Comparing Ankle Fusion Techniques

When ankle pain from osteoarthritis is severe, function is low, and conservative care isn't helping, surgeons turn to a fusion procedure known as an arthrodesis. There are two ways to do this surgery: open ankle and arthroscopic. As the names suggest, open ankle involves large incisions. Arthroscopy can be done with tiny incisions or just puncture holes where the scope is inserted into the joint.

Naturally, the question arises: which technique works better? Which one is preferred when measured by improvement in pain levels, function, and costs (hospital stay)? To find out, surgeons from Canada carried out a comparative case series.

They treated 30 adults (men and women) with ankle osteoarthritis using the arthroscopic arthrodesis and compared the results to 30 adults (similar in age, sex, weight, and diagnosis) treated for the same problem using an open approach. Everyone was re-evaluated at one and two years after the procedure.

A special self-reported survey designed to measure disability and pain from ankle osteoarthritis was used as the main outcome measure. This tool is known as the Ankle Osteoarthritis Scale or AOS.

They found that all the patients in both groups improved significantly both at the end of one year and at the end of the second year of follow-up. But the arthroscopic group did show even greater improvement (statistically better) compared with the open incision group. And the arthroscopic group was in the hospital on average 1.2 fewer days.

There was no difference between the groups in terms of length of time (number of minutes) to do the surgery or quality of alignment of the bones (as viewed on X-ray). The number and type of complications (e.g., nonunion of the bone, delayed wound healing, painful hardware that had to be removed) were also the same between the two groups.

The authors concluded that surgical treatment for end-stage osteoarthritis of the ankle can be safely done arthroscopically. Compared with open incision procedures, arthroscopic arthrodesis provides better overall results faster and without an increase in postoperative problems or complications.

Previous studies reported difficulty correcting a particular ankle deformity (coronal plane deformity) using arthroscopic techniques. But these surgeons say it's just a matter of repositioning the talus bone in the ankle to restore normal alignment and that can be done arthroscopically.

Reference: David Townshend, MBBS, FRCS(Orth), et al. Arthroscopic Versus Open Ankle Arthrodesis: A Multicenter Comparative Case Series. In The Journal of Bone and Joint Surgery. January 16, 2013. Vol. 95A. No. 2. Pp. 98-102.