

Acupuncture Achilles Tendon Repair Finding

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Acupuncture is an effective treatment modality for Achilles tendon disorders. Two clinical case histories were published by Dr. Hawks demonstrating that acupuncture is “highly effective, with rapid results for both acute and chronic Achilles tendinopathy and was performed easily in an austere environment.” [1] Dr. Hawks works at the Mike O’Callaghan Military Medical Center at Nellis Air Force Base in Nevada and the

treatments were administered to personnel while deployed overseas.

Patient #1 had significant pain reduction and increases in functionality. Dr. Hawks notes that the patient was able to return to his exercise routing of running after receiving acupuncture. The second patient had Achilles tendon pain prior to acupuncture and had complete resolution of all symptoms at the two month datapoint following the final acupuncture session.

Dr. Hawks notes that Achilles tendinopathy is common among military personnel and that effective treatment and recuperation is “critical to mission success,” especially for soldiers that have been deployed. Tendinopathy is a general term referring to painful tendon region conditions, often due to overuse or the sequela of acute trauma. Treatment for both tendinopathy cases presented in this report were administered in a canvas tent as part of the overseas Expeditionary Medical Support System. The report notes that the treatment results were rapid with high efficaciousness.

For both patients, acupuncture points BL60, BL61, KD3, and KD4 were applied. Needles were angled into the Achilles tendon. Electroacupuncture connected KD3(-) to KD4(+) and BL61(-) to BL60(+). The electroacupuncture device (ITO ES-130) was set to 30 Hz and needles were retained for 15 minutes. For patient #1, the treatment protocol differed on the very first treatment and then conformed to the aforementioned protocol thereafter. During the first treatment, BL67 and SI18 were needled along with needles placed at the distal three inches of the Achilles tendon.

The doctor conducting the study notes that a recent investigation demonstrates that acupuncture strengthens damaged tendons via anti-inflammatory actions and mechanotransduction (cells convert mechanical stimuli into electrochemical activity). [2] He adds that additional research demonstrates that

acupuncture promotes healthy cellular function and increases blood flow and oxygenation to tendons. [3],[4]

Dr. Hawks provided a basic Traditional Chinese Medicine (TCM) history in his report. He notes that an early treatment record for the Achilles tendon was written in *The Yellow Emperor's Classic of Internal Medicine*. Therein, the Hui technique was employed. It involves placing needles directly into the tendon. This is consistent with using acupoints such as N-LE-3 (Genping, Level with the Heel) and M-LE-10 (Quanshengzu, Spring at the Foot). These are points located directly at the Achilles tendon.

Genping is located on a line connecting the medial and lateral malleoli, at the posterior aspect of the body on the achilles tendon. A local point for the treatment of the achilles tendon, this acupoint is often needled to a depth of 0.5–0.8 cun. This point is traditionally indicated for foot disorders due to infantile paralysis. Quanshengzu is located at the back of the heel, at the middle of the superior margin of the calcaneus bone, at the achilles tendon. Needle insertion is typically 0.2–0.3 cun. Indications include esophageal spasms, diseases of the brain, and lower back pain.

Patient #1 made an interesting comment. He notes that he was skeptical about getting acupuncture at first; however, after receiving acupuncture, he was “able to walk without a limp.” The approach to care for patient #2 was a modification of the treatment protocol used for patient #1. The acupuncture technique used for patient #1 on the first visit was dropped in lieu of using the techniques used on the second and third visits. This shift in protocol was made because the second and third acupuncture visits for patient #1 produced significant positive patient outcomes. As a result, patient #2 received a modified treatment protocol and subsequently had a complete resolution of the Achilles tendon condition, a complete recovery.

Investigations

The aforementioned case histories are supported by laboratory research. Investigators from Meiji University of Integrative Medicine and Doshisya University (Kyoto, Japan) conclude that electroacupuncture (EA) increases maximum breaking strength of the Achilles tendon. The researchers note that “it is likely that EA stimulation increases the mechanical strength of a repaired tendon after long-term recovery, and EA stimulation could be useful for preventing re-rupture.” [5]

In related findings from a controlled clinical trial, Bi-meng Zhang et al. conclude that acupuncture reduces pain and improves function of the Achilles tendon. [6] The researchers note, “Acupuncture treatment resulted in a significant increase from baseline in VISA-A [Victorian Institute of Sports Assessment-Achilles] of 25.8 after 16 weeks and 28.4 after 24 weeks.” [7]

In a related laboratory investigation, researchers conclude that electroacupuncture produces a significant increase in cell count and transforming growth factor- β 1 (TGF- β 1) expression “as well as increased tendon strength.” [8] The researchers note that the data indicates that acupuncture is a potentially useful method for the promotion of tendon repair.

Similar findings were made in a related investigation. Researchers conclude that electroacupuncture improves “the recovery of Achilles tendinopathy. It can enhance fibroblast proliferation and promote collagen synthesis by stimulating the synthesis of TGF- β 1 and activating TGF- β 1.” [9] The researchers add that electroacupuncture improves “the structure rearrangement of collagen fiber during the recovery of Achilles tendinopathy.” [10]

Summary

Acupuncture benefits the Achilles tendon for both acute and chronic conditions. Acupuncture is in widespread use in clinics throughout the world and is even in common use by professional athletes. For example, NBA champion Chauncey Billups used acupuncture for a torn Achilles tendon during his basketball career. He notes that acupuncture reduced both pain and swelling of the Achilles tendon.

Research demonstrates several important findings. Acupuncture speeds repair and assists in the return of normal functioning of the tendon. Additionally, acupuncture strengthens the tendons and may prevent exacerbations, aggravations, and future injuries.

References

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