Bibliography:


**5:08 – 5:13 pm**

**Distraction Arthroplasty: When you Should Consider it**

**Douglas N. Beaman, MD**

Summit Orthopaedics
Emanuel Hospital
Portland, Oregon

Joint distraction has demonstrated some degree of success in the literature for the treatment of ankle and hip arthritis. Laboratory studies also lend support to the concept of distraction altering an arthritic joint. With respect to the ankle, earlier clinical studies focused primarily on the role of distraction alone or with anterior joint debridement.

The studies over the past year have brought to light the potential importance of adjuvant procedures with distraction. These additional procedures have included osteotomies with a focus on deformity correction. Past literature has shown that realignment alone may improve the clinical symptoms of an arthritic joint. It remains unclear whether distraction added to deformity correction actually improves the clinical result over deformity correction alone. However, if performing a gradual correction of a distal tibia deformity with ring external fixation, it seems clinically appropriate to add joint distraction to the procedure.

A case report by Belczyk et al further highlights the potential of ankle distraction to augment other procedures in the ankle. Although this is only one case, many clinical situations exist that may benefit from the stability offered by ring external fixation with some degree of joint distraction. In our experience, these have included ankle trauma with significant articular cartilage damage, osteochondral lesions of the talus, which have required multiple surgical procedures, complex, or severe ligamentous instability (particularly involving the deltoid ligament), and ligament reconstructions with associated ankle arthritis.

As the data continues to slowly accumulate on ankle distraction, it remains unclear as to the actual degree of success of the procedure in improving pain. In the recent studies as well as the older literature, joint retention may not necessarily mean the procedure effectively eliminated pain. It can be discerned from these studies that many of the patients treated continue to have discomfort, but it is also unclear whether arthrodesis or ankle replacement would offer a better clinical result.

It is still a difficult clinical decision whether to proceed with ankle distraction or another procedure in the face of ankle arthritis. Based on personal experience and the literature, it may be reasonable to consider joint distraction for the young motivated patient with a mobile joint. Patients undergoing distraction should understand that persistent pain is not an uncommon result. In the older patient or one with a stiff joint, although distraction may still offer some degree of success, an arthrodesis or
replacement may be more reliable. Patient selection is very important and success is more likely with motivated and compliant patients who have realistic expectations.

Although there have been few recent articles on ankle joint distraction, they have highlighted the importance of concomitant deformity correction. Even though clinical success has been demonstrated with the procedure, further well designed clinical trials are needed to more clearly define its indications for the treatment of ankle arthritis and its relative success compared to other treatment modalities.

References


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**5:14 – 5:19 pm**

**What does the Evidence Show?**

**Timothy R. Daniels, MD**  
Associate Professor  
Foot and Ankle Surgery, Trauma  
Director, Foot and Ankle Program  
University of Toronto  
Toronto, Ontario, Canada

*Motion is life - life is motion* is a motto adopted by the Canadian Orthopaedic Association to promote the activities of its members and to emphasize the importance of motion in the management of joint disease. Hip and knee arthroplasties are two of the most successful operations in the past century. For management of end-stage ankle arthritis, however, arthrodesis continues to be the mainstay of an orthopaedic practice. This is in part due to the early catastrophic failures of the ‘first generation’ ankle arthroplasties and the high patient satisfaction following an ankle arthrodesis. Despite the initial failures of ankle arthroplasties several individuals remained committed to the possibilities of replacing the ankle joint and their persistence has resulted in the introduction of a ‘second and third generation’ ankle implants. Preliminary clinical results are promising, again giving rise to total ankle arthroplasty (TAR) as an option for managing end-stage arthritis. These recent developments have prompted the current debate at many National and International meetings regarding the role of ankle arthroplasty in the management of end stage ankle arthritis.

Unfortunately, the current literature highlights a paucity of comparative, prospective and long-term studies for the various surgical options available to patients with end-stage ankle arthritis. Currently, the most common procedures performed are ankle arthrodesis and arthroplasty. Though the option of ankle arthroplasty is relatively new, no comparative studies are available to help the treating surgeons determine which procedure to choose and what advice to give their patients. Why are comparative studies not being performed before introducing new technology? Is this a fault of the profession, the fault of the current scientific system, the fault of industry, the fault of the pathology or a combination of all of the above? This is a difficult question to answer but one that needs to be asked. Problems with assessing outcomes of arthroplasty are that outcomes of greater than 5 years are required and some questions can only be answered with 15- to 20-year outcomes. Realistically, a study with 5-year outcomes takes 10 years to evolve, and another 2 years to reach publication. Therefore, a 5-year outcome study is often the result of 12 years of work. Not uncommonly, by the time these results are published, the technology has changed substantially making the outcomes obsolete.

In conclusion, after thorough review of the literature, the only expert advice I can offer is that the short-term outcomes of ankle fusion and arthroplasty are equivalent. Does the motion allowed for by an ankle