Sports Hernia and the Hockey Player: A Multifaceted Conservative Approach to Correcting Pelvic Imbalances

Professional Hockey Chiropractic Society

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Objectives

- What is a Sport's Hernia?
- What is the current standard definition?
- What does the current literature suggest?
- How is it diagnosed?
- How do you treat it conservatively?
- When is surgery warranted?
- How long is the recovery?

Terms describing pain in the groin

- Athletic Pubalgia
- Sportsmen's Groin/Hernia
- Sports Hernia
- Incipient Hernia
- Gilmore's Groin
- Inguinal Disruption
- Pubic Inguinal Pain Syndrome
- Athletic Groin Pain
- Athletes' Groin
- Groin Pain
- Biomechanical Groin Overload
- Groin Disruption
- Hockey Groin
- Hockey-goalie Syndrome

Classic Definitions

- A sports hernia is a strain or tear of any soft tissue (muscle, tendon, ligament, fascia) in the lower abdomen or groin area.

- A traditional hernia is a hernia that occurs when an organ pushes through an opening in the muscle or tissue that holds it in place. Typically has a classic bulge under the skin.

Standard clinical practice requires initially ruling out a traditional inguinal or femoral hernia.

How to check for a Inguinal Hernia?

- For a suspected inguinal hernias, place a fingertip into the scrotal sac and advance up into the inguinal canal. Have the patient bear down or cough. An extra bulge will be pressed up against your finger.
- If the hernia is elsewhere on the abdomen, attempt to define the borders of the fascial defect.
- A bulge felt below the inguinal ligament is consistent with a femoral hernia

Symptoms of a Traditional Hernia

- Nausea
- Burning/deep aching
- Vomiting
- Constipation
- Urinary problems
- Impotence
- Dyspareunia (Painful intercourse) in females
- Referred pain in the scrotum in males, labia in women.
- Pain in breathing, bending, straining and twisting.
- Pressure/heaviness in the affected area

Direct Inguinal Hernia

- This type directly protrudes forward through a torn or weakened posterior wall of the inguinal canal. The specific tissue breakdown is the Hesselbach's triangle.

  medial border: rectus muscle and sheath, lateral border: epigastric vessels, inferior border: inguinal ligament)

Indirect Inguinal Hernia

- An indirect inguinal hernia occurs when abdominal contents—such as fat or a portion of the small intestine—protrude through the deep (internal) inguinal ring and enter the inguinal canal.
- Most commonly caused by a congenital defect
- Commonly refers to the scrotum or labia.

Other DDX's to Consider

- Hydrocele **or** Varicocele: Fluid accumulation or enlarged veins within the scrotum that mimic a hernia bulge.
- Groin Lymphadenopathy: Swollen lymph nodes in the crease of the thigh that feel like a firm nodule.
- Testicular Tumor
- Epididymitis
- Osteitis Pubis

Symptoms of a Sports Hernia

- Symptoms can mirror the traditional hernia.
- Most sports hernia's the pain is reproduced via stressing the tissue (stretching or muscle testing) or engage in activity.

What Activities account for most of the Groin Injuries?

- Football
- Hockey
- Soccer

Groin injures account for about 6% of the total number of athletic injuries. This number is believed to be vastly underreported. [1-3] Why?

Only 1-3% affect females. Why?

- Baseball
- Automobile injuries
- Workers' Compensation injuries
- Yard work

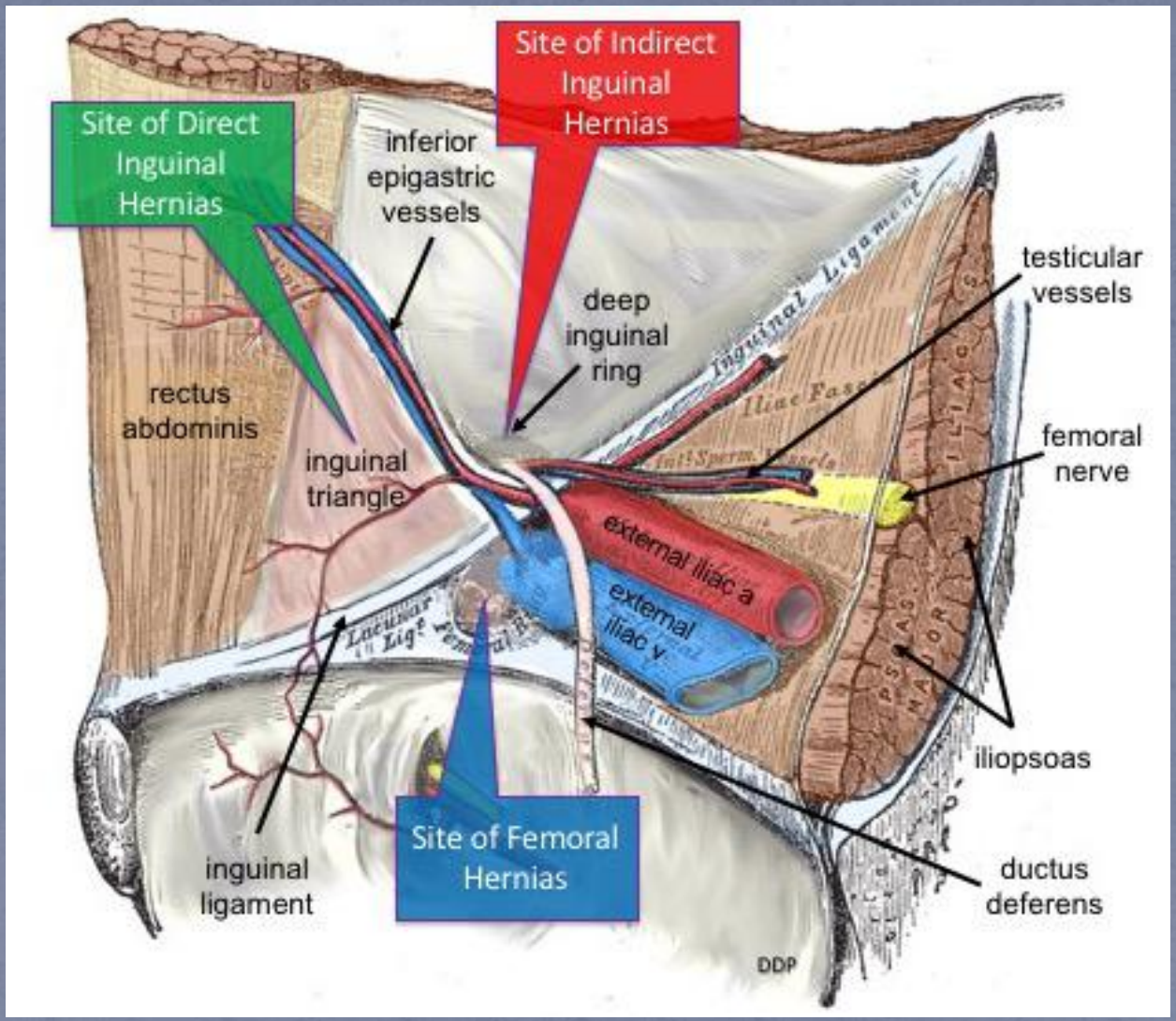
What are the most common movements that can cause groin injuries?

- Twisting
- Cutting
- Running
- Kicking
- Physical contact

Functional Anatomy

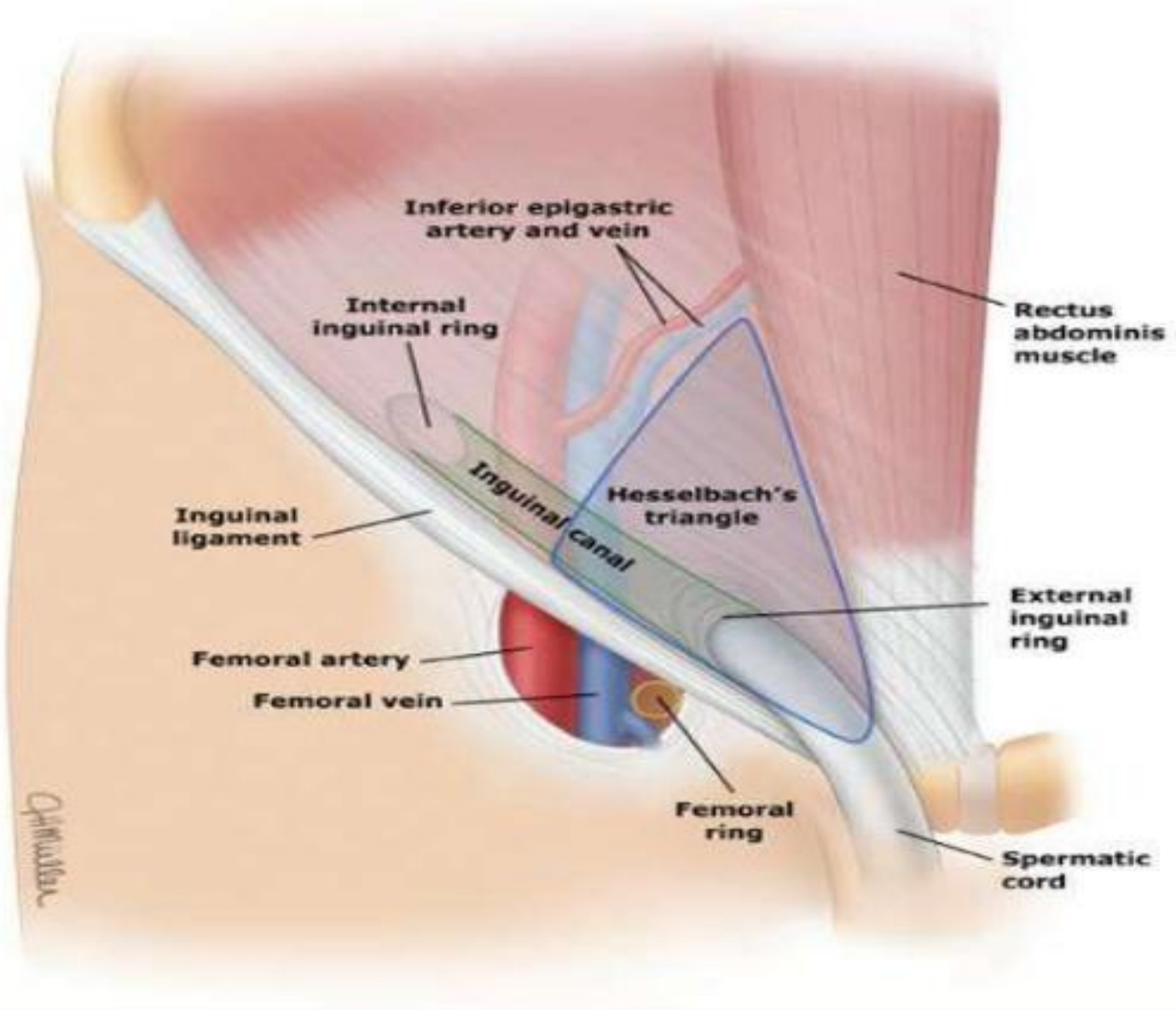
The following list are structures that a provider needs to be proficient in examining and palpating.

Distal rectus abdominis
Psoas
Pubic Symphysis
Adductor longus/brevis
Pectineus
Fascial layers
Conjoint Tendon
Int/Ext oblique
Inguinal ligament
Gracilis
Pubic Tubercle


Site of Indirect Inguinal Hernias
Site of Direct Inguinal Hernias
inferior epigastric vessels
deep inguinal ring
testicular vessels
femoral nerve
rectus abdominis
inguinal triangle
external iliac a
external iliac v
iliopsoas
Site of Femoral Hernias
inguinal ligament
ductus deferens
DDP

Conjoint Tendon

- The Aponeurosis's of the internal oblique and transverse abdominis muscles form distally into the conjoint tendon. .
- It makes up a portion of the posterior inguinal wall.
- The main job of the conjoint tendon is to reinforce Hesselbach's triangle—the notorious weak spot in the lower abdominal wall. Weaker in Men. Why?
- If this tendon is weak, thin, or torn, abdominal contents can push right through the wall, causing a direct inguinal hernia.


Inferior epigastric artery and vein
Internal inguinal ring
Rectus abdominis muscle
Inguinal canal
Hesselbach's triangle
Inguinal ligament
External inguinal ring
Femoral artery
Femoral vein
Femoral ring
Spermatic cord

Recent effort to standardize terminology

- British Hernia Society 2014 position statement
- 2015 Doha agreement meeting on terminology and definitions in groin pain in athletes

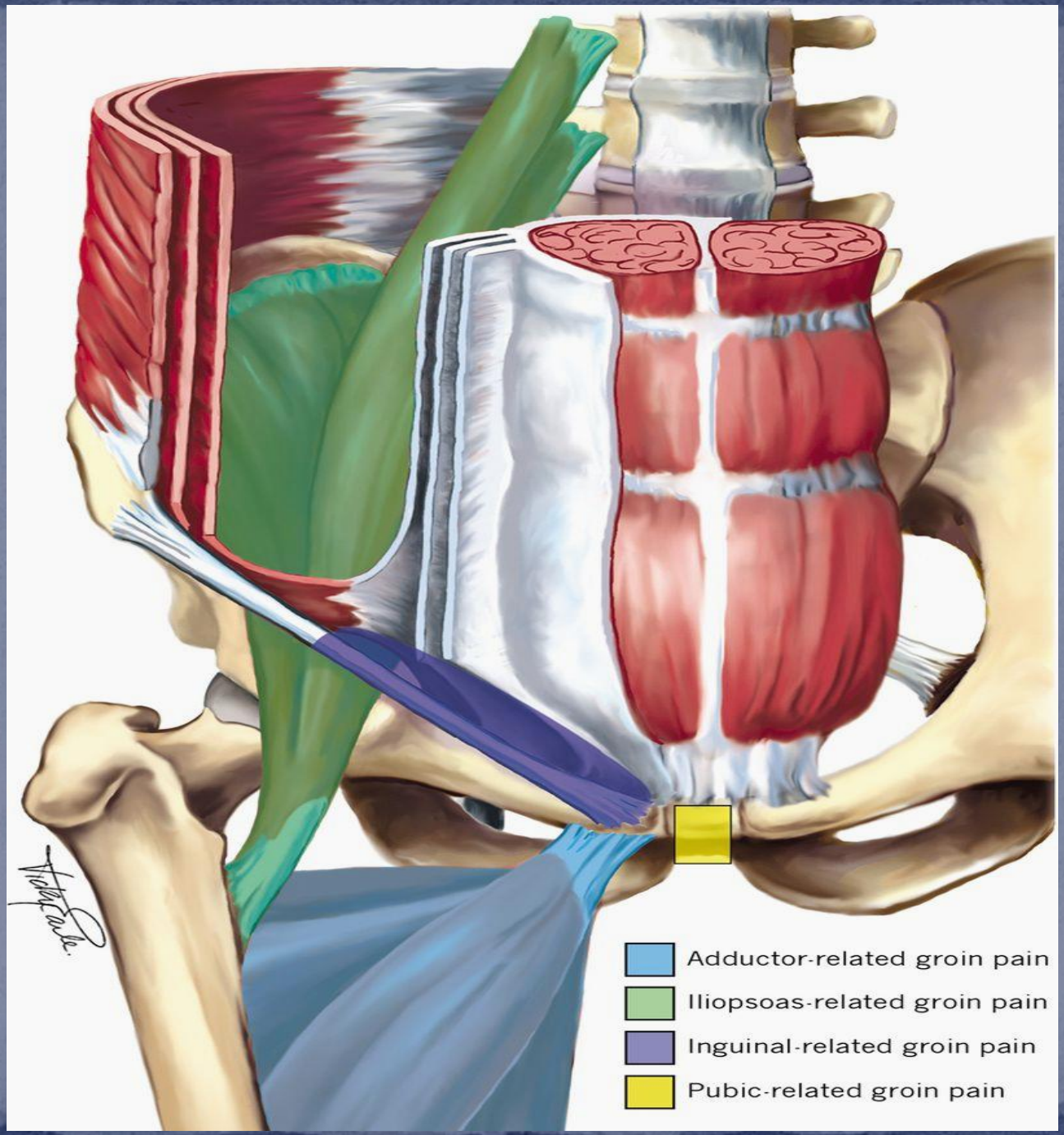
Groin Pain Classification System (Doha Agreement met 2014 published 2015)

The Doha agreement lays out three subheading categories to define groin pain.

Category 1:

1. Adductor-related groin pain
2. Ilio-psoas-related groin pain
3. Inguinal-related groin pain
4. Pubic-related groin pain
5. Rectus abdominus/External Oblique related groin pain

Weir A, Brukner P, Delahunt E, et al. Doha agreement on terminology and definitions in groin pain in athletes. Br J Sports Med 2015; 49: 768-774.


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

Category 2

Hip-related groin pain;

1. Rule out FAI (femoroacetabular impingement)and labral tears
2. Rule out a true inguinal hernia
3. Rule out DJD of the hip and slipped capital femoral epiphysis.

Category 3

- Other possible categories of groin pain
- Orthopedic
- Neurological
- Rheumatological
- Urological
- Gastrointestinal
- Dermatological
- Oncological
- Surgical

British Hernia Society 2014 position statement

- **Inguinal Disruption** is their agreed upon term. It is defined as pain, either of an insidious or acute onset, which occurs predominately in the groin area near the pubic tubercle where no obvious pathology, such as a hernia, exists to explain the symptoms.

Inguinal Disruption

- The Dx of ID can be made if at least 3 out of the 5 clinical signs are detectable.

1. Pinpoint tenderness over the pubic tubercle at the point of insertion of the conjoint tendon (common insertion of the internal oblique and the transverse abdominis)
2. Palpable tenderness over the deep inguinal ring
3. Pain of the external ring with no obvious hernia
4. Pain at the origin of adductor longus tendon
5. Dull, diffuse pain in the groin, often radiating to the perineum and inner thigh or across the midline

Sheen AJ, et al. Br J Sports Medicine 2013; 0: 1-9

Association between FAI and Sports Hernia

- A systematic review revealed up to 94% of cases involved combination of FAI and Sports hernia.
- When a FAI lesion and Sports hernia co-exist, the outcomes are much higher when correcting both lesions, instead correcting one lesion by 40%. *Larson et. al., Athroscopy 2011*

Association of Hip ROM and Sports Hernia

- "There was marked restriction with internal and external rotation in the sports hernia group compared to the control group"

Muscles, Ligaments and Tendons Journal 2015; 5 (1):29-32.

Conservative Tx vs. Surgery

Thoughts?

How would you diagnosis?

What diagnostic procedures would you perform?

Movement assessments?

Imaging?

Conservative Treatment

- Chiropractic
- Massage/advanced soft tissue care
- Physical Therapy
- Targeted Corrective Stretches and Exercises
- Dry Needling
- Cupping
- Muscle Testing
- Gait and/or Staking Analysis

How/where to perform these types of treatments?
Build your systematic evaluation and treatment flow.

References

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