

ARTHROSCOPIC ASSISTED REDUCTION AND FIXATION OF TIBIAL PLATEAU FRACTURES

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Fractures of the tibial plateau are intra-articular fractures that are capable of causing severe consequences if not appropriately treated¹. Inherent in our philosophy of treating intra-articular fractures, particularly in weight-bearing joints, is the goal of anatomical stable fixation of the joint surface for early functional rehabilitation. Visualization of the knee joint via arthroscopy has led to its broader application to fracture management².

Although tibial plateau fractures may occur as isolated lesions, concurrent intra-articular knee injuries are common. Up to 47% of knees with closed tibial plateau fractures have injuries of the menisci that may require surgical treatment. Also, up to 32% of knees with tibial plateau fractures have complete or partial tears of the anterior cruciate ligament (ACL)³.

The arthroscope has long been recognized as a useful aid in the management of intra-articular fractures. The potential advantages of arthroscopic reduction and internal fixation (ARIF) are well documented: better visualization of joint surface reduction, lavage and removal of hematoma and small loose fracture fragments, treatment of concomitant soft tissue injuries to ligaments and menisci, and limited soft tissue dissection with no need to peripherally detach the meniscus to gain visualization^{2,4}. Moreover, ARIF is proposed to improve postoperative recovery, including decreased pain, shorter hospital stay, and return of knee ROM^{2,4}.

The ultimate goals of tibial plateau fracture management are to re-establish joint stability, alignment, and articular congruity while preserving full range of motion³. In such a case, painless knee function may be gained and post-traumatic arthritis could be minimized. Not all fractures of the tibial plateau require surgery. The first challenge in the management of tibial plateau fractures is to decide between conservative and surgical treatment. Fractures that are stable and are minimally displaced may be amenable to conservative treatment in the form of cast immobilization, or bracing. Other indications for conservative treatment may include fractures in elderly, frail, low-demand, or osteoporotic patients³.

Arthroscopy allows for accurate fracture reduction while obviating the need for extensive operative exposure. In some regards, arthroscopy narrows the gap between the extremes of open versus nonoperative management³.