

# Diagnosing Athletic Pubalgia in the Hockey Player

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## Pathoanatomy

- Attenuation or tearing of the transversalis fascia or conjoined tendon
- Abnormalities of the rectus abdominus insertion
- Avulsion of part of the internal oblique muscle fibers at the pubic tubercle
- External oblique muscle and aponeurosis
- Entrapment of the genital branches of the ilioinguinal or genitofemoral nerves

## Symptoms

- Disabling lower abdominal & inguinal pain with exertion (71%)
- Pain with cough, sneeze or other Valsalva maneuvers (10%)
- Pain progression over months-years
- Progression to the contralateral inguinal and adductor regions
- Pain with resisted sit-ups and hip adduction
- History of hyperextension injury

## Palpation

1. **Symphysis pubis**
2. **Rectus abdominus at the pubic bone**
3. **Superficial inguinal ring**
4. **Adductor longus origin at the pubic bone** (hip flexed, abducted, externally rotated with knee slightly flexed)
5. **Psoas muscle above the inguinal ligament** (both hands at the level of the ASIS, locate lateral edge of rectus abdominus & palpate laterally, push abdominal structures away, patient elevates their foot 10cm.

## Muscle Testing

1. **Adductor functional test:** pain and strength
  - Supine position, hands and lower arms between feet to hold them apart, patient presses feet together with maximal force.
2. **Adductor passive stretch:** pain
  - Supine position, abduct leg maximally while supporting the pelvis with other hand.
3. **Abdominal muscle functional test:** pain and strength
  - Supine position, hip & knee flexed 45°, arms folded over chest, perform a sit-up by lifting head & scapula, examiner holds against the knees with one hand and the other arm against the chest with just enough force to balance the sit-up. Repeat with an oblique sit-up, pulling one shoulder toward the opposite knee while pressing against the shoulder.
4. **Iliopsoas muscle functional test:** pain and strength
  - Supine position, test leg hip & knee maximally flexed, examiner tries to extend the flexed hip with one arm wrapped around the distal femur.
5. **Iliopsoas passive stretch** (modified Thomas test): pain and tightness
  - Supine position, legs hanging from the end of the table, patient flexes hip by clasping hands above the knee, the other leg hangs relaxed, patient lifts their head & shoulders as far as possible, the examiner stands at the end of the table supporting the position by pressing against the foot of the flexed leg.
    - femur elevated above the horizontal level = “tight”, at or below the horizontal level = “not tight”
    - examiner pushes down on the hanging leg to maximally stretch the iliopsoas, pain is recorded as “yes” or “no”.