

# Simplified Jones Procedure

*David Alder, DPM*

### INTRODUCTION

The Jones procedure is an arthrodesis of the interphalangeal joint of the hallux with a transfer of the extensor hallucis longus to the neck of the first metatarsal. The procedure is intended to correct the contracture deformity of the hallux such as a malleolus contracture and can enhance the stability of the medial column with the tendon transfer to the first metatarsal. One of the benefits of the procedure that the author has seen is an increase in the ability of the patient with a drop foot (due to a neuromuscular disease such as spina bifida) to dorsiflex the foot. This perceived increase in the strength of the EHL is secondary to the mechanical advantage it receives by the implantation into the stable first metatarsal from the contracted and unstable hallux. This benefit can also become a liability in that the same underlying disease can force the hallux to now plantar flex due to lack of opposition to the flexors. The plantar flexed hallux can then become a hindrance to the patient's ability to ambulate. A modification of the Jones procedure was made that helped prevent the plantar flexion by attaching the distal stump of the extensor into the brevis, thereby maintaining a level of muscular balance across the joint (1). In cases where the contracture needs to be fixed and the necessity to dorsiflex the hallux is not essential, the author has used a simple technique added to the Jones Procedure that provides stability, is easy to perform, and retains all of the benefits of the procedure.

### PROCEDURE

The initial part of the procedure is to perform the arthrodesis of the interphalangeal joint of the hallux. A linear incision is made from the mid shaft of the first metatarsal to the interphalangeal joint of the hallux. At this point, a double semi-elliptical incision is made over the interphalangeal joint of the hallux and the skin wedge removed. The subcutaneous is reflected to both sides and the extensor tendon is transected at the level of the joint. The joint is then exposed and the saw is used to resect the cartilage from the joint as well as bone to get the desired position for fusion. The author's preferred form of fixation is 2 Kirschner wires offset across the fusion site, extending distally through the end of the digit. The Kirschner wires are then removed after 6 weeks (Figures 1-3).

Once the fixation is in place, the extensor tendon is then reapproximated to the distal stump with absorbable suture.

The periosteum is then incised over the mid shaft of the first metatarsal, and the bone is exposed on the dorsal aspect. An anchor is then used to attach the extensor hallucis longus tendon to the bone. The surrounding periosteum is also sutured into the tendon to make the attachment more secure. More than one anchor may be used. The remaining soft tissue is closed and the foot is casted or placed in a cam boot for 6 weeks non-weightbearing if the patient is able to tolerate it. After 4 weeks, range of motion exercises are



Figure 1. The original deformity at the level of the hallux interphalangeal joint.



Figure 2. Kirschner wire fixation across the fusion site.



Figure 3. The fusion site after the Kirschner wires have been removed and the soft tissue anchors are visible in the first metatarsal.

started and at the 6-week mark, the patient may ambulate in a supportive lace-up shoe. The advantages of this procedure are that the ability of the foot to dorsiflex is enhanced with the tendon attachment, the extensor can no longer cause a contracture of the hallux, and the tendon distal to the anchor helps to prevent plantarflexion of the joint due to the flexors.

## CONCLUSION

The simplified Jones procedure is easy to perform. This simple modification maintains the traditional benefits of the procedure but adds the additional protection of stabilizing the first metatarsophalangeal joint and preventing excessive plantarflexion.

## REFERENCE

1. DePalma L, Colonna E, Travasi M. The modified Jones procedure for pes cavovarus with claw hallux. *J Foot Ankle Surg* 1997; 36:279-83.