Arthroscopic Targeted Screw Placement for Low-Energy Distal Tibial (Pilon) Fractures

Anthony Jordan Mantor[1], Srihan Anand, Kevin D Martin
[1]The Ohio State University College of Medicine

Pilon fractures are distal tibial impact fractures that can occur with or without fibular involvement. They frequently cause complex fracture patterns involving the metaphyseal and articular tibial regions.[1] Common mechanisms of injury for simple, low-energy pilon fractures are distal tibial impact and twisting injuries.[2,3] Pilon fractures make up 3-10% of all tibial fractures.[2]

Treatment of choice varies depending on the fracture pattern and surrounding soft-tissue damage. External fixation and delayed open reduction are typically utilized to prioritize soft tissue before definitive anatomic reduction.[2] However, complication rates are still high despite a staged treatment approach. Common complications include wound breakdown, infection, nerve injury, and posttraumatic ankle arthritis.[1-3]

We propose an arthroscopic reduction percutaneous fixation in favor of a traditional open reduction internal fixation (ORIF). This allows for less disruption of the soft tissue envelope and a more expedited surgical timeframe.