

# Knotless Mini TightRope<sup>®</sup> Implant System

Product Highlight

## Overview

The Knotless Mini TightRope implant system is a low profile, knotless fixation device with patented tensionable technology. Designed for bone-to-bone or soft-tissue-to-bone fixation in various foot, ankle, hand, and wrist applications, the implant system consists of multi-strand UHMWPE, polyester, and/or nylon suture suspended between titanium alloy buttons.

The Knotless Mini TightRope system is available in 3 single-use convenience pack options.

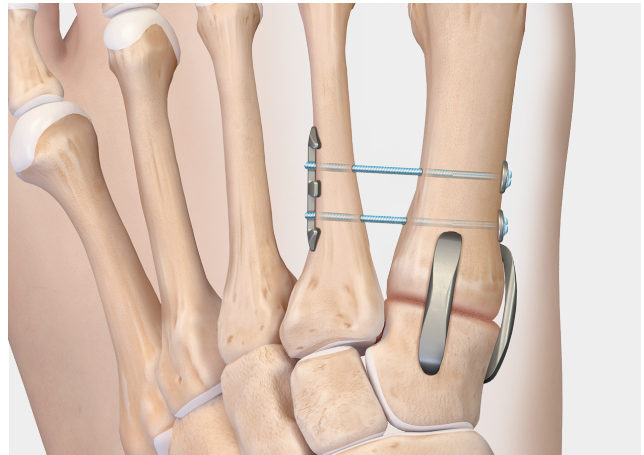
- **AR-8906DS** includes 1 Knotless Mini TightRope implant with #0 suture and a slotted button, for use with either a 1.1 mm or 1.3 mm bone tunnel.
- **AR-8907DS** includes 2 individual Knotless Mini TightRope implants, each with #0 suture and a dual fixation button. This system can be used with either a 1.1 mm or 1.3 mm bone tunnel.
- **AR-8908DS** includes 1 Knotless Mini TightRope implant with a #2 suture and an attached oblong button. This system uses a 2.7 mm bone tunnel.

## Intended Use

The Knotless Mini TightRope implant system is intended for:

- Adjunct fracture fixation of small-bone fragments where screws are not indicated
- Fixation during the healing process for syndesmotic trauma, tarsometatarsal injuries, and hallux valgus reconstruction
- Adjunct fixation for carpometacarpal joint arthroplasty and hematoma distraction arthroplasty

For a detailed listing of indications for use, please refer to the product's 510K clearance and/or Directions for Use (DFU).



Hallux Valgus



Lisfranc Injuries



Hallux Varus

## Features and Benefits

The Knotless Mini TightRope® implant system is a technological upgrade from previous flexible fixation devices and an evolution from traditional plate and screw applications.

### Reproducible Tensioning

Eliminates knot tying so surgeons no longer need to worry about knot type, quantity, strength, and stack as they dial in the tension for their correction.

### Stronger Fixation<sup>1,2</sup>

A 40% increase in mechanical strength with a novel 6-strand construct and a tighter fit in bone tunnels for increased construct stability.

### Minimizes Soft-Tissue Irritation

Large knot stacks and prominence from implants are a potential source of soft-tissue and bone irritation that can impact shoe wear and ambulation and lead to skin necrosis.

### Malreduction Forgiveness<sup>3</sup>

Suture button fixation devices can postoperatively self-correct for intraoperative joint malreduction, which could allow for a lower malreduction rate as compared to screws.

### Lower Recurrence Rates<sup>4,5</sup>

Reduce excessive motion, avoid screw traffic, and minimize bone tunnels after Lapidus fixation by adding adjunct fixation for intercuneiform instability.

### Simplified Surgical Technique

Surgeons can dial in tension and secure fixation simultaneously, eliminating the need for multiple sets of hands in the operating room (one to hold the joint in proper alignment, another to generate tension across the joint, and a third to secure fixation).

### Eliminates Hardware Removal Surgery

Flexible fixation allows for stability in the transverse plane while preserving motion in the sagittal plane. This reduces the risk of overconstraining the joint, which can result in bent and broken hardware during weightbearing.

### Promotes Biologic Healing<sup>6</sup>

While rigid fixation can stress shield ligaments and thus prevent appropriate collagen formation, flexible fixation allows for load sharing—resulting in accelerated and improved healing.

#### Knotless Mini TightRope Implant System, 1.1 mm

Product Description	Item Number
Knotless Mini TightRope Implant, 1.1 mm #0 Coreless Machine-Tapered Suture 5.5 mm Round Button Oblong Button, slotted, 2.6 mm #0 FiberLoop® Suture, blue, qty. 1 Nitinol Passing Wires, qty. 2 K-Wire, 1.1 mm, qty. 2 K-Wire, 1.3 mm, qty. 2 Tensioning Handles, qty. 2	AR-8906DS

#### Knotless Mini TightRope Implant System, 2.7 mm

Product Description	Item Number
Knotless Mini TightRope Implant, 2.7 mm #2 Coreless Machine-Tapered Suture 5.5 mm Round Button Oblong Button, 2.6 mm TightRope Guide Pin, 1.6 mm Cannulated Drill, 2.7 mm, qty. 1 Nitinol Passing Wires, qty. 2 K-Wires, 1.24 mm, qty. 2 Tensioning Handles, qty. 2	AR-8908DS

#### Dual Knotless Mini TightRope Implant System, 1.1 mm

Product Description	Item Number
Knotless Mini TightRope Implant, 1.1 mm, qty. 2 #0 Coreless Machine-Tapered Suture 5.5 mm Round Button Dual Fixation Button, 6 mm × 20 mm #0 FiberLoop® Suture, blue, qty. 2 Nitinol Passing Wires, qty. 2 K-wire, 1.1 mm, qty. 2 K-wire, 1.3 mm, qty. 2 Tensioning Handles, qty. 2	AR-8907DS

#### References

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4. Galli MM, McAlister JE, Berlet GC, Hyer CF. Enhanced Lapidus arthrodesis: crossed screw technique with middle cuneiform fixation further reduces sagittal mobility. *J Foot Ankle Surg.* 2015;54(3):437-40. doi:10.1053/j.jfas.2014.10.0082
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6. Pelt CE, Bachus KN, Vance RE, Beals TC. A biomechanical analysis of a tensioned suture device in the fixation of the ligamentous Lisfranc injury. *Foot Ankle Int.* 2011;32(4):422-31. doi:10.3113/FAI.2011.0422