CASE STUDY

Integra®
Flexible Great Toe Implant Arthroplasty
for Hallux Rigidus
**Surgeon Profile**

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**Flexible Great Toe**  
**Silicone Implant Arthroplasty for Hallux Rigidus**

**Case Overview**

A 54 year old male presented to our office with chief complaint of painful first metatarsal phalangeal joints, bilateral. He gave history of having symptoms for several years, with gradually increasing pain. He denied history of trauma to his feet. He indicated that he wanted to be able to play golf more frequently, but his pain was getting so severe he had difficulty playing at all. The patient stated that he had been evaluated by two previous foot specialists, and the only option discussed with him was fusion of the first metatarsal phalangeal joints. He did not want to consider fusion of the joints and was seeking additional alternatives.

On examination, there was approximately 10 degrees of dorsiflexion available in the first metatarsal phalangeal joints, with severe pain through range of motion. Weight bearing x-rays revealed severe degenerative arthritis of the joints (Figures 1 and 2), consistent with stage IV hallux rigidus. 1st MTP joint arthrodesis or 1st MTP joint implant arthroplasty were both presented and discussed with the patient. He was advised that the implant procedure had the advantage of improving joint function rather than complete loss of all joint motion with the arthrodesis procedure. It was anticipated that either procedure would give relief of pain. The patient elected to have bilateral implant arthroplasty procedures performed.

**Key Points**

- Severe bilateral degenerative joint arthritis, consistent with stage IV hallux rigidus
- Bilateral arthroplasty performed using the Integra Flexible Great Toe
- A cutting guide was utilized to resect the arthritic joints
- Medullary canals were drilled and broached to allow for implant and grommets
- Patient was pain free, resumed playing golf and had excellent range of motion in both joints
Surgical Technique

**Step 1**
A dorsal medial longitudinal incision was made over the 1st MTP joint. The capsule was dissected from the joint revealing severe degenerative arthritis (Figure 3).

**Step 2**
A cutting guide (Figure 4) is utilized to resect the arthritic joint at angles corresponding to the Primus implant (Figure 5).

**Step 3**
The medullary canals were drilled and broached (Figure 6) to allow for the implant stems and grommets.

**Step 4**
A trial sizer was inserted to check fit and range of motion (Figure 7).

**Step 5**
All soft tissue contractures were released prior to insertion of the implant (Figure 8).

**Step 6**
The joint capsule was closed being certain to completely cover the implant (Figure 9).

**Step 7**
The incision was sutured in standard fashion (Figure 10).
Discussion

The surgery was performed as an out-patient procedure and the patient was discharged with immediate full weight bearing, using post-op splint shoes. Post-op x-rays (Figures 11 and 12) were taken on the first post-op dressing change. Ambulation was allowed to tolerance with frequent elevation of the feet. Sutures were removed at 2 weeks post-op. He was started on early active and passive range of motion exercises. Final weight bearing x-rays, including tip-toe views (Figures 13 and 14) were taken when he was discharged at 3 months post-op. He was pain free and had resumed playing golf. He had excellent range of motion in the joints, and was able to wear all types of shoe gear.

Figure 11. Post-op AP X-ray with Primus Implant

Figure 12. Lat. X-ray with Primus Implant

Figure 13. 3 Month Post-op Lat. X-ray

Figure 14. 3 Month Post-op Tip-Toe X-ray