Anterior Rectus Sheath Autograft in WRAP-Augmentation of Achilles Tendon Rupture

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Objectives
Achilles tendon ruptures can be counted towards the common traumatic ankle injuries. As such, there is a comparatively large set of treatment options including surgical and nonsurgical approaches. The purpose of this case report is to demonstrate a new technique for a specific subgroup of Achilles tendon ruptures that present with a large tendinous gap.

Methods
We used a 2-step procedure designed to grant additional stability through an autograft from the anterior rectus sheath of the patient. Two patients were treated after suffering traumatic Achilles tendon ruptures on the left side with a gap of >3.5 cm and a high demand in daily activities. The reconstruction was performed using an upper quadrant rectus sheath as a WRAP-augmentation. After securing the transplant tissue, the abdominal wall was reconstructed using a Vicryl™-Prolene™ mesh (VYPRO®, Johnson & Johnson Medical GmbH, Ethicon Deutschland, Norderstedt, Germany). After, a standard approach to the Achilles tendon was performed with a Kirchmayr-Kessler suture. The end result was then stabilized with a rectus sheath WRAP over a length of 14 to 15 cm. On the cases reported here, multiple clinical follow-ups were performed over a 5-year period.

Results
We can report highly satisfying results, with a return to sports activity after 6 months and no complications.

Conclusion
We believe that operative treatment through augmentation with an Autograft-WRAP from anterior rectus sheath is new, safe, reliable and effective solution for Achilles tendon ruptures with large gaps in healthy patients that demonstrate a high demand in daily activities.