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**Literature search results**

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**Summary**

The research I found supports the use of these x-rays when the slip is a stable one. When the slip is unstable frog lateral x-rays should be swapped for cross-table lateral ones (Peck, 2010)

**Guidelines and Policy**

None found
Evidence-based reviews

None found

Published research – Databases

Title: Slipped capital femoral epiphysis: diagnosis and management.
Citation: American Family Physician, August 2010, vol./is. 82/3(258-62), 0002-838X;1532-0650 (2010 Aug 1)
Author(s): Peck D
Language: English
Abstract: Slipped capital femoral epiphysis is the most common hip disorder in adolescents, and it has a prevalence of 10.8 cases per 100,000 children. It usually occurs in children eight to 15 years of age, and it is one of the most commonly missed diagnoses in children. Slipped capital femoral epiphysis is classified as stable or unstable based on the stability of the physis. The condition is associated with obesity and growth surges, and it is occasionally associated with endocrine disorders such as hypothyroidism, growth hormone supplementation, hypogonadism, and panhypopituitarism. Patients usually present with limping and poorly localized pain in the hip, groin, thigh, or knee. Diagnosis is confirmed by bilateral hip radiography, which needs to include anteroposterior and frog-leg lateral views in patients with stable slipped capital femoral epiphysis, and anteroposterior and cross-table lateral views in patients with the unstable form. The goals of treatment are to prevent slip progression and avoid complications such as avascular necrosis and chondrolysis. Stable slipped capital femoral epiphysis is usually treated using in situ screw fixation. Treatment of unstable slipped capital femoral epiphysis usually involves in situ fixation, but there is controversy about the timing of surgery, value of reduction, and whether traction should be used.
Publication Type: Journal Article, Review
Source: MEDLINE
Full Text: Available from EBSCOhost in American Family Physician

Title: Slipped capital femoral epiphysis update.
Citation: Current Opinion in Pediatrics, February 2009, vol./is. 21/1(39-45), 1040-8703;1531-698X (2009 Feb)
Author(s): Gholve PA, Cameron DB, Millis MB
Language: English
Abstract: PURPOSE OF REVIEW: Slipped capital femoral epiphysis (SCFE) is the most common adolescent hip condition. Its importance lies in its high morbidity if not diagnosed and treated in its early stages, not only in childhood but also as a cause of osteoarthritis in adulthood. This article highlights key diagnostic tools and optimal treatment plans for SCFE.RECENT FINDINGS: SCFE involves displacement between the proximal femoral neck and the femoral head at the level of the open physis, with biomechanical and biochemical factors implicated. Acute major trauma is rarely involved; a gradual onset of symptoms and deformity is more common. Patients with unstable SCFE are in severe pain and unable to bear weight. SCFE occasionally is associated with endocrine or metabolic abnormality (hypothyroidism, panhypopituitarism and renal rickets). On physical examination, limited internal rotation of the affected hip is usual; obligatory external rotation of hip in flexion is classic. Diagnosis is confirmed on anteroposterior and frog-leg lateral radiographs of both hips. Treatment is surgical, with stabilization across the physis by in-situ pinning being the gold standard.SUMMARY: Prompt diagnosis and timely surgical treatment usually lead to excellent long-term results with minimal morbidity. It is crucial to recognize that groin pulls are very rare in
adolescents. Children with suggestive groin symptoms should have hip anteroposterior and frog-leg lateral radiographs to rule out the much more common SCFE.

**Publication Type:** Journal Article, Review  
**Source:** MEDLINE

**Title:** Slipped capital femoral epiphysis: the importance of early diagnosis.  
**Citation:** Pediatric Annals, February 2006, vol./is. 35/2(102-11), 0090-4481;0090-4481 (2006 Feb)  
**Author(s):** Katz DA  
**Language:** English  
**Abstract:** Slipped capital femoral epiphysis typically occurs in adolescents. Presentation may include limp or vague pain in the hip, thigh or knee. Knee pain, in particular, is a common complaint among adolescents and may be due to patello-femoral syndromes, Osgood-Schlatter disease, patellar tendonitis, or chondromalacia patella, to name a few. However, it is vital to remember that the complaint of knee pain may be present because of referred pain from pathology at the hip. Every child presenting with a complaint of hip, thigh or knee pain must undergo a hip examination. Likewise, a "groin pull" is exceedingly rare in children and must be a diagnosis of exclusion. Any child with complaints of hip, thigh, or knee pain, or physical examination findings of out-toeing, decreased internal rotation, or obligate external rotation with flexion, should be presumed to have SCFE until proven otherwise. There is a high rate of delay in diagnosis of SCFE, which leads to opportunities for progression of deformity, which in turn leads to increased risk of arthritis. Delay in diagnosis also may allow a stable SCFE to become an unstable one, with a much higher risk of development of AVN. **When suspected, the diagnosis is confirmed with x-rays (AP and frog-lateral of the pelvis).** Therefore, a high index of suspicion for this disorder, and the attainment of appropriate radiographs, should allow for prompt diagnosis and referral for treatment. Treatment is urgent and surgical. Early diagnosis and proper treatment are the mainstays of prevention of adverse sequelae.  
**Publication Type:** Journal Article  
**Source:** MEDLINE  
**Full Text:** Available from EBSCOhost in Pediatric Annals

**Title:** Delay in diagnosis of slipped upper femoral epiphysis.  
**Citation:** Journal of the Royal Society of Medicine, July 2002, vol./is. 95/7(356-8), 0141-0768;0141-0768 (2002 Jul)  
**Author(s):** Ankarath S, Ng AB, Giannoudis PV, Scott BW  
**Language:** English  
**Abstract:** Treatment of slipped upper femoral epiphysis (SUFE) is directed at preventing progressive slippage, minimizing deformity and avoiding avascular necrosis and chondrolysis. Delay in treatment adversely affects long-term outcomes. In a retrospective study we assessed delays between symptom onset and evaluation of the patient in an orthopaedic department. 27 patients aged 10-16 years were grouped by source of referral (general practitioner or accident and emergency department), and hips were classified as stable or unstable according to ability to bear weight. The 27 children had 37 affected hips, 31 stable and 6 unstable. In the 20 patients referred by general practitioners, mean delay from symptom onset to orthopaedic evaluation was 119 days (range 2-504); in the 7 referred from accident and emergency departments it was 95 days (1-482). **In the latter group the slips were more likely to be acute and unstable. 9 (45%) of the patients in the general-practitioner group had hip radiography before referral, all correctly diagnosed though not all the examinations included the recommended frog-lateral views.** Long delays between onset and diagnosis of SUFE are most likely in patients with mild symptoms, able to bear weight on the
Any adolescent with undiagnosed hip or knee pain that has lasted more than a week should undergo radiological investigation of the hip, with frog-lateral as well as anteroposterior views.

**Title:** Bilaterality in slipped capital femoral epiphysis: importance of a reliable radiographic method.

**Citation:** Journal of Pediatric Orthopaedics, Part B, 1996, vol./is. 5/2(80-4), 1060-152X;1060-152X (1996)

**Author(s):** Jerre R, Billing L, Hansson G, Karlsson J, Wallin J

**Abstract:** One hundred patients treated for slipped capital femoral epiphysis (SCFE) were reviewed to evaluate the incidence of bilateral slipping of the epiphysis at an average follow-up time of 32 years. When the patients were examined during adolescence, repeat lateral radiographs of the hips had been obtained by the frog lateral view in 33 patients and by the standardized lateral view according to the method of Billing in 67 patients. At re-examination, 59 patients (59%) were judged to have had a previous bilateral SCFE; in 42 of these 59 patients (71%), slipping of the contralateral hip was asymptomatic. In 23 patients (23%), the diagnosis of bilateral slipping was established at primary admission, in 18 (18%) later during adolescence, and in 18 (18%) not until the patients were reexamined as adults and the primary radiographs were reviewed. The incidence of bilateral slipping was higher in patients in whom the Billing standardized lateral view was used (63%) than in patients in whom the frog lateral view was used (52%). We conclude that the incidence of bilateral slipping of the epiphysis in patients with SCFE is approximately 60% in Sweden. If repeat radiographs of the contralateral hip are obtained with the Billing standardized lateral view until physeal closure occurs, even minor slipping of the epiphysis, which is often advisable to treat, will be apparent.

**Publication Type:** Journal Article, Research Support, Non-U.S. Gov't

**Source:** MEDLINE

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*Published Research - Google Scholar*

[CITATION] Functional outcome and complications after treatment of moderate to severe slipped upper femoral Epiphysis with a modified Dunn procedure

[PDF] from sun.ac.za

TW Parker - 2010 - ir1.sun.ac.za

(From p. 7) In a stable slip the standard x-rays to request would be AP pelvis and frog leg lateral x-rays, but in a potentially unstable situation care should be taken not to exacerbate the slip by placing the limb in the frog leg position, and in this situation a shoot through lateral may be the saver option.

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