

# Minimally Invasive Bunion Surgery with Revcon™ Anchor Screw Technology

## Bunionplasty® 360 Bunion Repair™ | Case Study

### Surgeon Profile



#### **SURGEON**

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Conservative measures had failed, and she elected to undergo surgical intervention.

Clinical exam demonstrated a moderate left hallux valgus deformity with a prominent medial eminence, as well as hypermobility at the first tarsometatarsal joint. There was erythema to medial eminence as well as tenderness on palpation. Weightbearing preoperative radiographs were obtained, and demonstrated a moderate bunion deformity with an intermetatarsal angle (IMA) of 17.1° and a hallux valgus angle (HVA) of 21.1°.

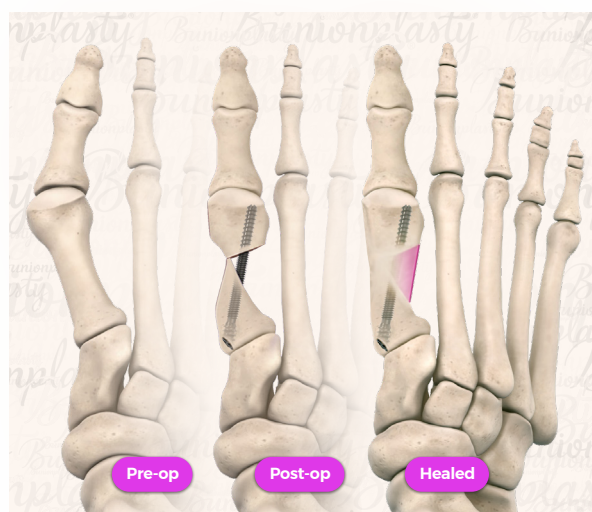
The patient opted for surgical intervention and agreed to and understood the procedure's risks, benefits, and alternatives, as well as postoperative course.

### Case Highlights

- Moderate hallux valgus deformity
- Bunionplasty® procedure techniques used
- Revcon™ Anchor Single Screw™ fixation
- Immediate weight bearing in surgical shoe
- Complete osseous regeneration at 6 months

### Case History

A 28-year-old female patient presented for consultation for a painful bunion deformity to her left foot, with an onset 6 years ago and a gradual worsening for the past 3 years. The pain was rated as a 4 out of 10 on a visual analogue scale, and described as sharp, dull, aching, stabbing, throbbing, and tingling. The patient attempted to maintain a highly active lifestyle; however, the pain at the bunion region interfered with her daily activities and exercise.



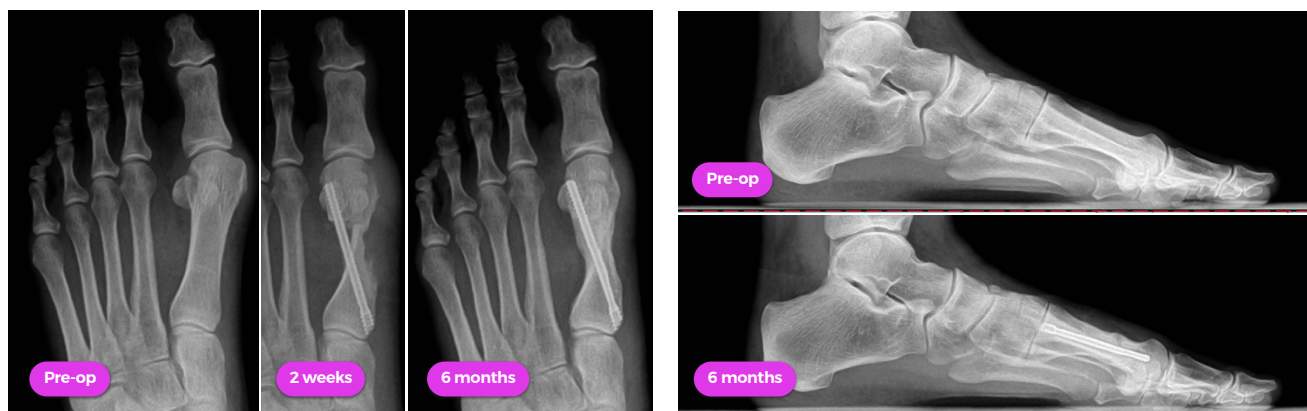
Series demonstrating minimally invasive bunion correction with Revcon™ Anchor Single Screw™ fixation with resultant first metatarsal regeneration (pink area).<sup>2</sup>

## Surgical Procedure (Left Foot)

Small percutaneous incisions were made medially along the region of the first metatarsal using intraoperative fluoroscopy to determine landmarks. The Transveron™ osteotomy was performed at distal aspect of the midshaft, using the high torque low speed rotary 2.0-mm Shannon bur under irrigation and intraoperative fluoroscopy. Instrumentation was used to translate the capital fragment laterally and the position was maintained using a percutaneously placed guidewire for the 4.0-mm Revcon™ Anchor Single Screw™. The metatarsal head was corrected in all planes for the 360 Bunion Repair™ procedure.

Temporary k-wire fixation was placed. The 4.0-mm Revcon™ Anchor Single Screw™ was placed with standard technique under fluoroscopic guidance. The fixation was stable and the position was acceptable clinically and radiographically. Using the NervePreserv™ technique, the medial proximal metatarsal redundant bony ledge was then resected with the 2.0-mm Shannon bur under irrigation and fluoroscopy. The medial eminence was also resected with the rotary bur under irrigation and fluoroscopic assistance. A percutaneous lateral release was performed.

### Radiographic series of left bunion deformity treated with Bunionplasty® procedure utilizing the Voom™ dual-zone Revcon™ Anchor Single Screw™ technology.



Pre-op: IMA 17.1°, HVA 21.1° | Post-op: IMA 4.3°, HVA 2.7°

Revcon™ Anchor Single Screw™ Cortical Runway<sup>1</sup>: 16-mm | CPZ Stability Region<sup>1</sup>: Safety | FMR Type<sup>2</sup>: III



## Post-Operative Course

Immediate weight bearing as tolerated in post-op shoe. Sutures were removed at 2 weeks and physical therapy commenced. The patient transitioned to regular sneakers at 6 weeks.

## Clinical Outcome

The patient was seen for the final post-op follow up at 6 months. The patient was pain free and back to regular activities, including high impact exercises and training. Weight bearing radiographs demonstrated maintenance of position with a postoperative intermetatarsal angle of 4.3° and hallux valgus angle of 2.7°

## Discussion

Minimally invasive bunion surgery (MIBS) relies on extreme lateral shifts of the metatarsal head with minimal to no bony contact. Contrary to traditional beliefs around necessary robust fixation, the patented dual-zone Revcon™ Anchor MIBS bone screw – when used with the patent-pending, proprietary Bunionplasty® 360 Bunion Repair™ technique – allows for Single Screw™ fixation with immediate weight bearing in a post-op shoe. The Revcon™ Anchor screw features a dual-zone design that engages cancellous bone at the cancellous anchor zone (CAZ), cortical bone at the cortical purchase zone (CPZ), and then cancellous bone once again at the cancellous metatarsal head.<sup>1,2</sup> This case report highlights the use of an immediate weight bearing protocol with Single Screw™ dual-zone fixation resulting in osseous healing and bunion deformity correction.

## References

1. Blitz NM, Grecea B, Wong DT, Baskin ES. Defining the Cortical Purchase Zone in New Minimally Invasive Bunion Surgery. A Retrospective Study of 638 Cases. J Min Invasive Bunion Surg. 2024;1:92777. doi:10.62485/001c.92777
2. Blitz NM, Wong DT, Grecea B, Baskin ES. Characterization Of First Metatarsal Regeneration After New Modern Minimally Invasive Bunion Surgery: A Retrospective Radiographic Review of 172 Cases. J Min Invasive Bunion Surg. 2024;1:92756. doi:10.62485/001c.92756

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