

# Osteonecrosis of the Femoral Head

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This month's quiz is based on the article "Osteonecrosis of the Femoral Head," which begins on page 13 of this issue. Choose the single best answer for each question.

**1. Which of the following is a common presentation of osteonecrosis of the femoral head (ONFH)?**

- (A) A man in his mid 40s who presents with throbbing groin pain 2 years after a femoral neck fracture
- (B) A postmenopausal woman with acute leg and hip pain after a fall on her icy driveway
- (C) A 65-year-old nonsmoker with no history of prednisone or alcohol use who reports mild hip and shoulder pain at his annual physical exam
- (D) A 13-year-old female soccer player who has recently started menarche and complains of diffuse pain in her groin

**2. Osteonecrosis is believed to occur as a result of which of the following?**

- (A) Autoimmune antibodies that attack the articular cartilage
- (B) Damage to the vascular supply of the femoral head
- (C) Epstein-Barr virus that causes chondrocyte death
- (D) Genetic damage to the chondrocytes
- (E) Hyperactive synovial enzyme production

**3. Which of the following is regarded as a risk factor for ONFH?**

- (A) Anorexia
- (B) Chronic kidney disease
- (C) High-altitude climbing
- (D) Osgood-Schlatter disease
- (E) Warfarin usage

**4. Which imaging modality is most likely to detect the earliest signs of ONFH in a 39-year-old woman with atraumatic groin pain?**

- (A) Computerized tomography (CT) with contrast
- (B) CT without contrast
- (C) Magnetic resonance imaging (MRI)
- (D) Plain radiograph (anteroposterior and lateral views)
- (E) Positron emission tomography

**5. ONFH can be confused with which of the following conditions?**

- (A) Osteogenesis imperfecta
- (B) Osteomalacia
- (C) Osteosarcoma
- (D) Paget's disease
- (E) Transient osteoporosis

**6. Which of the following is seen with Steinberg stage VI ONFH in adults?**

- (A) The "crescent" sign
- (B) Findings on MRI only
- (C) Flattening of the femoral head on radiograph that involves more than 30% of the femoral head
- (D) Marked arthritis of the hip joint
- (E) Sclerosis of the femoral head with normal head sphericity and normal joint space

**7. Current treatment of moderate-volume ONFH in adults should mainly be determined by which of the following?**

- (A) Etiology
- (B) Physical examination
- (C) Stage of the lesion
- (D) Symptoms

**8. Late-stage ONFH is most often managed with which of the following?**

- (A) Core decompression of the femoral head
- (B) Hemiarthroplasty
- (C) Nonvascularized bone graft
- (D) Total hip arthroplasty

**9. Early-stage ONFH is most often managed with which of the following?**

- (A) Core decompression of the femoral head
- (B) Hemiarthroplasty
- (C) Nonvascularized bone graft
- (D) Total hip arthroplasty

For answers, see page 56.

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**Answers to the Clinical Review Quiz, which appears on page 55. The article on osteonecrosis of the femoral head begins on page 13.**

1. (A) A man in his mid 40s who presents with throbbing groin pain 2 years after a femoral neck fracture
2. (B) Damage to the vascular supply of the femoral head
3. (B) Chronic kidney disease
4. (C) MRI
5. (E) Transient osteoporosis
6. (D) Marked arthritis of the hip joint
7. (C) Stage of the lesion
8. (D) Total hip arthroplasty
9. (A) Core decompression of the femoral head

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