

**“Ankle Arthroscopy: No-Distraction and Dorsiflexion Technique Is the Key for Ankle Arthroscopy Evolution”**

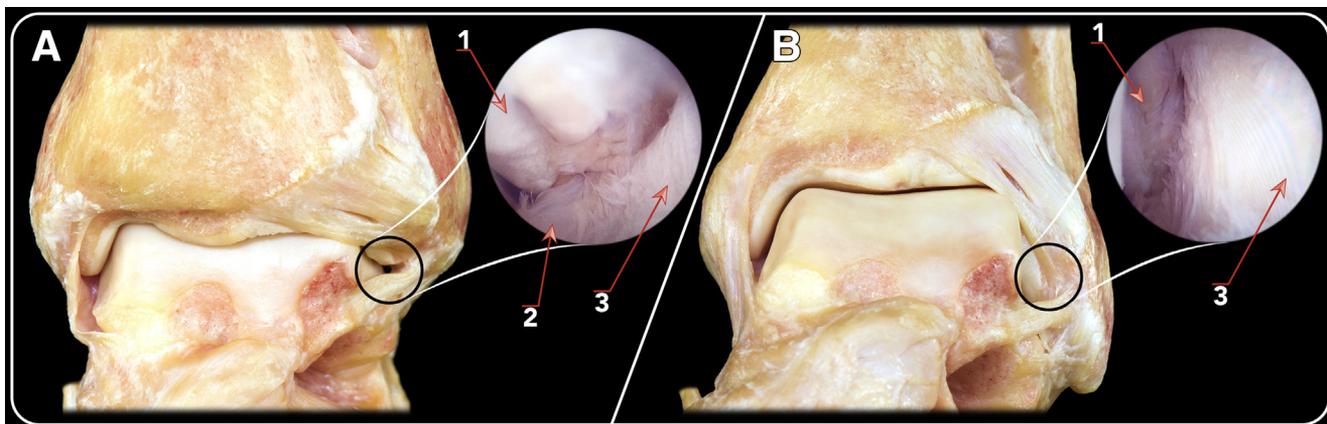


We have read with interest the Editorial Commentaries “Ankle Arthroscopy: Correct Portals and Distraction Are the Keys to Success” and “Osteochondral Lesions of the Talus—Are We Going the Wrong Way?” both published by Dr. Richard D. Ferkel in this journal.<sup>1,2</sup>

In these Editorial Commentaries, Dr. Ferkel made 2 statements that we would like to highlight: (1) “We must continue to push the envelope and develop more arthroscopic techniques in the foot and ankle that benefit our patients and return them back to work and sports more quickly and efficiently,” and (2) “I would encourage the readers to continue to improve their ankle arthroscopy skills by attending hands-on courses at the Orthopaedic Learning Center in Chicago and other venues.”<sup>1</sup> We deeply agree with him: (1) It is true that new arthroscopic techniques in the foot and ankle would benefit our patients; (2) true, hands-on courses are very important for surgeon formation.

However, it is difficult to evolve and describe new techniques if a technique such as routine-distraction is the only one used in ankle arthroscopy. This seems to also be the only technique explained in hands-on courses in the United States of America. Likewise, the routine-distraction ankle arthroscopic technique is still promoted in both editorial commentaries, and no comments are made about the dorsiflexion technique for ankle arthroscopy.

It is interesting to see how the arthroscopic technique has evolved in every joint from diagnostic arthroscopy (first generation) to debridement/resection arthroscopy (second generation) and finally to arthroscopic tissue repair (third generation). Although in the United States of America ankle arthroscopy seems to be anchored in second generation techniques, third generation ankle arthroscopic repair techniques are being commonly described everywhere.<sup>3-5</sup> This is strongly related to the fact that in the USA ankle arthroscopy is commonly performed with routine-distraction, whereas no-distraction and dorsiflexion is the commonest technique almost in the rest of the world. This allows us to perform more advanced techniques. Anatomic reasons support this fact: the ankle joint capsule is inserted at a distance from the articular cartilage; with the no-distraction and dorsiflexion technique, the capsule is relaxed and an anterior working area is created. After serum insufflation, the anterior compartment expands and it is easy to access and observe both the medial and lateral gutters and the talar neck. Using the no-distraction and dorsiflexion technique the lateral and medial collateral ligaments are arthroscopically observed, and when injured, they can be repaired through an all-arthroscopic procedure.<sup>3,6</sup> However, it is impossible to perform all-arthroscopic ligamentous repair using the distraction technique, because the gutters are collapsed and the ligaments are difficult to



**Fig 1.** Anatomic osteoarticular dissection and arthroscopic vision of the lateral gutter using the (A) No-Distraction and Dorsiflexion technique and (B) Routine-Distraction. 1: Fibular malleolus. 2: Anterior talofibular ligament (visualized only with the No-Distraction and Dorsiflexion technique). 3: Ankle joint capsule.



**Fig 2.** Arthroscopic visualization of an osteochondral lesion at the medial talar dome (area 4) in a left ankle. An arthroscope is introduced through the anteromedial portal using the No-Distraction and Dorsiflexion technique. From ankle dorsiflexion (left) to plantarflexion (right).

observe (Fig 1). On the other hand, with the distraction arthroscopic technique the ligaments are tense, and they need to be relaxed to reinsert them into their correct anatomic position. For these reasons, the no-distraction and dorsiflexion technique is the key for ankle arthroscopy evolution.

Although the whole talar dome can only be observed with the distraction technique, arthroscopic treatment of an osteochondral defect can be easily performed with both distraction and no-distraction and dorsiflexion techniques. Osteochondral injuries located in talar dome areas<sup>7</sup> 1 to 6 are accessible with the no-distraction technique if ankle flexion degree is modified<sup>8,9</sup> (Fig 2). As reported, osteochondral injury located in the posterior talar dome has to be treated through posterior arthroscopic portals if the distraction technique is being used,<sup>10,11</sup> or through hindfoot endoscopic portals, as we perform and recommend.

The no-distraction and dorsiflexion technique for ankle arthroscopy, popularized by Dr. van Dijk from Amsterdam, is not a new concept,<sup>12</sup> and it has allowed expanding the surgical options with numerous new arthroscopic third generation procedures, and reducing the ankle arthroscopy morbidity. In addition, reported complications using the no-distraction and dorsiflexion technique are lower than those reported using routine-distraction.<sup>13</sup> For these reasons, we can only agree with Dr. Karlsson according to whom routine-distraction for ankle arthroscopy “should be considered a method from the past” because it is “not only unnecessary, but potentially dangerous.”<sup>14</sup>

Another controversial point is the fact that in the USA the ankle is considered a small joint, and thus a 2.7-mm arthroscope and small joint instruments are used. Although it is certainly possible to use them to perform ankle arthroscopy regardless of the technique used, the use of a 4.0-mm arthroscope and large arthroscopic instruments permits us to be more efficient and faster, and makes it easy to perform advance ankle arthroscopic techniques.

Opinion leaders should never refuse technical advances, and they must be careful and responsible when

providing information in relation to new and emerging procedures. We believe that both of Dr. Ferkel’s editorial commentaries<sup>1,2</sup> negatively influence the progress and development of ankle arthroscopy third generation procedures in the USA. Some major publications in European journals that support the use of the no-distraction and dorsiflexion technique and large instruments and a 4.0-mm arthroscope are ignored, and this should be alerted. To improve ankle arthroscopic skills and start to perform third generation techniques, we encourage orthopaedic surgeons to start using the no-distraction and dorsiflexion technique and large instruments and a 4.0-mm arthroscope for ankle arthroscopy. A good point to start is attending GRECMIP (Groupe de Recherche et d’Etude en Chirurgie Mini-Invasive du Pied) ankle arthroscopy cadaveric courses in Europe (Barcelona, Spain), and in the USA (Baltimore), or other courses that follow the same principles.

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**Author Reply to “Ankle  
Arthroscopy: No-  
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I read with interest the comments of Drs. Vega and Dalmau-Pastor about my recent commentaries.<sup>1,2</sup> Unfortunately, they are dead wrong! They clearly do not

know or understand the history and evolution of ankle arthroscopy, and the numerous articles and textbooks I have written on the subject.

If they think that the dorsiflexion and no-distraction method with large arthroscopes and instruments is the key to ankle arthroscopy, we are going backward, not forward. In 1984, Jim Guhl and I were performing dorsiflexion and no-distraction ankle arthroscopy. We developed the distraction system because we realized that we were missing and not treating a lot of pathology. Noninvasive distraction provides the surgeon the opportunity to see the whole joint, not just part of it. It allows the surgeon to work alone “hands-free” in both the front and back of the ankle.<sup>3</sup>

It is incorrect that the dorsiflexion/no-distraction technique has fewer complications than the noninvasive distraction technique when compared side by side. In addition, the only reason why they advocate a large arthroscope is that they cannot get enough flow to keep up with the shaver using small joint instrumentation. They can solve this problem by having a dedicated inflow that avoids the potential problem of a pump but gives a high flow system that very efficiently irrigates the entire joint. The disadvantage of large arthroscopes and instrumentation is that they are associated with increased rate of cartilage dings and scratches. In addition, it is very difficult to maneuver large instrumentation through the small areas of the ankle joint without inadvertent damage. The only time I use a large shaver is when performing ankle arthrodesis, when cartilage damage is not a concern.

As I have pointed out numerous times in my lectures and writings, we recommend “relaxing the distraction” and using a 70° arthroscope to work on the front of the joint, and increasing distraction when addressing pathology more centrally or posteriorly.<sup>4</sup> The notion that the courses my colleagues and I have taught for years is not “third generation” is ridiculous. The authors clearly have not attended these courses or have missed their messages. The courses taught by the Arthroscopy Association of North America, American Orthopaedic Foot and Ankle Society, American Orthopaedic Society for Sports Medicine, and others throughout North America and overseas teach “cutting edge,” advanced, newer, as well as basic, techniques so attendees can be familiar and comfortable with all aspects of ankle arthroscopy. The Orthopaedic Learning Center (OLC) in Chicago was started more than 20 years ago, and I am proud that my partners and I at the Southern California Orthopedic Institute were founding members and financial supporters.

My colleagues and I have put on numerous ankle arthroscopy courses at the OLC, and all techniques are taught there every time. This year’s ankle arthroscopy course is October 5-6, 2018, and Mark Glazebrook and I are Course Chairmen. We are excited that one of our Master Instructors is Niek van Dijk.<sup>5</sup> We have always taught all techniques, including his, so that each