Sports Medicine Roadshow 2019

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THE HIP & GROIN CLINIC

UPMC | WHITFIELD

Sportsman's Hernia (Gilmore groin): Diagnosis and Treatment Options

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‘Treatment of the Sportsman's groin’: British Hernia Society's 2014 position statement based on the Manchester Consensus Conference

- ‘inguinal disruption’ (ID) preferred nomenclature - ‘Sportsman's hernia’ or ‘groin’ rejected, as no true hernia exists

- defined as **pain**, either of an insidious or acute onset, which occurs predominantly in the groin area **near the pubic tubercle** where **no obvious other pathology**, such as a hernia, exists to explain the symptoms

- careful **history and examination** - other causes of chronic groin pain must be excluded : adductor muscle injuries, osteitis pubis and pubic symphysitis (can coexist with an ID however).

- Pathology - Abnormal tension in inguinal canal due to varying degrees of ID : posterior wall weakness, external ring dilation, conjoint tendon damage and tears in the inguinal ligament

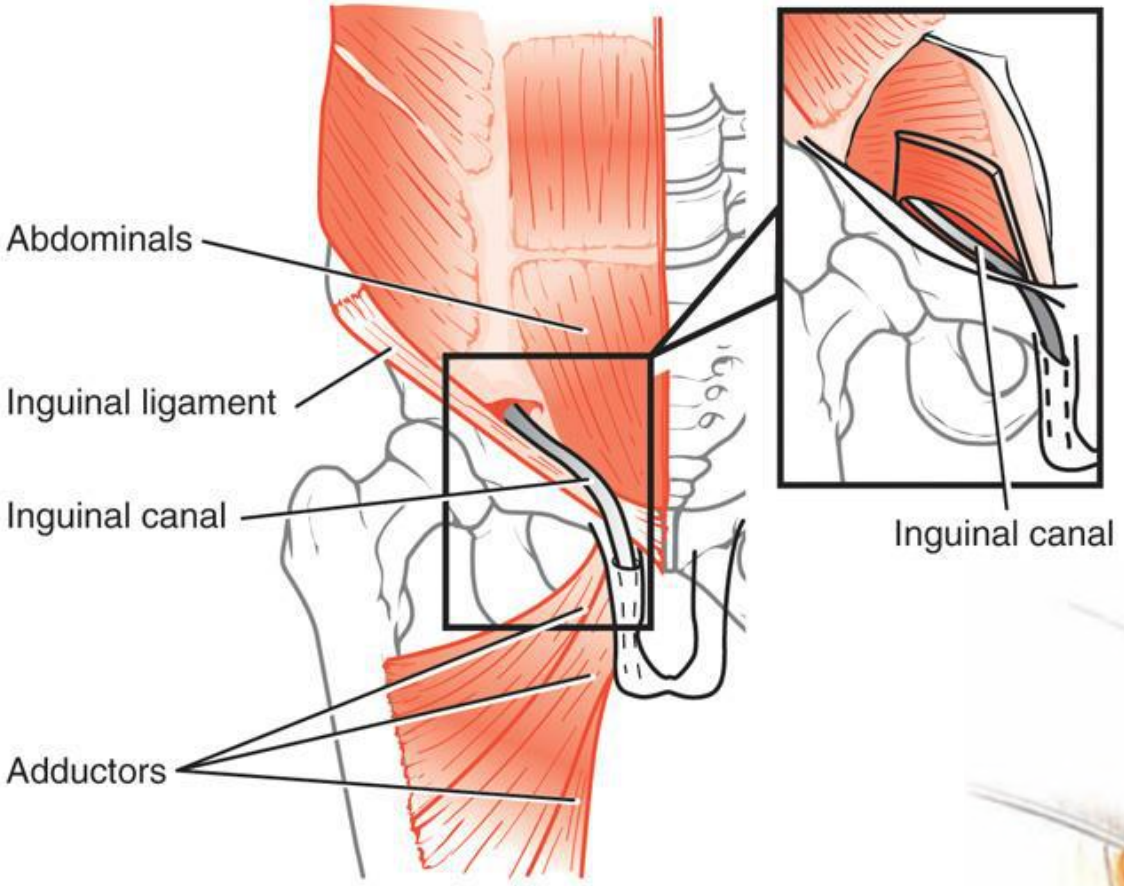
Sheen AJ, et al.
Br J Sports Med 2014;48:1079–1087

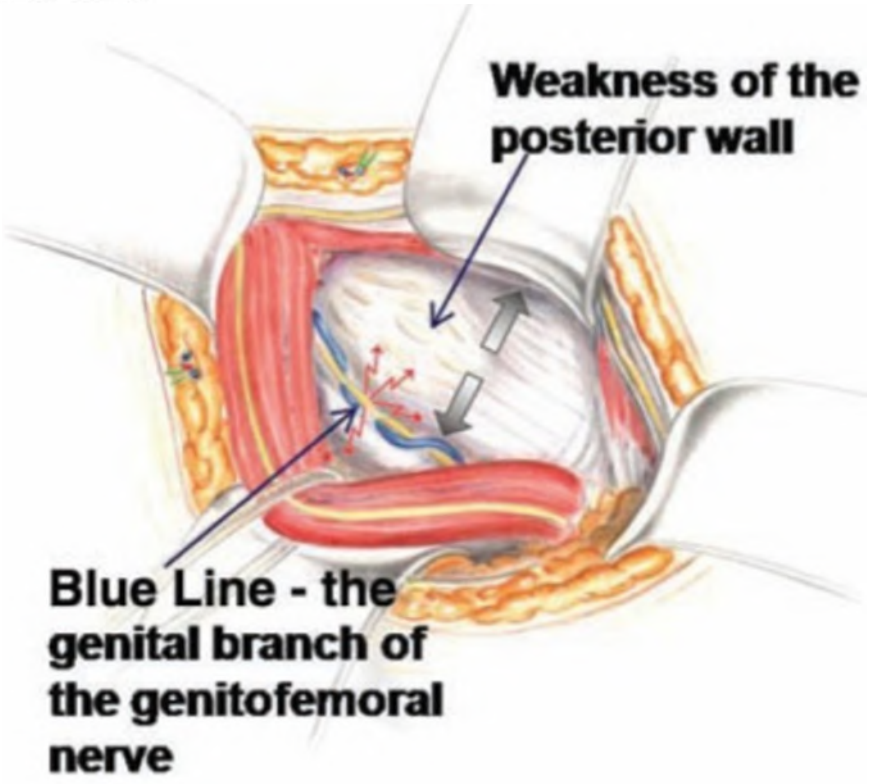
Diagnosis

If 3 out of 5 clinical signs below are detectable

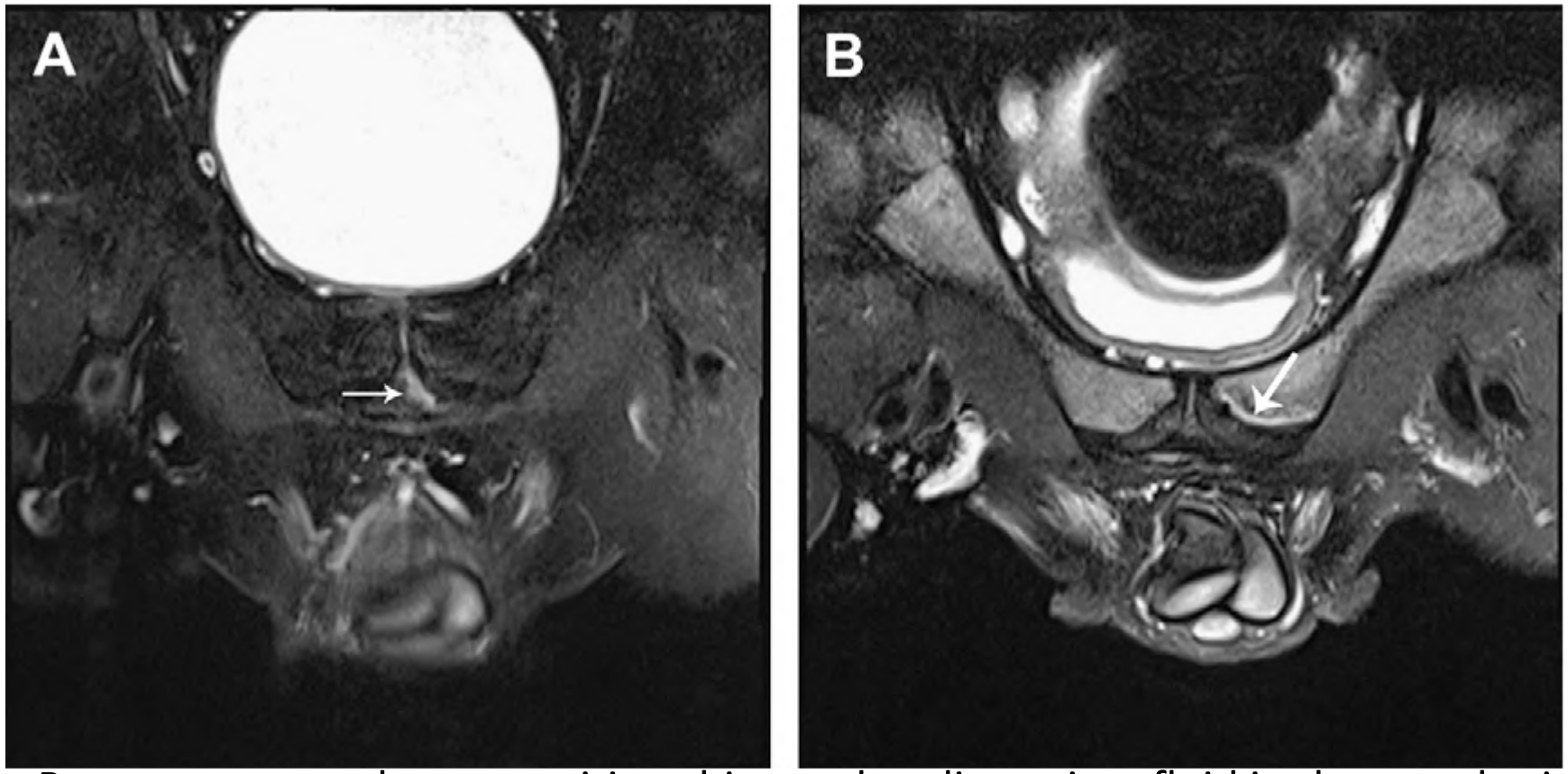
- Pinpoint tenderness over the pubic tubercle at the point of insertion of the conjoint tendon;
- Palpable tenderness over the deep inguinal ring;
- Pain and/or dilation of the external ring with no obvious hernia evident;
- Pain at the origin of the adductor longus tendon
- Dull, diffused pain in the groin, often radiating to the perineum and inner thigh or across the midline.

Anatomy


Abdominals
Inguinal ligament
Inguinal canal
Adductors
Inguinal canal


Weakness of the posterior wall
Blue Line - the genital branch of the genitofemoral nerve

Imaging - Groin MRI



Bone marrow oedema, osteitis pubis, tendon disruption, fluid in the symphysis have all been described to be present in varying degrees.

2 MRI patterns

<18 years of age—diffuse bilateral oedema

>18 years of age—more focal oedema subcortical bone and capsule/enthesis, bilateral but asymmetrical.

Management

Suggested algorithm for the management of inguinal disruption (ID)

•VAS, visual analogue scale.

Time	Discomfort	Treatment
1–2 months	ID VAS 0–2 at rest; 6–7 on exercise; cannot undertake any sporting activity	Prehabilitation, rest and analgesia
>2 months	On going ID —chronic groin pain—failure of rehabilitation	Surgical repair either open or laparoscopic with post-operation rehabilitation

Prehabilitation - Individualise

- *Specific tests for range of movement*
- Spine
- Hip
- Muscle length
- Myofascial pathways

- *Strength tests*
- Gluteus medius
- Transversus abdominis
- Isokinetic testing of pelvic control and isolated muscle strength

- *Prehabilitation strengthening programme for*
- Gluteus medius/maximus
- Transversus abdominis
- Erector spinae/lateral abdominals/hip flexor/hamstring (if required from assessment)

Proposed rehabilitation regime following operative repair of inguinal disruption

Week	Procedure
1	•Initiation of functional rehabilitation programme ▸ **•Isometric abdominals—emphasis on transversus and oblique's with pelvic control** **• ▸ Isometric hip flexors, extensors, abductors, adductors and rotators** **• ▸ Spinal mobilisation programme**
2	Increase walking using time as limiting factor, increasing by 5 min each day if no ill effects Continue isometrics and active spinal work, 10 reps/4 times/day End of week initiate active assisted cliniband/isokinetic work in functional standing position
3	*•Functional rehabilitation* ▸ **Neurological gymnastic ball work** **• ▸ Mobility work, active and passive** **• ▸ Stability work** **• ▸ Hydrotherapy *Cardiovascular*** **• ▸ Swimming (if wound healed)** **• ▸ Cycling** **• ▸ Initiate running programme, progressing from aerobic to anaerobic over the next 3 weeks** *•Isokinetics* ▸ **Submaximal to maximal isometric hip work/isokinetics if available. Bias towards presurgical isokinetic test results.** **•Once 25% or lower deficit between limbs, begin active concentric work, starting on fast speeds (240) progressing to slower (60) depending on daily reassessment.**
4	Return to active assisted work to re-educate concentric/eccentric functional pattern. Progression of functional rehabilitation work Early sport/occupation-specific rehabilitation Running forwards→backwards→cutting→sprinting
5	Concentric/eccentric lower limb muscle patterns—manual/cliniband/isokinetics General weights work with abdominal belt/lumbar support Full sport-specific rehabilitation Return to play/work according to functional reassessment

Surgery? Type??

- Surgery is only required in approx 60%
- Must be preceded by apt physiotherapy
- Role of surgery –release abnormal tension in inguinal canal and reconstruct weakness in posterior wall (after conservative approaches failed)
- Open or laparoscopic (TAPP or TEP) technique?

Randomized clinical trial of open suture repair versus totally extraperitoneal repair for treatment of sportsman's hernia.

Br J Surg. 2019 Jun;106(7):837-844. doi: 10.1002/bjs.11226.

- **N= 65 athletes** (92 per cent men) - median age of 29

31 open repair,

34 totally extraperitoneal repair

-Return to full sporting activity :

-16 and 18 patients respectively after 1 month (*P* = 0·992),

- 25 *versus* 31 after 3 months (*P* = 0·408).

Conclusion

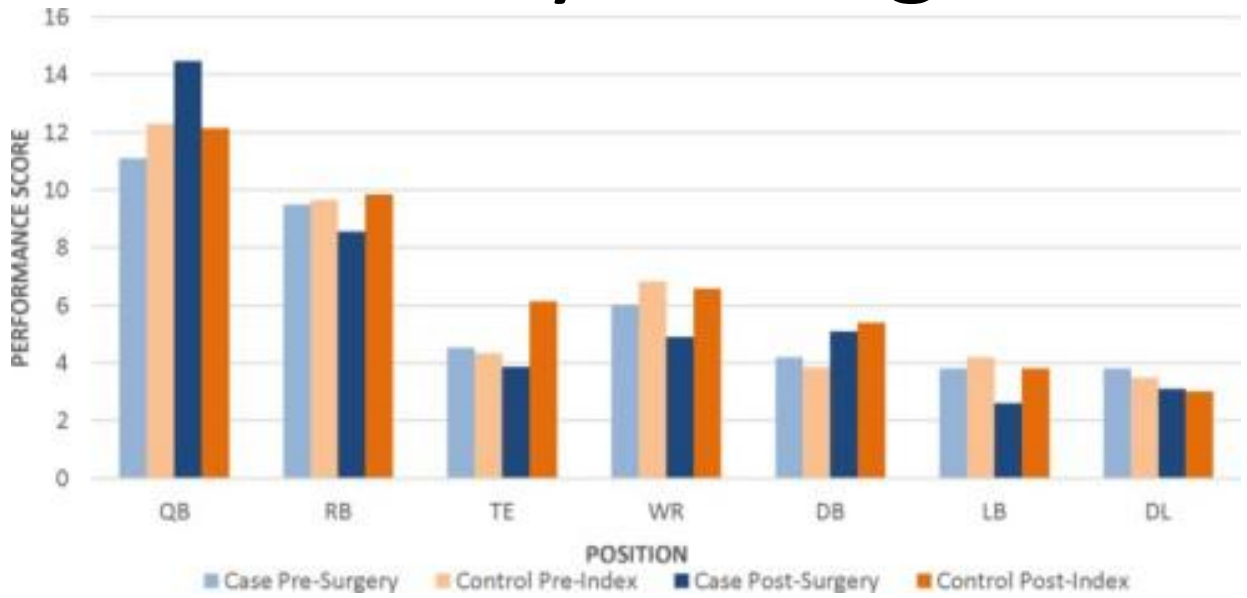
- Totally extraperitoneal repair less painful than open repair in first month
- Both similarly effective in treating chronic pain

Performance and Return to Sport After Sports Hernia Surgery in NFL Players

- Athletic pubalgia (AP) !!
- ‘Surgery as final treatment for AP when nonsurgical treatment fails remains controversial. Given the money involved and popularity of NFL, important to understand surgical outcomes’.
- 56 NFL players 1996-2015 who had surgery compared to controls for age/position/level

Robert A. Jack, Orthop J Sports Med. 2017 Apr; 5(4): 2325967117699590

StudyFindings



- average career length in NFL : 6 years for players making opening-day roster of rookie season and 3.3 years for all NFL players
- average experience for players in this investigation was 5.2 years

- average career length of 3.2 years after AP surgery

- >90% RTS rate after AP surgery
- No significant difference in postoperative performance
- career length and games per season after AP surgery were significantly less than that of matched controls.

Other Treatment Options?

- Steroid or ‘other’ injections for pain relief
- Radiofrequency denervation (RFD) of the inguinal ligament
- Anti-inflammatory course

- Generally helpful for pain relief in early phase as adjunct to Prehabilitation

The drugs that mostly frequently induce acute kidney injury: a case − noncase study of a pharmacovigilance database

Active substance (INN)	Total number AKI *n*	Number AKI drug alone %	Patients requiring RRT*n* (%)	Total ADRs without AKI *n*	ROR
Anti-inflammatory	**95**				
Diclofenac	33	12 (36.36)	4 (12.12)	161	6.27
Ibuprofen	25	8 (32.00)	2 (8.00)	373	2.03
Ketoprofen	26	6 (23.08)	5 (19.23)	302	2.61
Naproxen	11	4 (36.36)	3 (27.27)	90	3.68

Br J Clin Pharmacol. 2017 Jun; 83(6): 1341–1349

Conclusions

- **History and Exam!!**
- Pain below, lateral to inguinal ligament may indicate hip/adductor injury (ID usually above)
- Consider osteitis pubis, FAI, fractured rami, bursitis, OA, slipped epiphysis

- 3 of the 5 clinical signs
- Pinpoint tenderness over the pubic tubercle
- Palpable tenderness over the deep inguinal ring;
- Pain and/or dilation of the external ring with no obvious hernia evident;
- Pain at the origin of the adductor longus tendon;
- Dull, diffuse pain in the groin, often radiating to the perineum and inner thigh or across the midline.

- Full physiotherapy rehabilitation regime first
- Surgery outcomes good if not settling after 2 months

- RTP 1-3 months

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River Lee Hotel, Cork

02nd November 2019