Anterior Ankle Arthroscopy

Indications, Pitfalls, and Complications

David M. Epstein, MD[a,b,*], Brandee S. Black, MD, MEd[c], Seth L. Sherman, MD[c]

KEYWORDS

• Ankle arthroscopy • Anterior ankle arthroscopy • Indications • Complications • Pitfalls • Technique

KEY POINTS

- Anterior ankle arthroscopy is a comprehensive tool for diagnosis and treatment of a diverse range of ankle pathologies.
- Indications are expanding with improved surgical technique and instrumentation and include management of instability, impingement, osteochondritis dissecans lesions, chondral lesions, fractures, synovitis and loose bodies.
- Knowledge of ankle anatomy and biomechanics is critical to avoid iatrogenic complications.
- The complication rate of anterior ankle arthroscopy ranges from 3.4% to 9%; most common complications include neurologic injury to the superficial peroneal nerve and superficial infection.

INDICATIONS

Anterior ankle arthroscopy is indicated for the diagnosis and treatment of a broad spectrum of common ankle disorders (**Box 1**).[1] Over the past few decades, advances in operative techniques and arthroscopic instrumentation have allowed these

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[a] Tri-County Orthopedics & Sports Medicine, 197 Ridgedale Avenue, Suite 300, Cedar Knolls, NJ 07927, USA; [b] Morristown Medical Center, 100, Madison Avenue, Morristown, NJ 07960, USA; [c] Department of Orthopaedic Surgery, University of Missouri, 1100 Virginia Avenue, Columbia, MO 65212, USA

* Corresponding author.

E-mail address: drdeps@gmail.com

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Box 1
Indications in foot and ankle arthroscopy

- Ankle impingement
  - Bony impingement
  - Soft tissue impingement
- Osteochondral lesions
- Ankle instability
- Removal of loose bodies
- Assessing fracture reduction
  - Evaluating for chondral injury
  - Evaluating for syndesmosis injury
- Arthrofibrosis
- Arthritis
- Chronic synovitis

indications to expand to include rare or complex injury patterns. Ankle arthroscopy—compared with open procedures in the foot and ankle—allows for preservation of the soft tissue envelope, thus accelerating a return to daily activities and athletic endeavors.[2–5] Additionally, diagnostic arthroscopy has proven to be a valuable tool in the comprehensive treatment of many foot and ankle injuries.[1,6–10] A recent study by Amendola and Bonasia[11] revealed arthroscopy to be more sensitive when compared with preoperative physical examination and imaging in diagnosing chondral injury in the chronically unstable ankle (50% vs 4% sensitivity).

A systematic review by Glazebrook and colleagues[12] found fair, evidence-based literature to support a recommendation for the use of ankle arthroscopy for the treatment of ankle impingement and osteochondral lesions and also as an adjunct to ankle arthrodesis. Although commonly used, less support is found in the literature for routine use of arthroscopy for ankle instability, septic arthritis, arthrofibrosis, and removal of loose bodies. The authors concluded that insufficient evidence exists to support or refute the benefit of arthroscopy for the management of ankle fractures.

The use of ankle arthroscopy for the management of ankle and talus fractures can be valuable at the time of reduction and fixation (**Fig. 1**). Advantages of arthroscopically assisted internal fixation for talus fractures include improved anatomic exposure with the potential for reduced postoperative infection and skin necrosis, better visualization of the articular surface for fracture reduction, and preservation of blood supply. Potential disadvantages include increased surgical time, soft tissue swelling, and challenging surgical technique.[13,14]

Arthroscopically assisted internal reduction for ankle fractures—as well as evaluation of chondral damage after ankle fracture fixation—have been described with minimal adverse sequelae. Arthroscopic evaluation of 9 ankle joints after either supination–external rotation or pronation–external rotation fractures identified 8 patients with articular cartilage damage to the talar dome that was not identified on preoperative imaging.[15] Additionally, a retrospective review from Leontaritis and colleagues[16] found that, among 84 patients treated with open reduction internal fixation along with ankle arthroscopy, 61 (73%) had intra-articular chondral lesions.