

Slipped Capital Femoral Epiphysis



FAST FACTS

10–14 years

age during which SCFE most commonly occurs

11 out of 100,000

prevalence of SCFE

Slipped capital femoral epiphysis (SCFE) is a common cause of altered gait in patients 10–16 years of age that can be missed on initial evaluation. SCFE is associated with obesity but occurs in patients of all BMIs. A child who limps, experiences hip or knee pain, or has decreased range of hip motion should prompt suspicion of SCFE.

ASSESSMENT

If you suspect a slip, immediately make patient non-weight bearing until the evaluation is complete and a slip has been ruled out.

Perform standard health history and physical exam (HPE) focused on hip and knee. Check for complaints of radiating/isolated knee pain, possibly the only symptom beyond altered gait. Other important findings to note are limp and decreased activity. Symptoms may be longstanding, similar or worse, with recent inability to bear weight. Note that SCFEs also occur in so-called “skinny” patients.

HPE RED FLAGS

Situational History

- Endocrinopathies (growth hormone, hypothyroid)
- Trisomy 21, GH administration, chemotherapy, radiation
- Panhypopituitarism
- Hypogonadism
- Hyper- or hypo-PTH
- Height <10th percentile
- Trauma

Family History

- SCFE
- Endocrinopathies

Physical Exam

- Altered gait in obese 10–16 year old (may be younger or older, in certain populations)
- Hip pain (adolescent)

- Knee pain (adolescent), especially if obese or Trisomy 21 or if endocrinopathies are present
- Patient cannot flex their hip without externally rotating it (performed supine)

MANAGEMENT/TREATMENT

The safest approach is to make patients' affected leg immediately non-weight bearing and evaluate them in office ASAP. Obtain TSH/T4 labs, check opposite side (bilaterality), and obtain diagnostic films, especially frog-leg lateral view. If you have any concerns about a SCFE without definitive radiologic findings, discuss with a pediatric orthopedic surgeon for further imaging (MRI), especially in high-risk populations or with persistent, worrisome symptoms.

WHEN TO REFER

Refer to Cincinnati Children's Orthopedics for further evaluation and management when:

- Patients with altered gait, knee pain, hip pain, obligate external rotation or other signs/symptoms, especially in high-risk populations
- Patients with positive radiograph for SCFE.

If you have clinical questions about patients with SCFE, knee or hip pain, call the Physician Priority Link at 513-636-7997.

If you would like additional copies of this tool, or would like more information, please contact the Physician Outreach and Engagement team at Cincinnati Children's.

Slipped Capital Femoral Epiphysis

Inclusion Criteria

- 10–16 years old (may be younger or older, in certain populations)
- Unilateral or bilateral hip pain and/or knee pain
- Limp or altered gait

Patient Presents

Standard Workup

- Situational History
- Family History
- Physical Exam

HPE RED FLAGS

Situational History

- Obese
- High-risk
- Height <10th percentile
- “Skinny” SCFE—SCFE can happen regardless of BM
- Trisomy 21
- Endocrinopathy
- Trauma

Family History

- SCFE
- Endocrinopathies

Physical Exam

- Hip/knee pain
- Altered gait
- Limp
- Pain increases with activity or stays same
- Obligate external rotation with hip flexion
- Pain with hip ROM

Evaluate for SCFE as follows:

1. **Cease all activity**—have patient be non-weight bearing immediately
2. **Check opposite side**—bilaterality is common; might otherwise go unnoticed
3. **Run TSH/T4 labs**
4. **Physical exam**—with patient supine, **assess for obligate external rotation of affected hip with flexion**—when patient cannot flex the hip without externally rotating it. Compare to unaffected side.
5. **Obtain diagnostic X-rays:**
 - a. Anteroposterior pelvis X-ray in supine position
 - b. Most important: **frog-leg lateral** to assess Klein’s line. This is the most important film to obtain—it is essential to diagnose SCFE. In patient with sudden pain or recent inability to walk, a cross-table lateral may be substituted to prevent iatrogenic worsening of the slip.

Positive

Refer to Ortho

No evidence of SCFE on plain films or concern for SCFE”

Evaluate for injury or infection

Yes

Appropriate trauma or infection work-up

No

Observation, consider other causes

For urgent issues, or to speak with the specialist on call 24/7, call the Physician Priority Link at 1-888-987-7997.