

Hip & Groin Study Day

Leyton Orient Football Club, London

May 12th 2006

Jane's notes on the day.

1) Motor Control Impairment of the Hip

Ian Cowell (physio)

To get us started, Ian used a case study.

He showed us slides and a video of a female client with multifactorial left-sided groin pain, common in footballers and runners. The client reported pain on running, deep squatting and standing for any length of time. In addition to her groin pain the client had left knee pain and left low back pain.

Findings

On examination there was atrophy of the left quads, decreased gluteal definition on the left, decreased strength in posterior fibers of left gluteus medius, decreased strength in left gluteus maximus, atrophy of multifidus on the right.

She also had a sway back posture with a posteriorly tilted pelvis and stood with hips in extension (stressing the anterior capsule of the hip) and knees hyperextended, with the left knee > right, contributing to anterior knee pain on the left due to fat pad impingement.

There was tonic activation of rectus abdominus and the external oblique together resulting in increased upper abdominal tone but decreased lower abdominal tone, which Ian said would make it difficult for her to properly control diaphragmatic breathing.

There was a shortened TFL and ITB on the left.

Left PSIS and iliac crest were superior to right side.

There were active trigger points in QL and adductors.

Ian showed us his client resting on her side whilst he abducted her left hip/thigh past the horizontal. There was increased tone in left hip ADDuctors leading to a decrease in active hip abduction. In other words, the client's abductors were so weak they could not keep her leg abducted.

In supine, with straight leg, the client was unable to maintain hip flexion + lateral rotation on the left...but was perfectly able to hold this position when the leg was in medial rotation. Ian said this was because she was ALWAYS in medial rotation and so had strengthened muscles.

She was unable to control single leg standing on the left when asked to do a single leg squat on that side.

Treatment

This included trigger pointing to QL and adductors, plus accessory glides to the left hip to increase ROM.

Rehab started on functional problems. Functional weight bearing. Correction of sway back posture. Lengthening of upper abdominals. Diaphragmatic control work. Anterior rotation of pelvis. Improving posterior glide in femur. Correcting hip extension and medial rotation. There was 3-4 month programme of motor control.



2) Arthroscopic surgery for hip labral tears

Marcus Bankes (orthopaedic surgeon)

There are many causes of hip pain.

a) Stress fractures are often overlooked. Beware of these when people training for events such as the marathon present to you with hip pain.

b) A damaged labrum leads to “catching” during twisting movements such as getting into or out of a car. Tears are also associated with bony abnormalities. Clients cannot get to their pain but describe it as “deep”. One test for this is in supine, flex both knees and hips as if to do the Thomas Test. Still holding one leg, lower the other thigh. If painful on the way down this is likely to be a labral tear. Internal/external rotation, ESPECIALLY with a painful click, during this manoeuvre is a positive labral tear sign.

Cysts apparent on radiographs are useful as they show where there are labral tears.

74% of labral tears are associated with chondral damage.

Deliberately inducing microfractures is sometimes useful to help heal bone.

We watched several videos of arthroscopies showing the removal of loose bodies.

c) Femoral acetabular impingement. This is caused by bumps which may have formed due to physical activity. These are removed surgically. If there is impingement the client loses the ability for internal rotation in hip flexion. Early treatment prevents degeneration. We saw radiographs showing the increased mass of the femoral neck, before and after surgery, and watched a video of the bone being cut away to regain the contour of the femoral neck.

d) Dysplasia. Young women often have shallow sockets which need to be surgically altered. This involves fracturing the pelvis and repositioning the acetabulum.

3) A laparoscopic approach to treating sports hernias

David Lloyd (surgeon)

David made the distinction between groin pain above the inguinal ligament and groin pain below the ligament. Groin pain ABOVE the ligament is what we describe as “groin” pain whereas below the ligament it is adductor pain.

David reminded us that anatomically, fibers of the inguinal ligament merge with fibers of adductors of the thigh.

He believes that if a client is able to pinpoint their pain to the pubic tubercle, with gradual onset, this is likely to respond well to laparoscopic surgery.

he argued that it is a myth that many sportspeople suffers inguinal hernias. What they have is repeated stress/anterior strain to the inguinal ligament. Scar tissue forms on the ligament and is visible on laparoscopic examination. There is often calcification of the attachment to the pubic bone, leading to ossification and pain.

David does not believe in doing surgery for Gilmore's Groin. He wonders whether the 12 week rest period protocol for GG surgery contributes to recovery in those patients rather than the surgery itself? In his laparoscopic surgery, scar tissue is removed and the client may return to training 10-14 days later, back to full playing in 2 weeks.



David believes that the inguinal ligament may prove to have a similar pathology to lateral epicondylitis and he has sent tissue samples for electromicroscopy, wondering whether these may show and increase in c (pain) fibers.

The surgery does not alter running speed nor strength.

Hot spots that show up on MRI scan do not necessarily mean osteitis pubis. He believes this to be a red herring and argues that ALL top level footballers (and athletes) are likely to show hot spots.

4) A diagnostic approach to the hip/groin region

Jonathan Andrews (radiographer)

Jonathan showed us a variety of slides demonstrating common hip and groin injuries/conditions and how they showed up in radiography:

a) First we saw radiographs of avulsion injuries. Commonest avulsion injuries of this region are ischial tuberosities, ASIS, AIIS, lesser trochanter, greater trochanter, and finally the pubic bone. We saw avulsion of the insertions of rectus femoris, sartorius, hamstrings and adductors, with a large piece of bone obvious on the radiograph and associated bunching of the retracted muscle.

b) Strains were shown to us on MRI, and Jonathan explained that MRI can show where the strain is and the length of it. We saw MRIs of hamstring strains, which showed up as large white masses.

c) we saw images of stress fractures in the sacrum, especially common in marathoners.

d) We also saw acetabular labral tears on ultrasound.

5) Rehabilitation of the sportsman's groin

John Green (physio)

John showed us videos of high level functional core training for footballers who had had surgery for groin pain.

He explained that, in his experience, the footballers rarely had tight adductors and rarely had weak adductors, yet often describe a feeling of weakness in the adductors.

he demonstrated the usual knee-over-2nd-toe squat maneuver.

the same squat whilst holding a gym ball against a wall.

he demonstrated PIR (PNF) to adductors in supine, knee flexed.

he showed us dynamic flexibility drills such as stepping back, hurdling and kicking, a dynamic "skydiver" position, dynamic knee hugs, drop steps, lunges, jumps (single and double).

6) Open surgery in the treatment of sports hernias

Steven Snooks (surgeon)

Mr Snooks explained that there are many causes of groin injuries in athletes, including adductor strain, osteitis pubis, sports hernias, Gilmore's Groin, iliopsoas strain, bursitis, stress fractures, avulsion fractures, and neural pain referred from the low back.

His operation fixes the posterior inguinal abdominal wall which he says, is "floppy" in people with groin pain.



During the operation he sees torn aponeurosis of the external obliques and a thin or absent conjoint tendon.

Snooks showed us videos of his operations, fixing the mesh to reinforce the posterior wall. He claims there is no need for physiotherapy as the players heal well and go back to playing with a couple of weeks.

7) Presenting a podiatrist's view

Trevor Prior (consultant podiatrist)

- Latest thing in podiatry is the MTP joint: If the first Metatarsophalangeal joint can't dorsiflex adequately you have a gait problem as toe-off becomes difficult. Interestingly, people with poor core stability tend to plantarflex the 1st toe in order to compensate.

Trevor showed us images of pressure pads in a variety of players, showing weight distribution.

Trevor gives his client a stretching board for their plantarflexors, set at 16 degrees and finds huge improvement in ankle flexibility as a result.

For a true lower limb length discrepancy there must be a discrepancy in ALL of the bony points, ie ASIS, PSIS, femoral trochanters.

He explained that they were working on a bespoke football boot for players but that the moulds for them would cost £3000 each (ie each foot). He had brought a prototype with him.

He told us about a player who had been referred to him for having fractured his metatarsal for the fourth time and when Trevor examined the player's boots it was obvious that the stud was positioned directly between the fourth and fifth toes, placing excessive stress on that area, and that the fifth metatarsal hung over the studs due to the player's wide feet.

Good things

- Around 120 in attendance
- Clear view of screen,
- refreshments and lunch provided
- easy to find (Leyton Orient football ground near Leyton tube). Good instructions.
- Nice surroundings. Spacious. Balcony over the pitch to use at breaks.
- Local park if wanted to go outside at lunch.
- overall was value for money at £85 inclusive.

Not so good things

- receptionist on entering building but no one to greet us in the lounge
- no name badges so did not know who anyone was. Made networking more difficult.
- not enough windows blacked out near screen: glare made constant watching of presenters tiring on eyes
- no handouts as downloads not working (these to be sent on to us in next 7 days). Had not taken notepad as expected handouts, as always.

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Co-Director and esteemed author of *Soft Tissue Release: Hands-on Guides for Therapists*