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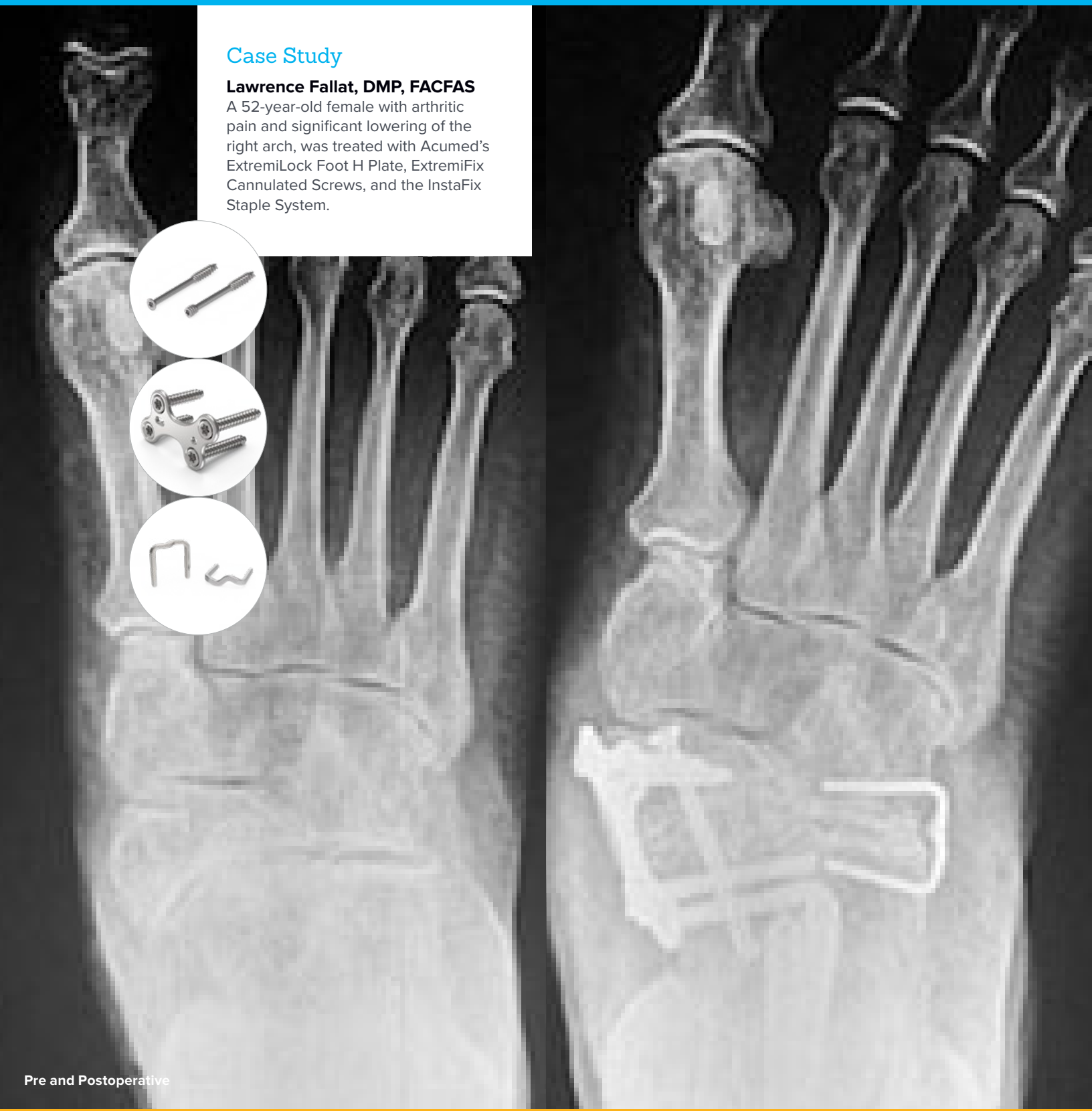
ExtremiLock™ Foot, ExtremiFix™ Cannulated Screws, InstaFix™ Staples

Evaluation and Treatment of Painful Pes Planovalgus Deformity with Triple Arthrodesis Technique

Case Study

Lawrence Fallat, DMP, FACFAS

A 52-year-old female with arthritic pain and significant lowering of the right arch, was treated with Acumed's ExtremiLock Foot H Plate, ExtremiFix Cannulated Screws, and the InstaFix Staple System.



Pre and Postoperative

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.

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Figure 1 Preoperative X-ray

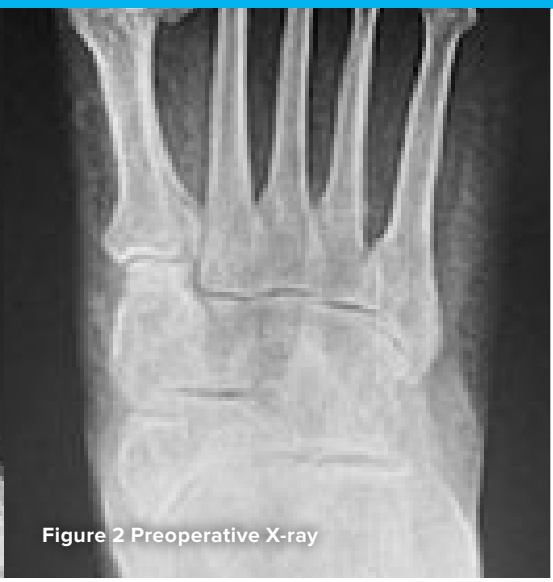

Figure 2 Preoperative X-ray

Evaluation and Treatment of Painful Pes Planovalgus Deformity with Triple Arthrodesis Technique

Patient History

A 52-year-old female complained of pain to her right foot for several years. Pain was graded at 7/10 on a daily basis, and progressively increasing. No history of trauma. The patient failed conservative care, including NSAIDs, steroid injections, oral steroids, orthotics, braces, and physical therapy.

Physical Examination

A physical exam showed mild edema, dorsal medial at the talonavicular joint. In stance, the patient had a rearfoot valgus position of 12.° She had 10° of subtalar inversion and 0° of eversion. A musculoskeletal exam revealed an equinus of 20° with her knee extended. With flexion of her knee, the foot could be brought into dorsiflexion at a 90° angle to her leg, indicating a gastrocnemius contracture. In stance, she had significant lowering of her right arch. She had pain to palpation at the talonavicular (TN) joint and at the sinus tarsi.

Imaging

X-rays indicated significant arthritis and spurs at the talonavicular joint, and arthritis at the subtalar and calcaneal cuboid joints. (Figure 1 and 2).

Procedure

A triple arthrodesis was performed on the right foot. She was placed on the operating table in the supine position. Her leg was elevated and the gastrocnemius tendon was lengthened. A curved incision was made from the tip of the lateral malleolus, extending to the calcaneal cuboid joint. The posterior facet of the subtalar joint was exposed, and cartilage was removed and the joint prepared. To correct the rearfoot valgus, a 12 mm cortical cancellous allogenic wedge was inserted into the subtalar joint. This resulted in a 3–4° valgus of the rearfoot. Two 6.5 mm cannulated screws were inserted from the posterior aspect of the calcaneus into the talus. The talonavicular joint was exposed and a Hintermann distractor was used to open the joint (Figure 3). The joint was prepared and a 4.0 mm cannulated screw was inserted through the navicular into the talus achieving compression. For further strength and stability, a four-hole “H” plate was used at the (TN) joint. The calcaneocuboid joint was prepped and stabilized with a staple.

Postoperative Care

A cam boot was used for six weeks. She was nonweight-bearing for two weeks, followed by partial weight-bearing for four weeks. At six weeks, imaging revealed consolidation at the arthrodesis sites and she was sent to physical therapy for four weeks. Currently, she is full weight-bearing with a stable right foot with only residual swelling (Figure 4 and 5).

Discussion

Whether using either a double or triple arthrodesis, these procedures are effective for correcting foot deformities and reducing the pain of end-stage arthritis.

Figure 3 Intraoperative X-ray

Figure 4 Postoperative X-ray

Figure 5 Postoperative X-ray

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