



SURGICAL SPOTLIGHT

REVISION QUADRICEPS TENDON REPAIR WITH ROTIUM® BIORESORBABLE WICK



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"My goal in incorporating ROTIUM at the enthesis and over the repair was to support the healing environment while providing broad coverage across the repaired tendon. I also wanted a construct that would support progression through rehabilitation while we restored range of motion and strength."

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PATIENT HISTORY

A 73-year-old male presented following failure of a primary quadriceps tendon repair performed by an outside surgeon. Examination demonstrated a palpable defect at the quadriceps insertion on the superior pole of the patella, a 30° extensor lag, and poor extensor mechanism function that prevented him from returning to pickleball. Advanced imaging confirmed failure of the previous repair.

The index repair had been augmented with a different augmentation product, followed by an appreciable postoperative hyper-inflammatory reaction. Infection was ruled out.

CLINICAL RATIONALE

Revision surgery presented concerns regarding tendon quality and healing following failure of the primary repair and prior augmentation. Calcific deterioration of the tendon was also noted at the time of the index procedure.

The revision strategy was designed to support biologic healing at the enthesis while providing a robust mechanical construct. ROTIUM Bioresorbable Wick was incorporated at the tendon-bone interface and over the repaired tendon as part of the reconstruction, with the goal of supporting the healing environment while complementing the fixation strength of the revision repair.

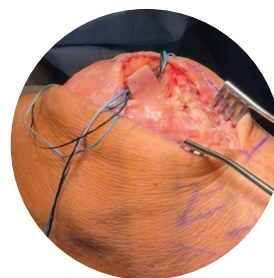
SURGICAL TECHNIQUE

A retensionable transosseous quadriceps tendon repair was performed. A 2x2cm ROTIUM Bioresorbable Wick was positioned at the enthesis and secured through compression of the suture repair. A second 4x3cm ROTIUM scaffold was positioned over the superior surface of the repaired tendon and secured with Monocryl suture. This configuration incorporated ROTIUM both at the tendon-bone interface and across the superior surface of the revision repair.

TECHNICAL PEARLS

Appropriate bone preparation was performed before placement of ROTIUM at the enthesis. In my technique, positioning the scaffold at the prepared tendon-bone interface was intended to maintain marrow stimulation elements at the site of tendon healing.

For the surface application, I preferred broad coverage of the repaired tendon and underlying defect. The larger scaffold was used with the goal of distributing load across a greater surface area and maximizing support of the repair during the early rehabilitation period.



ROTIUM 2x2cm secured at the enthesis



ROTIUM 4x3cm positioned and sutured over the repaired tendon

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POSTOPERATIVE EXPERIENCE

At 2 weeks, the patient reported improved pain compared with his preoperative condition and demonstrated range of motion from 0–90° without pain. Notably, there was no observation of the hyper-inflammatory response that had occurred following the patient's previous repair with a different augmentation product.

At 6 weeks, there was no effusion, range of motion had progressed to 0–130°, and the patient could perform 30 straight-leg raises without fatigue. His brace was discontinued, and he returned to activities of daily living.

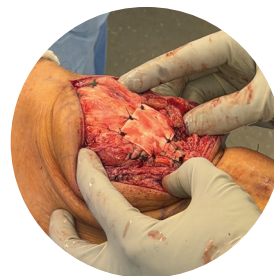
At 3.5 months, the patient had returned to pickleball and recreational sports without limitations. He reported no pain and demonstrated full ROM and 5/5 strength.

SURGEON'S PERSPECTIVE

Revision quadriceps tendon repair can be particularly challenging, especially in an older, active patient with expectations of returning to recreational sports. In this case, I wanted to address both the mechanical strength of the revision construct and the biologic environment for tendon-to-bone healing.

My goal in incorporating ROTIUM at the enthesis and over the repair was to support the healing environment while providing broad coverage across the repaired tendon. I also wanted a construct that would support progression through rehabilitation while we restored range of motion and strength.

Clinically, this patient progressed quickly. I did not observe the hyper-inflammatory response he experienced following his previous augmentation, and by 3.5 months he had regained full range of motion and 5/5 strength and had returned to pickleball and recreational sports without limitations.



Completed repair with ROTIUM utilized at both enthesis and over the quadriceps tendon