



AVULSION FRACTURES OF THE ISCHIAL TUBEROSITY OF THE PELVIS

DESCRIPTION

Avulsions fractures are separation of bone due to pull of muscle-tendon units. These may occur in fully grown athletes, though in the pelvis, they tend to occur more commonly in skeletally immature (growing) athletes. This is due to the relative weakness of the growth plate as compared with the bone, muscle and tendon. The growth plate is an area of relative weakness and injury to it occurs due to repeated stress or vigorous exercise. An avulsion in the growing athlete thus is a separation of bone at the growth plate. A similar injury in adults would be a muscle-tendon strain. Since the pelvic growth plate closes by age 20 to 25, this problem is uncommon after these ages.

The ischial tuberosity is the bony attachment of the hamstring tendons. The hamstring muscles extend (straighten) the hip and bend the knee. They are also stretched with bending the hip and the knee straight (the hurdler's position).

FREQUENT SIGNS AND SYMPTOMS

- A slightly swollen, warm and tender area of the pelvis at the buttocks
- Pain with activity, especially stretching the muscle (bending the hip and straightening the knee) or having the muscle contract to perform its function (forcefully straightening the hip and/or bending the knee)
- Pain with walking (usually walk with a limp)
- Pain with sitting
- A pop is often heard in the area at the time of injury.
- Muscle spasm in the back of the thigh
- Crepitation (a crackling sound) when the tendon is moved or touched
- Bruising in the thigh 48 hours following the injury
- Loss of fullness of the muscle
- Weakness of bending the knee or straightening the hip

CAUSES

Results from a powerful contraction of the hamstrings muscles. This force exceeds the strength of the growth plate.

RISK INCREASE WITH

- Sports that require quick starts (sprinting or running races and other track events, racquetball, badminton)
- Sports that require jumping (basketball and volleyball).
- Kicking sports, gymnastics and water skiing.
- Contact sports (soccer or football)
- Poor physical conditioning (strength/flexibility)
- Inadequate warm-up prior to practice or play
- Previous thigh, knee or pelvis injury.
- Poor technique
- Poor posture

EXPECTED OUTCOME

Complete to return to sports with appropriate management.

POSSIBLE COMPLICATIONS

- Recurrent symptoms, especially if athlete resumes activity too soon
- Prolonged healing time if usual activities are resumed too early
- Non-union (not healing of bone)
- Mal-union (healing in bad position)
- Weakness of the hip and knee
- Pain with sitting
- Pinching between the pelvis and upper thigh

GENERAL TREATMENT CONSIDERATIONS

Initial treatment consists of medications and ice to relieve pain, stretching and strengthening exercises (particularly of the hamstring muscles) and modification of activities. The exercises can all be carried out at home for acute cases or a referral to a physical therapist or athletic trainer for further evaluation or treatment. Use of crutches while the athlete is limping may be helpful. Relative rest, particularly avoiding the activity that caused the problem is beneficial. Some feel surgery is beneficial to reattach the bone, though this is controversial at this time. If pain and discomfort persist with inability to sit comfortably after non-operative treatment, excision of the bony piece can be performed.

MEDICATION

- Non-steroidal anti-inflammatory medications, such as aspirin and ibuprofen are often recommended to reduce inflammation (do not take if surgery planned in 7 days or less). Take these as directed by your physician. Contact him/her immediately if any bleeding, stomach upset or an allergic reaction occurs. Other minor pain relievers, such as acetaminophen, may also be used.
- Pain relievers may be prescribed as necessary. Use only as directed.

NOTIFY OUR OFFICE IF:

- Symptoms get worse or do not improve in 4 weeks, despite treatment
- Fever above 101⁰F
- New, unexplained symptoms develop. Drugs used in treatment may produce side-effects.