
First MTPJ Implant Arthroplasty

Involving Chronic Gouty Arthritis



Reference Toe Implant™

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A case study involving Chronic Gouty Arthritis

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INTRODUCTION: Gout, also known as gouty arthritis is a form of inflammatory arthritis that develops in some people who have high levels of uric acid in the blood. It occurs in about 4 percent of American adults, but it's more likely to affect men than women. For many people, the first symptom of gout is excruciating pain and swelling of the big toe, often following illness or injury. Other joints may be involved including the ankle and the knee. Chronic gout develops in people whose uric acid levels remain high over a number of years. Attacks become more frequent and the pain may not subside as normally seen. As a consequence, joint damage may occur which can lead to a loss of mobility.

PATIENT: This case report is of a female with chronic gout that damaged her first MTPJ. A 69 year old female presented with a primary concern of

painful bilateral 1st MTPJ's for several years, which became worse over the past 9 months. Her Left foot pain was more severe than her right foot. Numerous conservative care modalities were tried, including oral anti-inflammatory medication, (Allopurinol 100 mg once daily), custom molded orthotics and wearing wider shoes. All of these treatments provided minimal relief. Radiographic studies were obtained and revealed a severe Hallux Abducto Valgus deformity with an intermetatarsal angle of 22 degrees and severe degenerative joint changes with juxta-articular erosions and numerous calcified soft tissue atrophy. **(Figure 1)**. Because of the patient's sedentary lifestyle, age and extensive joint destruction, the Reference Toe System™ (RTS™) was selected as the treatment of choice. Preoperative non-invasive vascular studies were also obtained which showed adequate perfusion to both lower extremities.

PROCEDURE: A longitudinal incision was made over the first metatarsophalangeal joint, just medial to the extensive hallucis longest tendon. This incision was deepened down to bone. A dorsal medial capsulotomy was performed and the joint was dissected free on the dorsal and medial sides. At this point, visualization of the joint was accomplished. An extensive amount of gouty tissue was noted and was sharply debrided being careful to preserve as much capsule as possible. All hypertrophic bone around the joint was completely resected with the use of a sagittal saw and all sharp edges were smoothed out. Utilizing a sagittal saw, osteotomies were then performed perpendicular to the weight bearing surface in the distal aspect of the metatarsal head as well as the base of the proximal phalanx. Appropriate implant sizing was performed using the RTS™ Implant Sizing Guide making sure that the correct thickness, diameter and

FIGURE 1



FIGURE 2

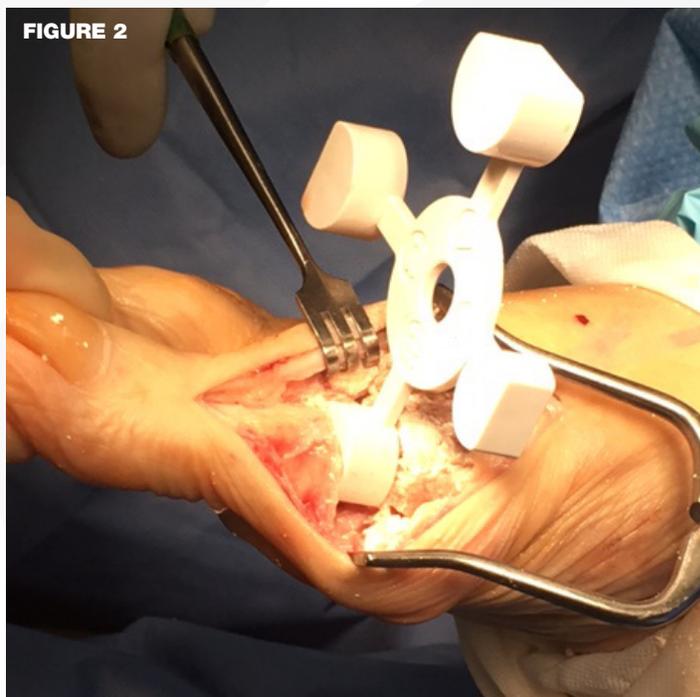


FIGURE 3

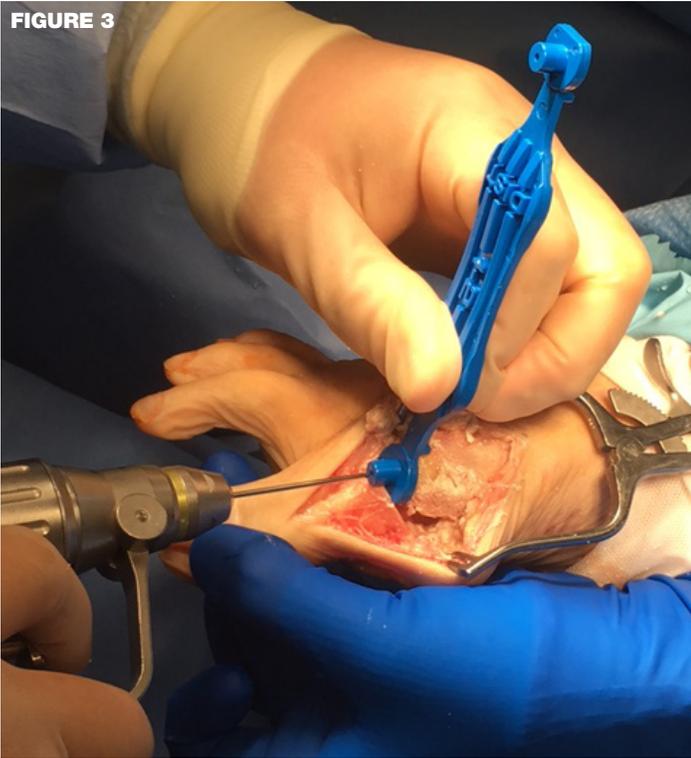


FIGURE 4



general shape of the implant was observed. **(Figure 2)**. With the use of the Proximal and Distal Wire Guide, both the metatarsal and distal phalanx were prepped, making sure that the guide wire was centered in the canal and parallel to the dorsal surface of the respective bone. **(Figure 3)**. To prevent premature erosion and implant failure, grommets were then firmly compressed into the corresponding bones. A size 3 Reference Toe Implant was then placed in the joint. Implant position was then visualized intra-operatively with fluoroscopy. Closure was made in layers.

Post operatively the patient was placed in a surgical shoe with partial weight bearing allowed. Fluoroscan imaging was performed one week post operatively and revealed proper position of the implant as well as the

grommets. **(Figure 4)**. Sutures were removed 3 weeks post operatively and patient immediately started on physical therapy.

CONCLUSION: Total Joint Implant Arthroplasty utilizing silicone implants has been part of the surgical armamentarium since the late 1960's. Because of the severe deformity encountered at the 1st MTPJ combined with extensive gouty arthritic joint damage, the RTS™ 1st MTP Implant System was utilized. The "ease of use" cannulated reamers significantly increases accuracy, efficiency and grommet placement/seating. This system allows for consistent reproducible results and is a great improvement to the broach type systems of the past.



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