

A Retrospective Analysis on the Application of Tiger Cannulated Screws for Fixation in Surgical Osteotomies of the Forefoot

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Objective

This study was performed to evaluate the success of cannulated cortical screw fixation in foot surgery. The cannulated cortical screws utilized were Tiger Cannulated Screws manufactured by Trilliant Surgical. The surgeries performed in this study only included metatarsal surgery. All procedures were performed by the same surgeon.

Materials and Methods

A sample size of 100 patients who required forefoot corrective surgery from January 2011 to June 2014 were selected. The types of procedures performed were as follows: 76 procedures were performed on the neck and mid-shaft of the first metatarsal; 15 were performed on the head and neck of the fifth metatarsal; 8 were a combination of both the first and fifth metatarsal head and neck; 1 procedure was performed at the base of the fifth metatarsal.

All first metatarsal surgeries utilized cortical screws of 2.4mm in diameter and lengths from 12mm-20mm. All fifth metatarsal surgeries utilized 2.0mm diameter screws with lengths from 12mm-16mm. One case at the base of the fifth metatarsal was fixated with a 4.0mm cancellous screw.

All surgical patients were evaluated at one week post operation for dressing change and evaluation. At two weeks, sutures were removed and physical therapy was ordered for two weeks. Patients were seen for radiographic evaluation after physical therapy and then transitioned from a weight bearing cast to a shoe. Patients were then seen at three months and six months post op.

Results

A total of 108 procedures were performed on 100 patients (Figures 1-3). In review, two patients experienced loosening of the distal screw of the first metatarsal at six months and were scheduled for screw removal. One patient presented, at 11 months post op, with hardware pain and was scheduled for screw removal. All of the patients healed uneventfully and were pain free. No non-unions or delayed unions of surgical sites were seen.

Conclusion

In conclusion, the Trilliant Surgical Tiger Cannulated Screw System is an efficient method to fixate surgical osteotomies with great success. ▲



Figure 1: Pre-op x-ray.



Figure 2: Post-op x-ray.



Figure 3: Post-op x-ray showing union of osteotomy site after removal of screws.

Manufactured by:



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INDICATIONS: The Tiger Cannulated Screw System is indicated for fixation of fractures, non-unions, arthrodeses, and osteotomies of bones appropriate for the size of the device. CONTRAINDICATIONS: Use of the Tiger Cannulated Screw Fixation System is contraindicated in cases of active or suspected infection or in patients who are immunocompromised; in patients previously sensitized to titanium; or in patients with certain metabolic diseases. It is further contraindicated in patients exhibiting disorders, which would cause the patient to ignore the limitations of internal fixation.

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