

## Hip pain in a young adult – 3

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A 38-year-old patient presents with a history of left groin pain exacerbated by weight bearing. What causes of hip pain should be considered in this case?

### Case presentation

A 38-year-old man presents with left groin pain of two months' duration. The pain is exacerbated by weight bearing activities and he is now experiencing occasional night pain. His general health is good, although he admits to drinking six schooners of beer after work each day. He is a keen recreational deep sea diver.

On examination, the patient walks with a mild antalgic gait and he has a positive Trendelenburg sign. Examination of his left hip reveals irritability, particularly in rotation. The remainder of his examination is unremarkable.

### Differential diagnosis

The main diagnoses to consider in this case are:

- avascular necrosis of the hip
- inflammatory arthritis of the hip
- primary osteoarthritis
- a stress fracture.

The patient has signs and symptoms that are consistent with avascular necrosis of the femoral head. His history reveals two risk factors that lead one to suspect

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Figure 1. X-ray shows slight irregularity in the surface of the femoral head.

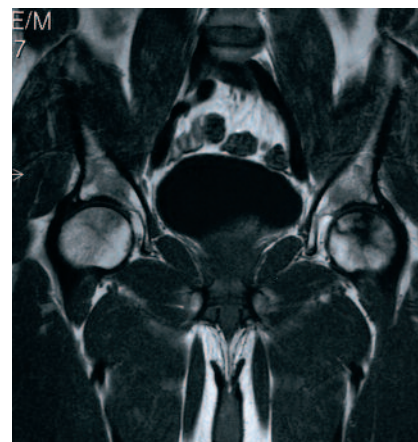


Figure 2. MRI shows avascular necrosis of the left femoral head.

the diagnosis: first, he is a heavy drinker (he has nine standard drinks each day); second, he is a deep sea diver.

### Management

A hip x-ray demonstrates slight irregularity of the femoral head surface, and a preliminary diagnosis of avascular necrosis of the hip is made (Figure 1). An MRI scan, the investigation of choice, demonstrates an area of avascular necrosis affecting the femoral head and outlines the size of the lesion (Figure 2).

The patient underwent a core decompression of the femoral head and remained nonweight bearing for six weeks. His pain resolved and he will be reviewed on a yearly basis.

### Discussion

Untreated avascular necrosis of the femoral head has a natural history of femoral head collapse (80% of cases within four years), which leads to progressive osteoarthritis and, ultimately, the need for a total hip replacement. Nonsurgical treatments such as protected weight bearing have not proven to be successful. There are no known drugs that can significantly alter the natural history of the disease, but research is continuing.

The current recognised treatment for early avascular necrosis of the hip (that

is, before femoral head collapse) is core decompression of the femoral head. This procedure involves drilling out the area of necrosis, which decompresses the defect and thus reduces the intraosseous pressure and provides pain relief. A bone graft can be added at the time of the procedure. Core decompression is reported to provide pain relief in 75 to 80% of patients for at least five years.

If the femoral head demonstrates collapse, the main treatment option is a total hip replacement – 10 to 15% of hip replacements are due to osteoarthritis caused by avascular necrosis. Very occasionally, an osteotomy can be performed to remove the affected area of the femoral head from the weight bearing zone.

### Key points

- The risk factors for avascular necrosis of the femoral head include: trauma, alcohol, corticosteroids and deep sea diving. Post-irradiation necrosis and Gaucher's disease (glucocerebrosidosis) are other risk factors.
- An x-ray together with an MRI scan are the investigations of choice for avascular necrosis.
- Core decompression of the femoral head is indicated in the pre-collapse phase; however, a total hip replacement may ultimately be required. **MT**