

## **Early-stage osteonecrosis of the femoral head: where are we and where are we going in year 2018?**

Osteonecrosis of the femoral head (ONFH) is a devastating condition affecting relatively young patients whereby the femoral head is necrotic, resulting in significant pain, articular surface collapse, and eventual osteoarthritis. This condition has been highly associated with chronic steroid use, alcoholism, and hip trauma, as well as other less common conditions. Without intervention, this condition has a high likelihood of progressing and developing into end-stage osteoarthritis. Unfortunately, ONFH is difficult to diagnose on plain radiographs in the early stages of the disease, and often requires more advanced imaging modalities such as MRI in order to fully assess for early degeneration. Providers, therefore, must have a high index of suspicion when a younger patient presents with hip pain and negative X-rays. Unfortunately, in patients whose femoral heads have already collapsed, joint-preserving procedures are not effective, and total hip arthroplasty remains the most reliable long-term treatment. Multiple treatments have been pursued to address osteonecrosis in patients whose femoral head have not yet collapsed, but the results of these treatments are mixed. The most promising of these interventions to date is core decompression with the use of concentrated bone marrow aspirate to improve the healing potential of the femoral head. Further studies including randomized clinical trials are necessary in order to assess the effectiveness of this therapy, the best possible source of cells and the best method of implantation in order to further improve results in those with pre-collapse ONFH.

Eric S. Larson, MD  
Resident Physician  
Department of Orthopaedic Surgery  
University of Virginia Health System