

Case study: Insertional Achilles Reinforcement Artelon[®] FlexBand[®]

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Technology overview

Artelon FlexBand is a degradable synthetic biomaterial that is designed to reinforce soft tissue and serve as a scaffold for connective tissue ingrowth.¹ It is designed to mimic normal tissue elasticity while in the body² and is high strength for load sharing.³ These features are designed to:

- Support motion without constraining it²
- Allow for regeneration of natural tissue through load-sharing^{1,4}
- Be less inflammatory than titanium and polystyrene⁵

FlexBand shows no evidence of necrotic breakdown.⁶ It acts as a scaffold and is capable of integrating with regenerating connective tissue.¹ FlexBand shares the tensile loading to both protect the healing construct and allows mechanical stimulation required for optimal tissue regeneration and remodeling.^{7,8} The material gradually degrades through hydrolysis and is fully integrated over 4-6 years.^{1,3,9}

Clinical history

A 55 yr old female presented with pain at the Achilles tendon insertion site. X-rays revealed prominent Haglunds with exostosis at the insertion. **(Figure 1)**

Surgical intervention

A midline approach over the insertion was utilized, and the Achilles was split at its midline allowing each limb to be reflected medially and laterally respectively. **(Figure 2)** This resection revealed the prominent calcaneal exostosis. **(Figure 2 circle)**

The calcaneal exostosis and Haglunds were resected, and the edges smoothed to ensure no bony prominence remains. **(Figure 3)**

Mucoid degenerative changes of the distal stump were noted, with degenerated tissue being sharply excised. **(Figure 4)**



Following debridement to healthy tissue, the tendon was much thinner than native tendon and augmentation was deemed necessary. **(Figure 5)**

A 0.5 × 8cm FlexBand was chosen to augment the midline repair to enhance the strength of the distal stump. **(Figures 6 & 7)** Slight tension is added to the FlexBand while suturing into place. In my experience, utilizing this augmentation can often prevent the need for a FHL transfer in these procedures, while allowing for earlier weight-bearing.

Following the midline repair, the Achilles is brought down to its insertion with the suture anchor construct of choice.



Ordering info

31053 0.5 × 8cm FlexBand

Suture of choice for tendon repair

Suture anchor construct of choice for calcaneal reattachment

Foot & Ankle

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3. Data on file at Stryker.
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5. Gretzer, C., Emanuelsson, L., Liljensten, E., & Thomsen, P. (2006). J Biomater Sci, Polymer Ed, 17(6), 669-687. - Claim based on subcutaneous rat model. It is unknown how results from the rat model compare with clinical results in humans.
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