

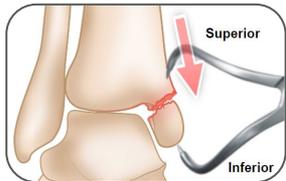


The Dragon Clamp: Fracture Reduction Forceps for Medial Malleolus Repair

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10% of all fractures in the U.S. involve the ankle joint. Nearly a third of these cases include the **medial malleolus**. There is a significant need for a clamp that can properly reduce the fracture while providing **compression, fracture stability**, and a **locking mechanism**.

Need



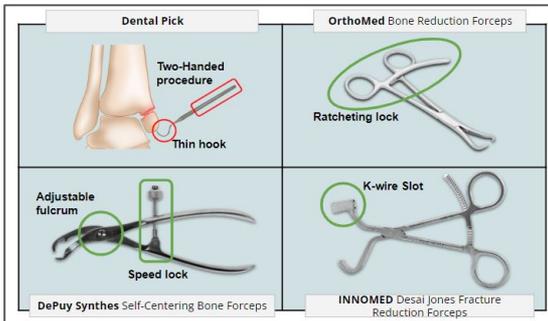
Problem

- Ankle fractures need to be reduced before fixation
- Loss of reduction wastes operating room time
- Poor reductions increase complications and costs

Objective

Design a specialized surgical instrument that **maintains compression** of a medial malleolus fracture, **reduces the effects of clamp slippage** off bone, and allows compression to be maintained passively through a **locking mechanism**

Existing Solutions

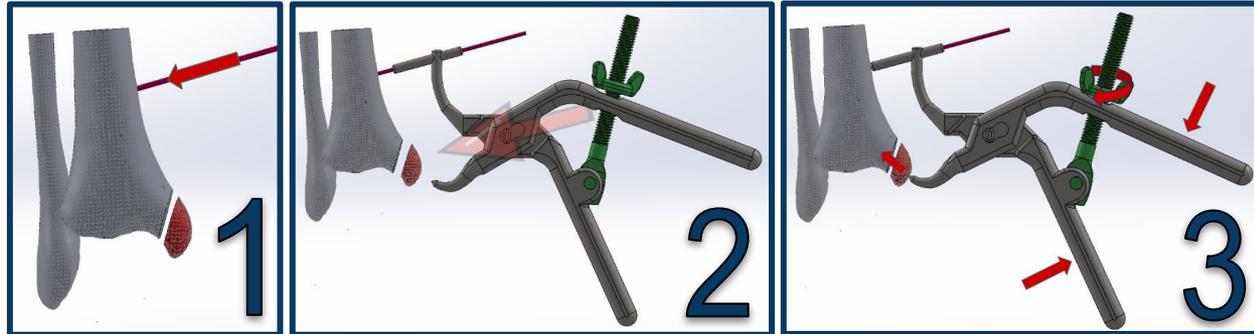


No product on the market has all four features: **the ability to compress, a superior k-wire slot, a locking mechanism, and an adjustable fulcrum**

New Solution Features

- Proximal K-Wire Fixation
- Adjustable Fulcrum
- Pointed Distal Jaw
- Speed Locking Mechanism

Product Design & Benefits



Benefits

- Increased Force in Compression
- Better Fracture Stability
- Increased Range in reduction angles

Potential Impacts



Financial Picture & Future Steps

Sales Model

Purchase & Usage-based model for hospitals and clinics

Material \$500 (material, locking mechanism, packaging)	Manufacture \$300 (machining, assembly, labor)	Overhead \$20 (facility costs, utilities, depreciation)	Regulation \$10 (Standards maintenance, quality control)	Patent Fees \$15,000 - \$30,000 (+1.50 cost/unit to recover \$15,000 in patent fee/10,000)
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Total Cost Per Unit: \$830

Spring 2024

- 3D printed prototype iterations
- Cadaver lab for surgical technique
- Finalize design for manufacturing

2025

- ASTM/ISO Verification & Validation testing
- Supplier production lot
- Failure mode analysis

2026

- Sterility Testing
- FDA Registration (510k exempt)
- Patent Design

Revenue Pathway

- Sell licensing to third party manufacturer/distributor
- Potential licensing agreement/royalty structure

Market Share

