



# Hip problems in children

*With WSC Orthopaedic Surgeon Dr David Campbell*



Hip problems in children are extremely rare. However, as sport is an integral part of the daily lives of young children, symptoms resulting from serious hip problems frequently develop during times of sport. There are a number of potentially very serious conditions that can affect the skeletal immature hip, which require recognition and early treatment. (Fig 1)

As a child matures, the growth and the changing blood supply to the hip predisposes them to a collection of hip conditions, which are relatively specific to the age of the child. The most common cause of hip pain in children is a condition known as 'irritable hip'. Young children are also predisposed to more serious conditions such as Perthes Disease, and the most serious condition, which does require consideration, is infection of the hip, known as septic arthritis.



**Above** Figure 1. Perthes disease shown on the right causes a transient disruption to hip blood supply followed by collapse and fragmentation of the hip growth centre. This may lead to abnormal development and a 'flattened' femoral head

In the teenage years, the blood supply to the hip becomes less of a feature, however the growth plate of the neck of the femur predisposes them to a specific fracture, termed a 'slipped epiphysis'. In adolescence and beyond a host of hip pathologies which are also encountered in adults can occur, such as the snapping hip, labral tears, avulsion fractures, tumors, and osteitis pubis to name a few.

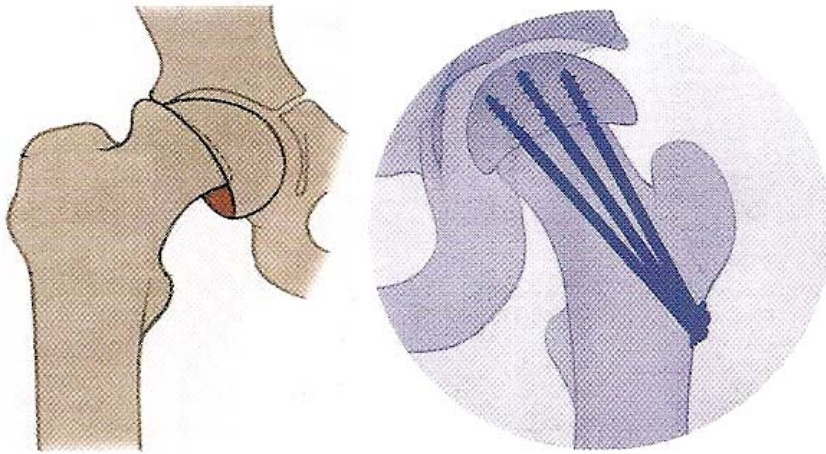
Children presenting with hip problems are often misdiagnosed because of the sometimes-vague description of the symptoms. Whilst very young children may simply go off their feet and have a non-specific limp, older children often have intermittent symptoms frequently involving the knee. Classical hip pain felt in the groin or anterior thigh may not be present.

An irritable hip is transient hip pain associated with restricted movement in a healthy child. It is the most common form of hip pain and may occur in up to three percent of the population. It is twice as common in boys. A typical patient is aged five to six and presents with pain and a limp, which is often intermittent and occurs after activity. Typically, pain is felt in the groin, anterior thigh or knee. The patient has limited extremes of hip movement, and the most sensitive assessments are to observe the loss of abduction, particularly with the flexed hips.

Young patients with an irritable hip should be assessed by medical staff, who will usually perform blood tests and radiological investigations to rule out other conditions such as septic arthritis, inflammatory arthritis and infections.

An irritable hip in itself is a self-limiting, benign condition, which usually settles in one to two weeks and requires joint rest until the symptoms have settled. Whilst there may be a reoccurrence with resumption of exercise, which requires more rest, there should be no long-term secondary consequence from this problem. The importance of an irritable hip is to rest the patient during painful periods, but more so, to consider other potential conditions such as infection of the hip.

Perthes disease is a less common cause of hip pain in a young child. This condition is due to a transient disruption of the blood supply to the femoral head, and can result in long-term problems, placing the child at risk of early degenerative arthritis. It is far more common in boys than girls (4:1) and the typical patient is aged four to seven. The disease process lasts two to four years with initial ischemia (lack of blood supply) to the femoral head, leading to collapse and remodeling of the femoral head. If the collapse occurs in older children, where there is less remodeling potential, or if the collapse is extensive, the hip may be malformed and produce abnormal joint mechanics leading to early degenerative changes.



**Left** Figure 2. Slipped femoral epiphysis is a fracture through the growth plate of the hip. Treatment such as pinning is mandatory.

The cause, classification and treatment and controversial and best treated by a paediatric orthopaedic surgeon. The treatment goals aim to alleviate symptoms and maintain anatomy to avoid the latter prospect of early degenerative change. (Fig 2)

Slipped epiphysis is a serious hip problem which occurs in older children and consequently is often first seen by sports trainers, physical education teachers and parents. During the active growth phase of hip development, the physis (growth area of the hip) is predisposed to a slip, which is essentially a fracture through the physis of the hip. If untreated, there is a risk of progression of the slip (44%) and/or degenerative joint disease (5-40%), and other complications such as avascular necrosis and rapid arthritis. There are a number of biomechanical and biochemical predisposing factors. There is a slight male predominance, and the typical patient is a male 13.5 years or a twelve year old female. Obese children have a decreased age of onset.

Slipped epiphysis often presents in a non-dramatic fashion and is classified by the duration of symptoms, physical examination and radiographic findings. A pre-slip presents as leg weakness, limp, groin or knee pain on exertion. There is often a subtle presentation and subtle radiographic findings. An acute slip (10-15% of cases) is a traumatic episode presenting an acute physal fracture. Symptoms are less than three weeks in duration and are associated with a marked limitation of motion secondary to pain and the patient cannot usually weight bear. In extreme cases there is an external rotation deformity and occasional shortening.

Chronic slips (85% of cases) present with symptoms over a period of three weeks to years. Thigh and knee pain is usually the initial complaint in 46 percent of patients. There are frequent exacerbations and remissions of

pain and limp. Examination demonstrates and antalgic (painful) gait, loss of internal rotation, loss of abduction and flexion of the hip. With increasing severity, limb-length discrepancy and a fixed-flexion external-rotation contracture develops. Radiographic signs are typical of this condition and should be sought where children describe symptoms that could be suggestive of this condition.

Treatment of slipped epiphysis is aimed to prevent progression of the slip and achieve closure of the growth plate, usually by internal fixation of the slip. The prognosis depends of the severity and stability of the hip and good results can be expected in 95 percent of cases.

The prognosis and rate of complications are far more favorable in stable hips and early diagnosis is very important.

**Notes for practice:**

- Beware of the child with hip or knee pain – the hip may be at fault
- Hip problems in children are relatively age-specific
- Hip problems in children and adolescents may have severe long-term consequences and should be appropriately evaluated.



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