Pubic rami



Local tenderness of the symphysis

No particular resistance tests

Pain > 3 months

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# Clinics

## The Pattern and Technique in the Clinical Evaluation of the Adult Hip: The Common Physical Examination Tests of Hip Specialists

Hal D. Martin, D.O., Bryan T. Kelly, M.D., Michael Letour, M.D., Marc J. Philippon, M.D., John C. Clohisy, M.D., RobRoy L. Martin, Ph.D., F.T., C.S.C.S., Jon K. Sekiya, M.D., Ricardo Pietrobon, M.D., Ph.D., Nicholas G. McQuinn, M.D., Thomas G. Sampson, M.D., and Marc R. Sofran, M.D.

Impractical

TABLE 4. Comprehensive Physical Examination of Hip

<b>Physical examination</b>
Height (cm)
Weight (kg)
Temperature (°F)
Respiration
Pulse (bpm)
Blood pressure (mm/Hg)
<b>Gait/posture</b>
<b>Gait</b>
Normal
Antalgic
Abductor deficient (Trendelenburg)
Pelvic wink
Arm swing
Short stride length
Short stance phase
Foot progression angle
External
Neutral
Hyperpronation
<b>Single-leg stance phase test (Trendelenburg test)</b>
Right
Left
Shoulder height (equal/not equal) (cm)
Iliac crest height (equal/not equal) (cm)
Active forward bend (°)
<b>Spine</b>
Straight
Scoliosis (structural/nonstructural)
<b>Laxity</b>
Thumb
Elbows
Knees
>5°
Lordosis
Normal
Increased
Paravertebral muscle spasms
<b>Seated examination</b>
Neurologic findings
Motor
Sensory
DTR
Achilles
Patella
Circulation
Dorsalis Pedis
Posterior Tibialis
Skin inspection
Lymphatic
Lymphedema
No lymphedema
Pitting edema (1+/2+)
Straight leg raise
R
L
<b>ROM</b>
<b>Internal rotation</b>
R
L

TABLE 4. Continued

<b>External rotation</b>
R
L
<b>Supine examination</b>
Leg lengths (cm)
R
L
Equal/not equal
<b>ROM</b>
Right leg
<b>Flexion</b> (80/100/110/120/130/140)
Abduction (10/20/30/45/50)
Adduction (0/10/20/30)
Left leg
<b>Flexion</b> (80/100/110/120/130/140)
Abduction (10/20/30/45/50)
Adduction (0/10/20/30)
<b>Hip flexion contracture test</b>
R (+/-)
L (+/-)
<b>FADDIR</b>
R (+/-)
L (+/-)
<b>DIRI</b>
R (+/-)
L (+/-)
<b>DEXRIT</b>
R (+/-)
L (+/-)
Posterior rim impingement test
R (+/-)
L (+/-)
Apprehension sign
R (+/-)
L (+/-)
<b>Palpation</b>
R (+/-)
L (+/-)
Tinel's Test—femoral nerve
R (+/-)
L (+/-)
<b>FABER</b>
R (+/-)
L (+/-)
<b>Straight leg raise against resistance</b>
R (+/-)
L (+/-)
<b>Passive supine rotation test</b>
R (+/-)
L (+/-)
<b>Strength</b>
R (+/-)
L (+/-)
Heel strike
R (+/-)
L (+/-)
<b>Lateral examination</b>
<b>Palpation</b>
SI joint (tender/nontender)
Ischium (tender/nontender)

TABLE 4. Continued

Greater trochanter (tender/nontender)
ASIS (tender/nontender)
Piriformis (tender/nontender)
Tinel's Test—sciatic nerve
G. Max insertion into ITB (tender/nontender)
Sciatic nerve (tender/nontender)
Gluteus medius (tender/nontender)
Abductor strength
Straight leg
Gluteus maximus
Gluteus medius
<b>Tensor fascia lata contracture test</b>
Grade (1-3)
<b>Gluteus medius contracture test</b>
Grade (1-3)
<b>Gluteus maximus contracture test</b>
Grade (1-3)
Lateral rim impingement test
R (+/-)
L (+/-)
<b>FADDIR test</b>
R (+/-)
L (+/-)
<b>Prone examination</b>
Rectus contracture test (Ely's test)
R (+/-)
L (+/-)
<b>Femoral anteversion test (° anteversion)</b>
Palpation
Spinous processes (+/-)
SI joints
R (+/-)
L (+/-)
Bursae ischium
<b>Specific tests</b>
Philippon internal rotation test
McCarthy's sign
Scours test
Foveal distraction test
Bicycle test
Fulcrum test
Freiberg's test
Pace sign
ABDEER test
Dynamic Trendelenburg test
Supine abduction external rotation test

NOTE. The tests most frequently used by the 6 hip specialists are indicated in bold.

Abbreviations: DTR, deep tendon reflex of patella and Achilles tendons; ABDEER, abduction/extension/external rotation test; SI, sacroiliac joint; ASIS, anterior superior iliac spine; G. Max, gluteus maximus; ITB, iliotibial band.

# Take-Home Messages

Frequent in sportsmen

Diagnosis sometimes uneasy

Clinics is key

If pain lasts despite specific physio

XR Frog leg / Dunn

MRI / Arthro CT Scan

US

