

## Intra-articular Corticosteroid Injections in the Hip and Knee: Perhaps Not as Safe as We Thought?

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AP knee x-ray (a) and coronal MRI (b) in a 69-year-old who received an IACS injection for right knee pain and developed a subchondral insufficiency fracture of the medial femoral condyle (arrows) 11 months after treatment

- Adverse events after intra-articular corticosteroid (IACS) injection, including accelerated osteoarthritis progression, subchondral insufficiency fracture, osteonecrosis, and rapid joint destruction with bone loss, are becoming more recognized by physicians
- Certain imaging findings and patient characteristics may assist physicians in identifying which joints are at risk for complications after IACS injections combined with local anesthetics
- High-quality research is needed to prevent or minimize complications after IACS injections

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### Abstract

An increased clinical awareness of adverse joint events after intraarticular corticosteroid injections has led to potential imaging findings and patient characteristics that may assist in identifying which joints could be at risk, although high-quality evidence regarding this topic is lacking.

Osteoarthritis (OA) of the hip and knee is among the most common joint disorders. Intra-articular corticosteroid (IACS) injections are frequently performed to treat OA and other joint-related pain syndromes; however, there is conflicting evidence on their potential benefit. There is a lack of prospective and large retrospective studies evaluating potential joint findings, including increased risk for accelerated OA progression or adverse joint events, after treatment with IACS injection. Four main adverse joint findings have been structurally observed in patients after IACS injections: accelerated OA progression, subchondral insufficiency fracture, complications of osteonecrosis, and rapid joint destruction, including bone loss. Physicians, including radiologists, should be familiar with imaging findings and patient characteristics that may help them identify potential joints at risk for such events. The purpose of this report is to review the existing literature, describe observed adverse joint events after IACS injections, and provide an outlook on how this may affect clinical practice. Additional research endeavors are urgently needed to better understand and identify risk factors prior to intervention and to detect adverse joint events after injection as early as possible to prevent or minimize complications.

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