

Geistlich Nexo-Gide® Case Report

Surgical Repair of Right Quadriceps Full Thickness Tendon Rupture with Geistlich Nexo-Gide®

PATIENT BACKGROUND

- 45 year old male
- History of hypercholesterolemia and gout
- Obesity with BMI of 36.6
- 5-week-old right full thickness retracted quadriceps tendon tear

Clinical History

A 45-year-old male sustained a fall at work resulting in significant right knee pain and weakness. There was a palpable gap of approximately 1cm noted proximal to the patella. The patient was unable to complete a straight leg raise.

The radiographic images were positive of Patella Baja. The patient was subsequently diagnosed with a right full thickness retracted quadriceps tendon tear and scheduled for surgery.

The patient underwent an open surgical repair of a right quadriceps tendon utilizing drill holes in the patella augmented with Geistlich Nexo-Gide® Dual Surface Membrane.

Case Summary

Achieving a strong mechanical repair of the tendon is the primary goal. Mechanical augmentation (autograft and allograft) of the repair can be used when there is moderate tendon tissue loss and/or difficulty in achieving tendon to bone contact. Augmentation of a repair with an extracellular matrix can provide a scaffold for improved tendon healing. This serves as a useful surgical tool in delaminated, chronic, retracted tendon tears as well as patients with lower healing potential.

The Geistlich Nexo-Gide® is a dual surface membrane that provides both a porous lower surface as well as a protective encasement (smooth upper surface) to retain cells during tendon healing. The decision to use Geistlich Nexo-Gide® during this case was based on several factors. Patient related factors such as obesity (BMI 36.6) and chronic disease (Gout, Hypercholesterolemia) place the patient in higher risk of delayed healing and re-tear of the tendon. The chronicity (5 weeks) of the tear along with the moderate fibrotic edges of the tendon can potentially delay healing of the tendon.

The distinct advantages of Geistlich Nexo-Gide® include 1) a purification process that safely and effectively removes antigens, lipids and non-collagenous proteins reducing likelihood of acute and chronic biological reaction¹; 2) the maintenance of native collagen molecules and fiber structures shown to support cell retention²; and 3) a naturally thin and pliable membrane that is easy to handle and suture.

The size (40mm x 50mm) used in this case provided full coverage of the repair site including the retinacular repair. The implant itself is very easy to handle and has excellent suture pull-out strength for initial fixation.



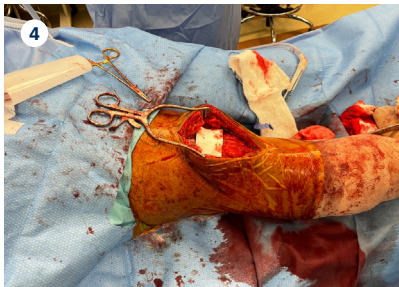
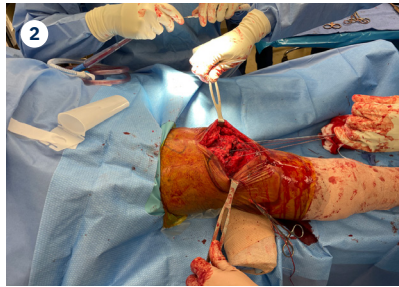
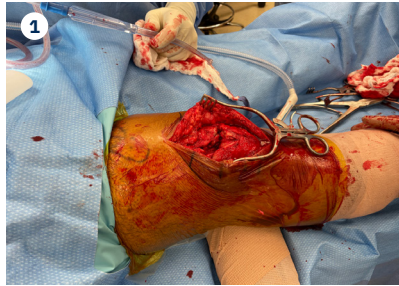
Wasik Ashraf, D.O.

Dr. Wasik Ashraf is a board certified orthopedic surgeon specializing in sports medicine with extensive experience in shoulder and upper arm surgery. After graduating magna cum laude from New York Institute of Technology, Dr. Ashraf earned his medical degree from New York College of Osteopathic Medicine. He went on to complete a Sports Medicine Fellowship at the Hughston Clinic under the directorship of Dr. Champ Baker.



Robert W. Doidge, D.O.

Dr. Robert W. Doidge founded Englewood Knee and Sports Medicine Orthopedic P.C. in 1992. He completed a Sports Medicine/Arthroscopic fellowship at Michigan State University and an AO fellowship in Switzerland. In addition, he trained at the University of Miami for trauma, the Cleveland Clinic and Lahey Clinic Foundation for Sports Medicine as well as Alfred DuPont Institute for Pediatrics. He serves as an elite surgical team member for the Institute for Western Surgery in China.



- 1 A vertical anterior incision was made extending 8cm proximal to the tear site to the mid portion of the patella tendon. Care was taken to outline the tear pattern and debride both the fibrotic distal tendon and planned bony attachment site on the proximal patella.
- 2 Two #5 Ethibond sutures were then used in Krackow fashion to obtain control of the tendon. Three parallel drill tunnels were created from proximal to distal patella. The four sutures were then shuttled through the tunnel with the central tunnel having two sutures.
- 3 The #5 Ethibond sutures were then tied individually. vicryl stitches (2-0) were used to complete the repair with several figures of eight suture configuration spanning the repair site.
- 4 The Geistlich Nexo-Gide® implant (40 mm x 50 mm) was then placed over the repaired quadriceps tendon.
- 5 The lower porous surface of the implant was placed in direct contact with the repaired surface of the quadriceps. Each corner of the implant was then sutured using a simple stitch with vicryl 2-0.

“The patient was able to return to work full duty by postoperative week 12.”

Post Operative Progress Note

There were no negative postoperative complications such as infection, retear, adhesion formation or inflammatory reaction to the implant.

This patient’s rehabilitation program included 3 weeks in a locked hinged brace with weight bearing as tolerated using crutches.

Starting post-op week 4, the patient began formal physical therapy with the brace unlocked to 45 degrees. An incremental increase in flexion was prescribed and tolerated well with the patient achieving full flexion by week 8. He discontinued all assistive devices by week 8. The patient was able to return to work full duty by postoperative week 12.

