

## Repair and Augmentation of Achilles Tendon Tear with Tendinosis Utilizing a Next-Generation Decellularized Dermal Allograft (DermaPure®)

Joe George DPM, FACFAS, CIME

### Surgical Summary

#### Presentation:

49-year-old female, with no history of applicable comorbidities presented in the clinic complaining of acute pain in the lower posterior leg.

#### Preoperative Diagnosis:

- Achilles tendon rupture

#### Postoperative Diagnosis:

- Achilles tendon rupture with tendinosis

#### Procedure:

- Achilles tendon repair
- Repaired tendon reinforced with DermaPure®, decellularized dermal allograft

#### Intra-Operative Implantation of DermaPure®:



Figure 1



Figure 2

#### Outcome:

- Return to full work assignment at 8 weeks requiring 8 hours of walking and standing per day
- Week 12: Range of Motion (ROM) dorsiflexion 10 degrees, plantarflexion 45 degrees, Strength 5/5

#### Surgeon Perspective:

"Use of DermaPure® allowed patients to return to normal range of motion and regain normal strength 2-3 weeks sooner than with other grafts I've used on the market"

– Joe George DPM, FACFAS, CIME

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## Case Report

### Presentation:

49-year-old female, with no history of applicable comorbidities presented in the clinic complaining of acute pain in the lower posterior leg.

### Assessment:

Clinical examination revealed increased resting ankle dorsiflexion in prone position with knees bent along with calf atrophy. Palpable gap 2 cm proximal to calcaneus. Weakness to ankle plantar flexion coinciding with increased passive dorsiflexion. Positive Thompson test.

### Intraoperative Findings:

- The patient was found to have Achilles tendon rupture with tendinosis.

### Surgical Treatment:

- The patient was transferred to the operating room, brought under general anesthesia, and placed onto the operating table in the prone position with a tourniquet placed on the operative side. The operative side was prepped and draped in the usual aseptic manner.
- Attention was directed to the left leg where an Esmarch bandage was used to exsanguinate the left leg to the level of the knee, and the tourniquet was inflated to 300 mmHg to maintain hemostasis.
- A linear incision was made along the posterior aspect of the affected area of the Achilles tendon along the watershed area of the tendon and the incision was deepened down to the paratenon.
- The paratenon was reflected away, the ruptured tendon ends were visualized, and the diseased portion of the tendon was debrided followed by 0 Vicryl being used to tubularize the tendon ends; then the distal end and the proximal ends were reapproximated.
- DermaPure® 3x4 cm was placed dermal side against the tendon and wrapped around the tendon securing the implant onto itself and tacking the tendon down with 2-0 Fiberwire.
- The ankle joint was taken through a range of motion and found to still have equinus deformity of the ankle, therefore an incision was made along the medial aspect of the gastrocnemius aponeurosis.
- The incision was deepened down to the level of the aponeurosis, soft tissues were retracted away and curved Metzenbaum scissors were used to release the gastrocnemius aponeurosis to allow for dorsiflexion at the ankle and reduction of the equinus deformity. The area was flushed copiously with saline.
- Soft tissue closure was obtained with 0 Vicryl and skin closure with 3-0 Nylon.
- Postop dressings consisted of Adaptic, 4x4's, sterile Webril and Ace bandages were applied.

### Conclusion:

Postop Follow Up Week	Dorsiflexion	Plantarflexion	Inversion	Eversion	Strength
Week 3	-10	25	10	10	3
Week 12	10	45	25	18	5

- 3-week follow-up revealed appropriate healing with minimal discharge; patient reported improvement & doing well
- Using DermaPure® allowed for support of the reconstructed tendon with little bulk
- Using DermaPure® resulted in strength and range of motion scores being achieved earlier than expected with other allograft products available on the market

## DermaPure® Decellularized Dermal Allograft

010200HD	1 cm x 2 cm	DermaPure® Decellularized Dermal Allograft
020200HD	2 cm x 2 cm	DermaPure® Decellularized Dermal Allograft
020300HD	2 cm x 3 cm	DermaPure® Decellularized Dermal Allograft
030400HD	3 cm x 4 cm	DermaPure® Decellularized Dermal Allograft
040600HD	4 cm x 6 cm	DermaPure® Decellularized Dermal Allograft
071000HD	7 cm x 10 cm	DermaPure® Decellularized Dermal Allograft