

Post-traumatic Osteoarthritis With Deformities, Any Salvage Apart From Fusion?

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Ankle fractures represent 10% of all fractures, making these the second most common lower extremity fractures after hip fractures. Injuries by severe fracture-dislocations with soft-tissue compromise requiring surgical treatment and often leading to substantial post injury morbidity. Painful posttraumatic osteoarthritis, nonunion, and stiffness are the most commonly encountered non-septic complications.

Posttraumatic osteoarthritis of the ankle that occurs despite adequate initial treatment or after attempted reconstruction, because of cartilage damage at the time of injury. Although multiple new methods of fixation are available, patients should be counsel on the risk factors for complications, including the development of posttraumatic osteoarthritis.

Treatment of posttraumatic osteoarthritis should be tailored to the severity of the symptoms and to patient needs and characteristics. Treatment options include activity modification, bracing, distraction arthroplasty, ankle arthrodesis, and ankle arthroplasty. Among these surgical options, distraction arthroplasty and ankle arthroplasty are salvage procedures to preserve ankle motion.

Distraction arthroplasty is based on the concept that mechanical unloading of the joint and the intermittent flow of intraarticular synovial fluid encourage cartilage healing. The ideal candidate for distraction arthroplasty has been described as a young patient whose symptoms are not relieved with conservative measures and who is unwilling to have an arthrodesis.

Current mobile-bearing total ankle arthroplasty have achieved good clinical results for post-traumatic and primary osteoarthritis. More preceding or concomitant surgeries were required in order to make the post-traumatic cases suitable for total ankle arthroplasty. The ideal indication for ankle arthroplasty has been described as an older, thin, low-demand individual with minimal deformity and retained ankle range of motion.

Despite of an anatomic articular reduction of ankle and pilon fractures, when the posttraumatic osteoarthritis may be developed, active salvage procedure such as distraction arthroplasty and total ankle arthroplasty should be considered preferentially.