

Complications of Tendon Surgery in the Foot and Ankle



Eric A. Barp, DPM^{a,b,*}, John G. Erickson, DPM^b

KEYWORDS

- Tendon surgery • Complications • Diabetes • Tobacco • Achilles tendon
- Peroneal tendon

KEY POINTS

- With the exception of the Achilles tendon, little has been published on tendon healing and complications of tendon surgery in the foot and ankle.
- Complications of tendon surgery are often multifactorial, and their treatment should encompass that.
- A thorough history and physical examination minimizes the risk of complications, and provides a complete surgical plan.
- Tobacco use and uncontrolled diabetes significantly increase the rate of complications in tendon surgery of the foot and ankle.

INTRODUCTION

Tendon surgery in the foot and ankle is commonly performed for numerous pathologies. Although many of these procedures have reproducible positive results, occasionally the foot and ankle surgeon runs into a myriad of potential complications. These complications can lead to significant patient morbidity and mortality, especially if undertreated. Thus, it is imperative that the foot and ankle surgeon be well educated in the operative and nonoperative treatment options for these common complications.

Generally speaking, complications from tendon surgery originate from two sources: the patient or the surgeon. A patient's medical comorbidities and quality of tissue significantly impact their rate of healing and their risk for complications. Furthermore, the surgical plan and technique, as dictated by the surgeon, can also lead to increased

Disclosure Statement: The authors have nothing to disclose.

^a The Iowa Clinic, 5950 University Avenue, West Des Moines, IA 50266, USA; ^b Unity Point Health, 1415 Woodland Avenue, #100, Des Moines, IA 50309, USA

* Corresponding author. The Iowa Clinic, 5950 University Avenue, West Des Moines, IA 50266.
E-mail address: ebarp@iowaclinic.com

Clin Podiatr Med Surg 33 (2016) 163–175
<http://dx.doi.org/10.1016/j.cpm.2015.06.010>

podiatric.theclinics.com

0891-8422/16\$ – see front matter © 2016 Elsevier Inc. All rights reserved.

risk of complications. As such, care must be taken to optimize all facets of the planned procedure to minimize the overall risk as much as possible. It is important to recognize the possibility of complications occurring despite perfect conditions and adequate preoperative planning.

For the purpose of this article, the focus first is on the common causes of general complications, and then on two specific groups of tendon procedures that are at a higher risk for complications: peroneal tendon and the Achilles tendon repairs.

RISK OF TOBACCO USE

The cardiopulmonary risks of tobacco use have been well established in medical literature. Recent studies show smoking to be a significant risk factor for delayed healing and nonunions in elective foot surgery,¹ ankle fractures, and ankle and subtalar arthrodesis. The effect of smoking on wound healing has also been shown throughout the literature; however, specific studies are lacking regarding tendon healing in the foot and ankle. Fortunately, there are a few studies throughout the general orthopedic literature that are applicable and can help guide clinicians.

Bruggeman and colleagues² performed an analysis on wound complications in patients with open repair of Achilles tendon ruptures. They retrospectively reviewed 167 cases of open Achilles tendon repairs. Their data show smokers had a 38% chance of wound complications compared with 7.8% chance of wound complications in nonsmokers. Other than smoking, only the use of steroids and being female were found to have a statistically significant effect on wound healing complications. Unfortunately, other complications of Achilles tendon surgery were not included in this study.

Sorensen and colleagues³ published a study in 2003 looking at the effects of abstaining from smoking on incisional wound infections. In their study, they compared 48 smokers with 30 patients who had never smoked, and followed them for 15 weeks. The smokers consumed 20 cigarettes per day for the first week before being randomized into three groups: (1) continuous smoking, (2) absence of smoking with nicotine patch, and (3) absence of smoking with placebo patch. An elliptical incision was then made just lateral to the sacrum, which was sutured and followed throughout its healing process. Incisions were performed at the end of the first week and at 4, 8, and 12 weeks after randomization. The wound infection rate in smokers was 12% compared with 2% in nonsmokers. The rate of wound infections significantly dropped in the placebo and nicotine patch groups at 4, 8, and 12 weeks. This study suggests that cessation 1 month before surgery may help decrease the risk of incisional wound healing complications. This study also suggests that nicotine replacement patches may not hinder healing as previously thought. There have been other studies published on this topic, but the results further solidify that the exact mechanism of how smoking inhibits wound healing is complicated and multifaceted, extending beyond just the effects of the nicotine alone.

Moller and colleagues⁴ performed a retrospective analysis of 825 patients undergoing hip or knee arthroplasty. They compared 454 nonsmokers with 232 smokers while comparing wound healing complications, cardiopulmonary complications, intensive care requirements, and length of hospital stay. Smokers were found to have a higher risk for developing wound complications and also had a higher rate of admissions to the critical care unit, generally for pulmonary complications. Mallon and colleagues⁵ performed a retrospective analysis of 224 patients with an open rotator cuff repair. They had 95 smokers and 129 nonsmokers. They found that nonsmokers had significantly less pain compared with smokers. They also found that smokers had a worse preoperative and post operative score than their nonsmoking counterparts.

Download English Version:

<https://daneshyari.com/en/article/3461880>

Download Persian Version:

<https://daneshyari.com/article/3461880>

[Daneshyari.com](https://daneshyari.com)