



acumed®

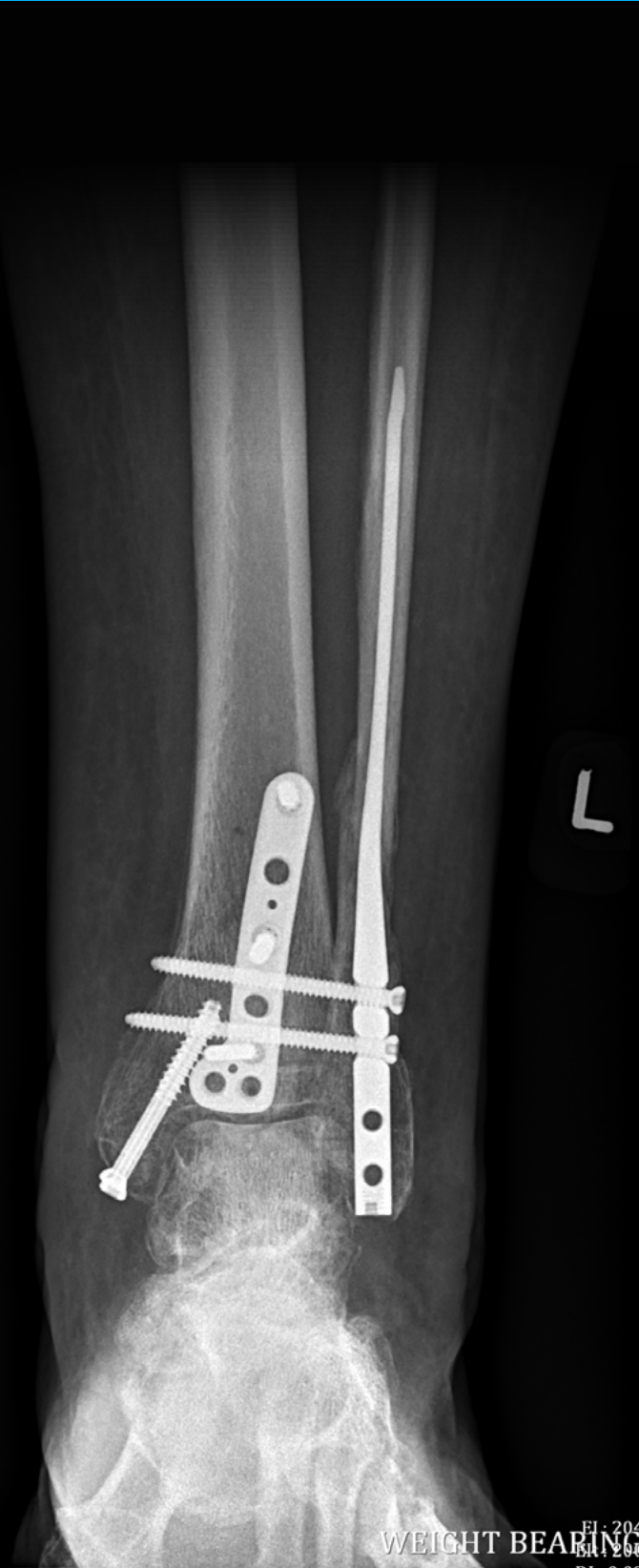
Ankle Plating System 3 and Fibula Nail 2 System

## Lateral Malleolar Revision and Trimalleolar Fracture Fixation

### Case Study

**Gerard J. Cush, MD**

A 56-year-old female who sustained a slip and fall with existing lateral malleolar hardware was treated with the Acumed Ankle Plating System 3 and Fibula Nail 2 System.



Preoperative  
and Postoperative

WEIGHT BEARING  
EI: 204  
SA: 260  
DL: 0.09

Acumed® is a global leader of innovative orthopaedic and medical solutions.



We are dedicated to developing products, service methods, and approaches that improve patient care.

## Case Study | Gerard J. Cush, MD



Figure 1



Figure 2



Figure 3

## Lateral Malleolar Revision and Trimalleolar Fracture Fixation

### Patient History

A 56-year-old female, with a medical history of hyperlipidemia and previous open reduction and fixation of lateral malleolar fracture, sustained a trimalleolar ankle fracture dislocation above previous hardware (Figure 1 and 2).

The patient was initially seen in the emergency department after a slip and fall on leaves. She underwent reduction and splinting at that time (Figure 3). The patient maintained non-weight-bearing and elevation in splint until soft tissue swelling allowed surgical intervention.

The patient was subsequently seen in an outpatient clinic setting with windowing of the splint to allow evaluation of soft tissue. There was a fracture blister formation laterally above the level of the indwelling plate. The plan for open reduction and fixation along with previous hardware removal was discussed with the patient and her consent was acquired.

## Intraoperative Treatment

The patient was placed in the prone position after a peripheral nerve block was placed. A posterolateral approach was performed to expose the posterior malleolar component of the fracture complex. A simultaneous lateral approach to the fibula was also performed.

The previously placed lateral fibular plate was removed. Fibular reduction and acquisition of length of the fibula was performed. This allowed further anatomic reduction of the posterior malleolus. This reduction was maintained and allowed placement of a Posterolateral Distal Tibia Plate (Figure 4). Reduction of the fibula without hardware allowed fluoroscopic visualization of the reduction.

Once final fixation of the posterior malleolus was acquired, attention was shifted to fixation of the medial malleolus. The fracture site was cleared of the periosteum and the ankle joint was irrigated. There was no intra-articular osteochondral injury. The fracture was reduced, and two 4.0 mm Cannulated Screws were placed (Figure 5).

We then directed our attention to fibular fixation. Because of previous fixation, the decision was made to use the Fibula Nail 2 to span the existing screw holes in the fibula without additional extensive soft tissue exposure.

A starting point on A/P imaging was acquired and a standard technique was used to place the fibular nail (Figure 6). Additional fixation with syndesmotic screws was used which also helped maintain length. Close observation of the rotation of the nail within the fibula was necessary to ensure proper positioning of the syndesmotic screws in the tibia (Figure 7).

Upon final fixation, the wounds were irrigated with copious amounts of fluid and closed in a layered fashion.

Sterile dressings were applied, and the patient was placed in a well-padded posterior U-splint and discharged to home.

## Postoperative Treatment

The patient was placed non-weight-bearing for six weeks. The first two weeks the splint was maintained with elevation and soft tissue swelling control. The sutures were removed at two weeks, and she was switched to a cam walker boot and allowed removal for hygiene and gentle range of motion.

At six weeks, the patient was allowed to gradually increase weightbearing in the boot from 10–100% of full weight. At full weightbearing, patient self-weaned from boot to normal shoe wear along with compression stockings for edema control. Follow-up at three months revealed a return to walking and healed fracture alignment (Figure 8–10).

## Discussion

Ankle fracture variations make it necessary for a wide variety of fixation techniques and individualized treatment of fracture patterns are vital to maximize results. The compliment of Acumed plates, screws, and fibula nail gave me the option to address this complex trimalleolar ankle fracture. Additionally, in the case of indwelling hardware and considering the fracture blister position, the fibula nail made the most sense to address the new fracture and minimize further soft tissue dissection.

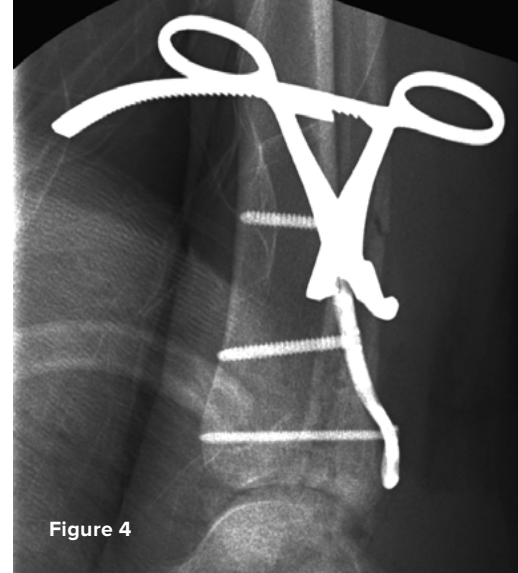


Figure 4

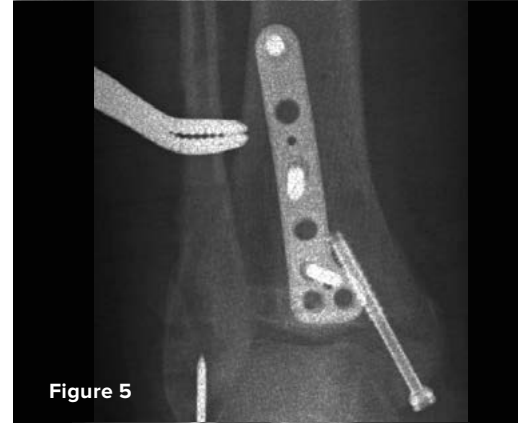


Figure 5



Figure 6

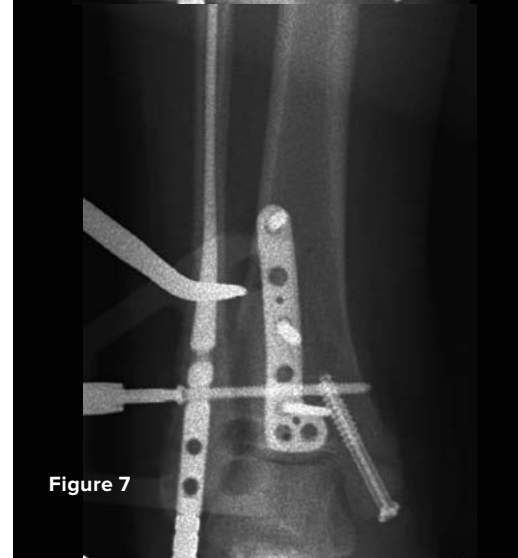


Figure 7

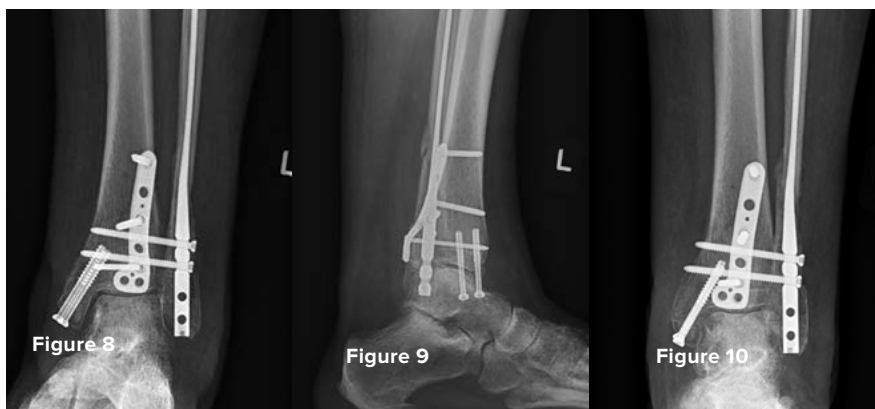


Figure 8

Figure 9

Figure 10



## **FNA70-12-A**

Effective: 2022/02

© 2022 Acumed® LLC

[www.acumed.net](http://www.acumed.net)

Oregon, USA Campus  
5885 NE Cornelius Pass Road  
Hillsboro, OR 97124  
Office: +1.888.627.9957

Texas, USA Campus  
3885 Arapaho Road  
Addison, TX 75001  
Office: +1.800.456.7779

Madrid, Spain Campus  
C. de Álvaro Caballero, 14,  
28023 Madrid, Spain  
Office: +34.913.51.63.57

These materials contain information about products that may or may not be available in any particular country or may be available under different trademarks in different countries. The products may be approved or cleared by governmental regulatory organizations for sale or use with different indications or restrictions in different countries. Products may not be approved for use in all countries. Nothing contained in these materials should be construed as a promotion or solicitation for any product or for the use of any product in a particular way that is not authorized under the laws and regulations of the country where the reader is located. Nothing in these materials should be construed as a representation or warranty as to the efficacy or quality of any product, nor the appropriateness of any product to treat any specific condition. Physicians may direct questions about the availability and use of the products described in these materials to their authorized Acumed distributor. Specific questions patients may have about the use of the products described in these materials or the appropriateness for their own conditions should be directed to their own physician.

