

A 13-year-old boy is brought to the physician for evaluation of a limp. He has had mild left hip pain for several weeks. After the boy fell off his bicycle today, his mother noticed that he was limping and brought him to the office. His body mass index is 31 kg/m². He walks with a limp to the examination table, favoring his right leg. As he sits down, his left leg is rotated externally. There is decreased range of motion and pain with internal rotation of his left hip. There is no leg length discrepancy. Bilateral anteroposterior and frog-leg lateral x-rays of both hips are obtained. The frog-leg lateral view is shown below. What is the most likely diagnosis?



- ☐ A. Avascular necrosis of the femoral head
- ☐ B. Chronic developmental hip dysplasia

leg is rotated externally. There is decreased range of motion and pain with internal rotation of his left hip. There is no leg length discrepancy. Bilateral anteroposterior and frog-leg lateral x-rays of both hips are obtained. The frog-leg lateral view is shown below. What is the most likely diagnosis?



- ☐ A. Avascular necrosis of the femoral head
- ☐ B. Chronic developmental hip dysplasia
- ☐ C. Femoral neck stress fracture
- ☐ D. Legg-Calvé-Perthes disease
- ☐ E. Slipped capital femoral epiphysis

Submit

A 13-year-old boy is brought to the physician for evaluation of a limp. He has had mild left hip pain for several weeks. After the boy fell off his bicycle today, his mother noticed that he was limping and brought him to the office. His body mass index is 31 kg/m². He walks with a limp to the examination table, favoring his right leg. As he sits down, his left leg is rotated externally. There is decreased range of motion and pain with internal rotation of his left hip. There is no leg length discrepancy. Bilateral anteroposterior and frog-leg lateral x-rays of both hips are obtained. The frog-leg lateral view is shown below. What is the most likely diagnosis?



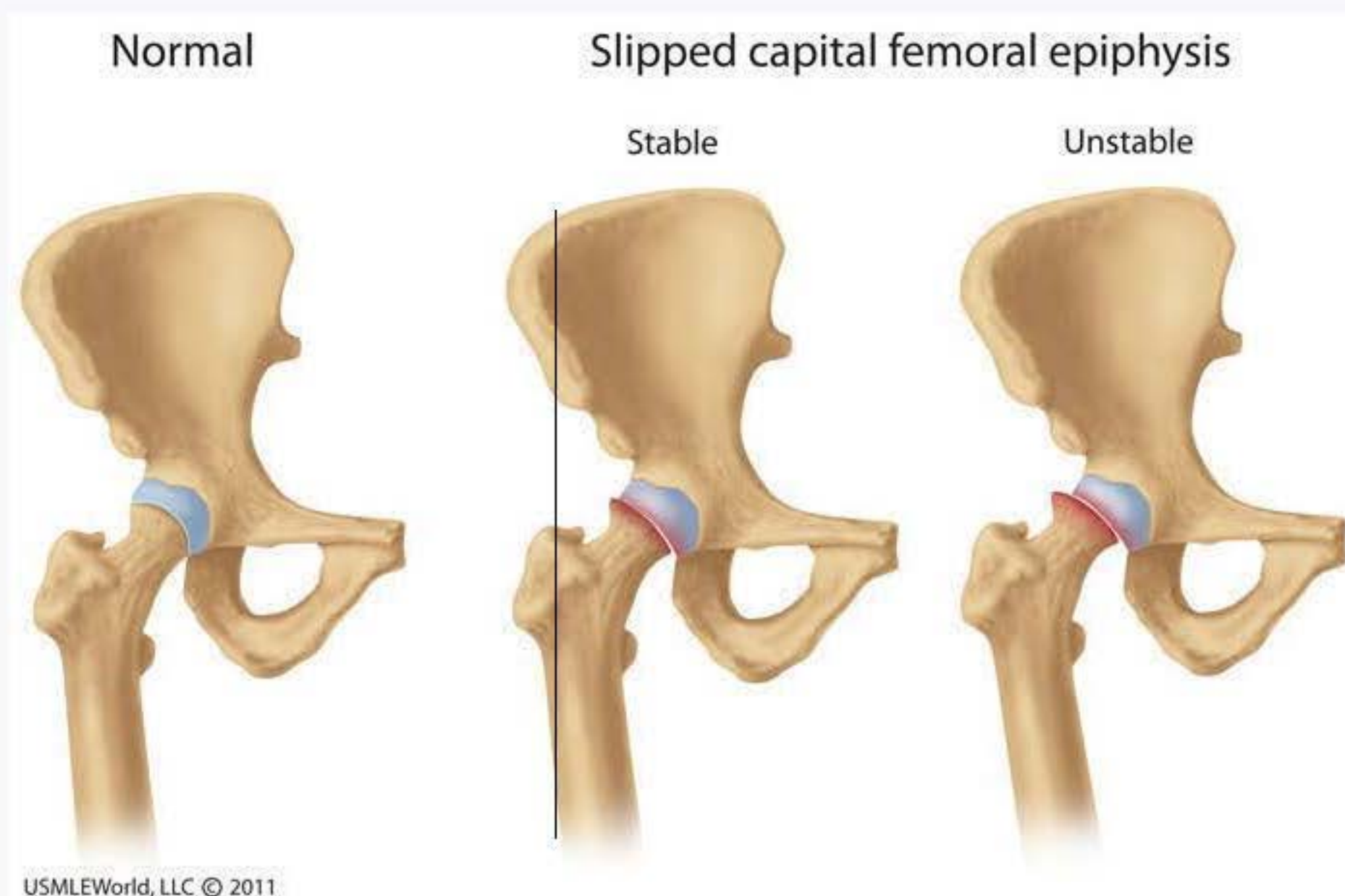
- ☐ A. Avascular necrosis of the femoral head [4%]
- ☐ B. Chronic developmental hip dysplasia [2%]

- ☐ A. Avascular necrosis of the femoral head [4%]
- ☐ B. Chronic developmental hip dysplasia [2%]
- ☐ C. Femoral neck stress fracture [4%]
- ☐ D. Legg-Calvé-Perthes disease [8%]
- ☒ E. Slipped capital femoral epiphysis [82%]

[Proceed to Next Item](#)

Explanation:

User Id: [REDACTED]



This patient has slipped capital femoral epiphysis (SCFE), displacement of the capital femoral epiphysis from the femoral neck. This typically presents in **obese** children age 10-16 years. **Adolescent** boys are affected slightly more often than girls. Additional risk factors include endocrinopathies (eg, hypothyroidism, growth hormone deficiency), renal failure, and radiation history. Children with endocrinopathies almost always have

USMLEWorld, LLC © 2011

This patient has slipped capital femoral epiphysis (SCFE), displacement of the capital femoral epiphysis from the femoral neck. This typically presents in **obese** children age 10-16 years. **Adolescent** boys are affected slightly more often than girls. Additional risk factors include endocrinopathies (eg, hypothyroidism, growth hormone deficiency), renal failure, and radiation history. Children with endocrinopathies almost always have bilateral disease and present at an earlier age. Patients classically present with an insidious onset of dull hip or referred knee pain and altered gait with no preceding trauma. Minor trauma, as in this patient, can sometimes exacerbate the pain and bring the patient to medical attention. On examination, patients tend to hold the affected hip in passive external rotation and exhibit decreased internal rotation, abduction, and flexion. Diagnosis is made with plain radiographs of the hip (anteroposterior and frog-leg lateral views), which show the posteriorly and inferiorly **displaced femoral head**. Both hips should be imaged for comparison and to assess for contralateral displacement. The gold standard treatment is **immediate surgical screw fixation** at the current degree of slippage to avoid the risk of avascular necrosis (AVN).

(Choice A) AVN of the femoral head can be a complication of SCFE as the displaced femoral head can disrupt the blood supply.

(Choice B) Developmental hip dysplasia is caused by abnormal development of the hip in utero. It is usually detected on the newborn physical examination but can be diagnosed at a later age when a limp is noted. Leg length discrepancy is present and radiographs show a poorly formed femoral head, making this diagnosis unlikely.

(Choice C) **Femoral neck stress fractures** occur most commonly in runners or other athletes doing extensive training. Patients typically present with a gradual increase in hip pain, especially with activity. They also have pain with passive range of motion of the hip, especially internal and external rotation.

(Choice D) **Legg-Calvé-Perthes disease** is a syndrome of idiopathic AVN of the hip that most commonly affects boys age 5-7 years.

Educational objective:

Slipped capital femoral epiphysis is a common hip disorder seen in overweight adolescents. Urgent surgical fixation is required to prevent avascular necrosis of the hip.

References:

1. **Slipped capital femoral epiphysis update.**
2. **Changing incidence of slipped capital femoral epiphysis: a relationship**

This patient has slipped capital femoral epiphysis (SCFE), displacement of the capital femoral epiphysis from the femoral neck. This typically presents in **obese** children age 10-16 years. **Adolescent** boys are affected slightly more often than girls. Additional risk factors include endocrinopathies (eg, hypothyroidism, growth hormone deficiency), renal failure, and radiation history. Children with endocrinopathies almost always have bilateral disease and present at an earlier age. Patients classically present with an insidious onset of dull hip or referred knee pain and altered gait with no preceding trauma. Minor trauma, as in this patient, can sometimes exacerbate the pain and bring the patient to medical attention. On examination, patients tend to hold the affected hip in passive external rotation and exhibit decreased internal rotation, abduction, and flexion. Diagnosis is made with plain radiographs of the hip (anteroposterior and frog-leg lateral views), which show the posteriorly and inferiorly **displaced femoral head**. Both hips should be imaged for comparison and to assess for contralateral displacement. The gold standard treatment is **immediate surgical screw fixation** at the current degree of slippage to avoid the risk of avascular necrosis (AVN).

(Choice A) AVN of the femoral head can be a complication of SCFE as the displaced femoral head can disrupt the blood supply.

(Choice B) Developmental hip dysplasia is caused by abnormal development of the hip in utero. It is usually detected on the newborn physical examination but can be diagnosed at a later age when a limp is noted. Leg length discrepancy is present and radiographs show a poorly formed femoral head, making this diagnosis unlikely.

(Choice C) **Femoral neck stress fractures** occur most commonly in runners or other athletes doing extensive training. Patients typically present with a gradual increase in hip pain, especially with activity. They also have pain with passive range of motion of the hip, especially internal and external rotation.

(Choice D) **Legg-Calvé-Perthes disease** is a syndrome of idiopathic AVN of the hip that most commonly affects boys age 5-7 years.

Educational objective:

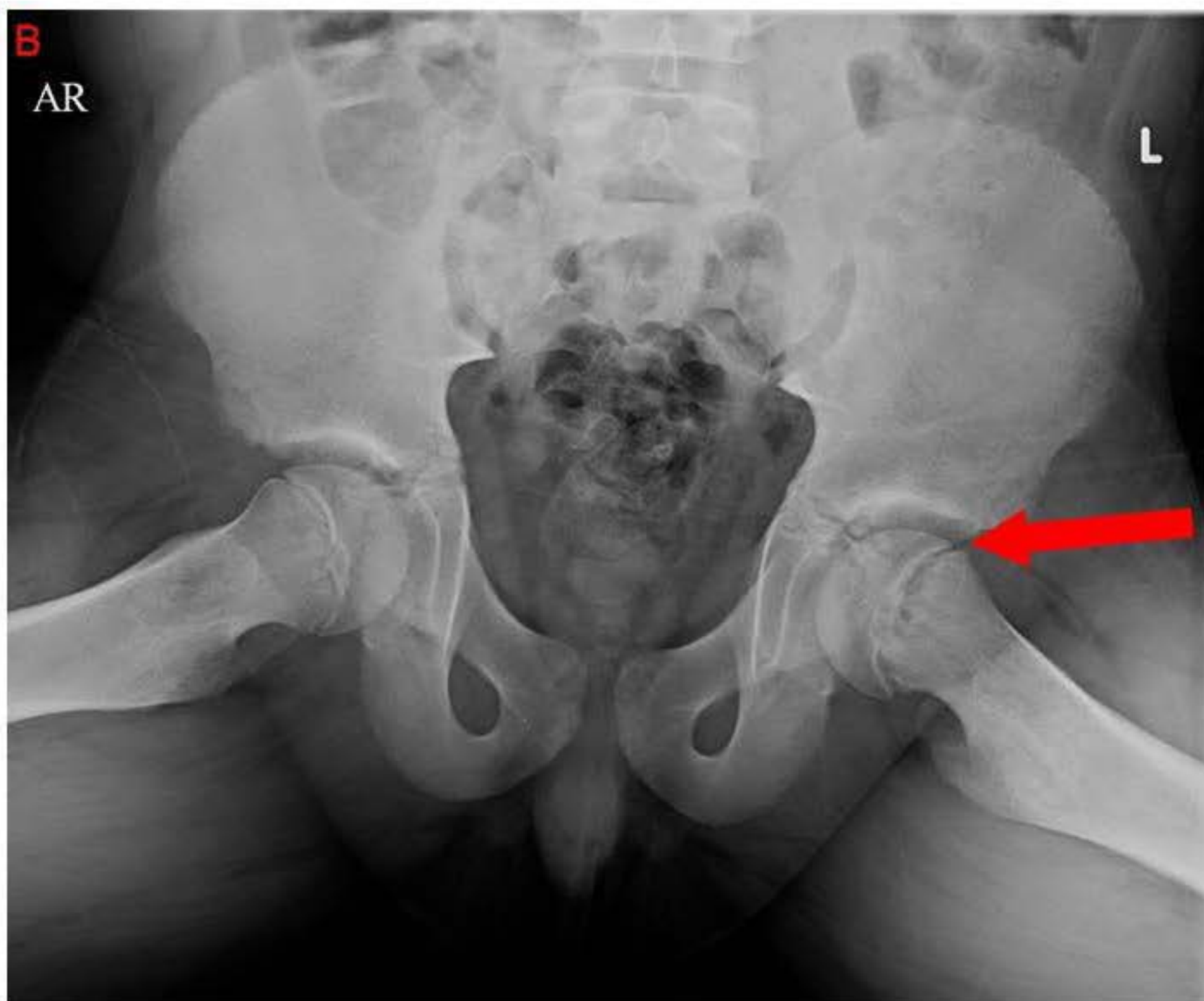
Slipped capital femoral epiphysis is a common hip disorder seen in overweight adolescents. Urgent surgical fixation is required to prevent avascular necrosis of the hip.

References:

1. **Slipped capital femoral epiphysis update.**
2. **Changing incidence of slipped capital femoral epiphysis: a relationship with obesity?**

Media Exhibit

capital femoral epiphysis



Media Exhibit

Slipped capital femoral fracture



Media Exhibit

Slipped Capital Femoral Epiphysis

