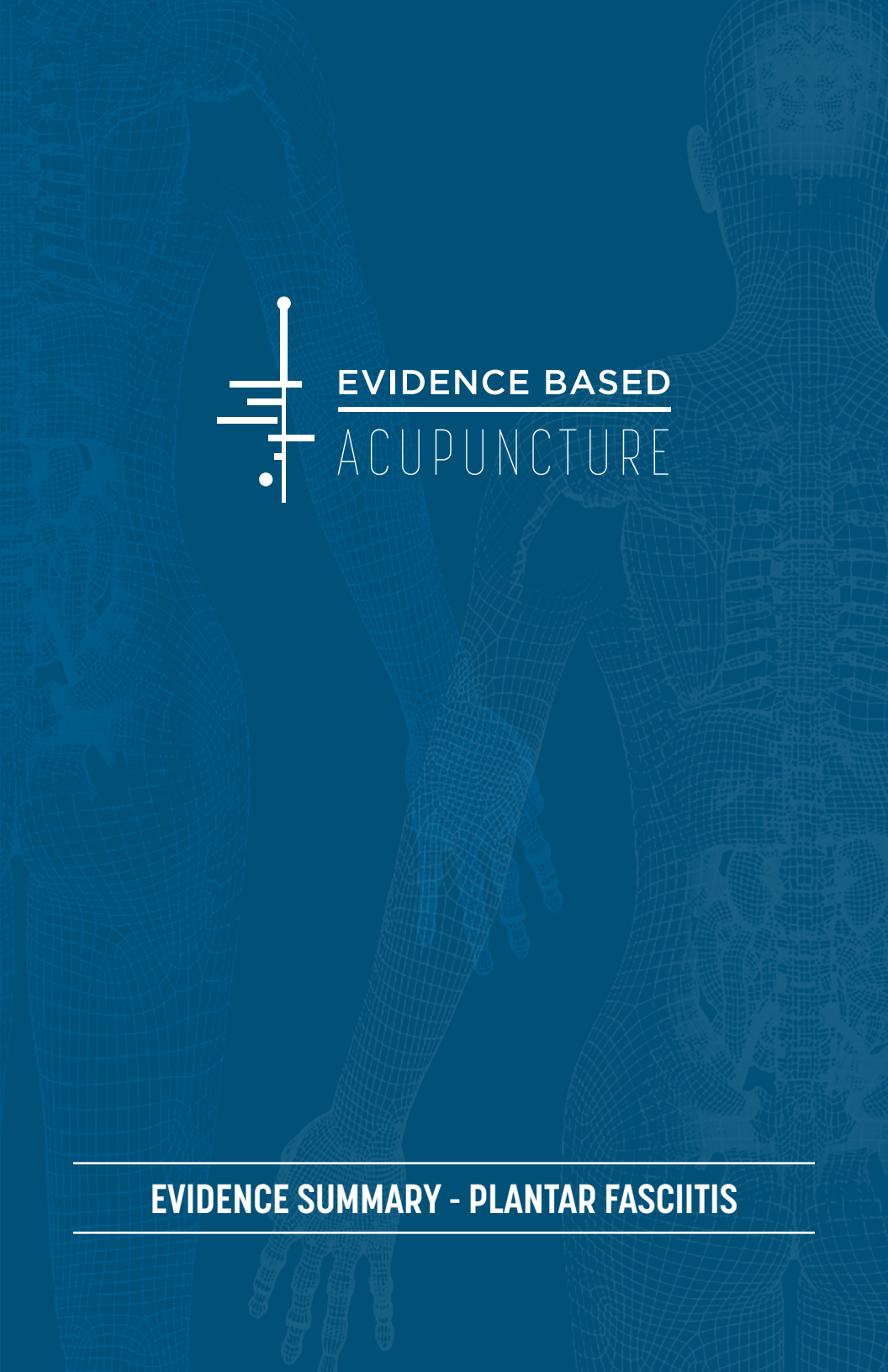

EVIDENCE SUMMARY - PLANTAR FASCIITIS

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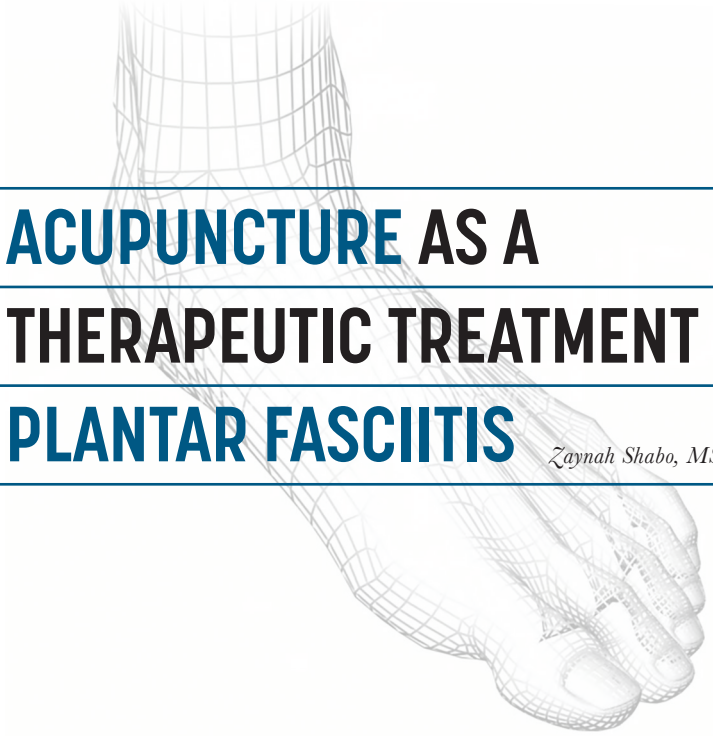


ACUPUNCTURE AS A THERAPEUTIC TREATMENT FOR PLANTAR FASCIITIS

Zaynah Shabo, MSTOM, LAc

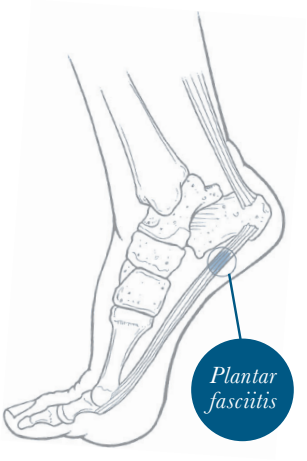
PLANTAR FASCIITIS

Plantar fasciitis (PF) is a common cause of heel pain, estimated to affect 10% of people over the course of their life.[1] Symptoms are typically sharp, stabbing pain with pressure, or when standing after periods of rest. Most cases improve with relatively conservative treatment, including home remedies such as stretching, rest, and massage, but when these approaches don't work, diagnostic imaging and outside therapies may be recommended. PF is most common in runners, people who are overweight, in occupations requiring lots of standing or walking, and those with foot alignment issues or who have one leg longer than the other.[2]

The "plantar fascia", which is the part of the foot that's inflamed with plantar fasciitis, is a tendon that attaches to the base of the heel bone and extends into five bands that attach to each toe on the bottom of the foot. As a weight-bearing structure, it is affected by over-use through repetitive strain due to both too much or too little movement and exercise. Small injuries to the tendon over time cause inflammation and pain. Often a spur, which is a little bony growth, develops on the heal bone (calcaneus) as well. Plantar fascitis can also be caused by arthritic conditions such as ankylosing spondylitis and psoriatic arthritis.[3]

ACUPUNCTURE FOR PLANTAR FASCIITIS: THE CLINICAL EVIDENCE

A recent systematic review that looked at all clinical trials on acupuncture for plantar fasciitis concluded that acupuncture is effective for plantar fasciitis and that the evidence is comparable to other commonly used interventions, such as stretching, night splints and dexamethasone.[4] Accordingly, the US Department of Veteran Affairs[5] and the Acupuncture Evidence Project[6] concluded that acupuncture has a Potential positive effect for treating heel pain.



HOW ACUPUNCTURE TREATS PLANTAR FASCITIS: BIOLOGICAL MECHANISMS

Acupuncture improves plantar heel pain through several pathways. One way is that the insertion of needles causes a local effect on nerve endings, releasing neuropeptides that help eliminate pain. There is also some excellent research showing that a substance called adenosine is released during acupuncture and has a potent pain-relieving and anti-inflammatory effect as well as promoting blood flow to the area.[7] Other local cells, known as fibroblasts, are stimulated by acupuncture promoting tissue healing in the area.[8]

Researchers have also demonstrated that the body releases its own opioids, the body's natural 'pain killer,' during acupuncture treatment.[9] Studies that look at changes in brain activity during acupuncture show that following treatment there is less activity in brain regions associated with pain perception and increased activity in areas that regulate our response to pain.[10]

STRENGTH OF EVIDENCE

REVIEWS & META-ANALYSES

RANDOMISED CONTROLLED TRIALS

MANY REPORTS

SINGLE REPORTS

ANIMAL MODELS (Mechanisms)

KEY RECOMMENDATIONS FOR PRACTICE

CLINICAL RECOMMENDATION	EVIDENCE RATING
Acupuncture for plantar fasciitis	B
Nonsteroidal anti-inflammatory drugs can provide short-term improvement in pain from plantar fasciitis when used with other conservative therapies.	B
Prefabricated and custom-made foot orthotics are effective in reducing heel pain and improving foot function in patients with plantar fasciitis.	B
The use of anterior night splints can improve plantar fasciitis pain.	B
Corticosteroid injections can provide relief for acute and chronic plantar fasciitis.	B
Extracorporeal shock wave therapy is a viable treatment option for chronic recalcitrant plantar fasciitis.	B
Ultrasonography and magnetic resonance imaging can be useful in diagnosing plantar fasciitis by showing increased plantar fascia thickness and abnormal tissue signal.	C

A = consistent, good-quality patient-oriented evidence;
B = inconsistent or limited-quality patient-oriented evidence;
C = consensus, disease-oriented evidence, usual practice, expert opinion, or case series.
For information about the SORT evidence rating system, go to http://www.aafp.org/afpsort.xml

MAINSTREAM APPROACH TO TREATING PLANTAR FASCITIS

The standard treatment for plantar fasciitis is typically conservative, as the condition usually resolves within a year. According to the American Family Physician, 'although several remedies exist for plantar fasciitis, there is little convincing evidence to support these various treatments.'[11]

Initial recommendations that the patient can do on their own include changing their activity levels, applying ice, stretching, wearing orthotics, weight loss and taking over-the-counter pain killers such as acetaminophen (Tylenol or Paracetamol) or non-steroidal anti-inflammatory drugs (NSAIDs).

Concerns over the safety of taking over-the-counter painkillers have increased in recent years. A new review of safety evidence found an increased risk of cardiovascular complications, gastro-intestinal tract bleeding, kidney toxicity and death from taking Tylenol or Paracetamol.[12]

The use of NSAIDs also carries significant health risks, even in small doses. A 2017 review of the safety of NSAIDs, which included over 446,000 patients, found an increased risk of heart attack when using any NSAIDs (including over-the-counter ones like Naproxen) at any dose, even for as little as one week.[13] NSAIDs have also been shown to increase the risk of gastro-intestinal bleeding,[14] a serious and potentially fatal complication, as well as acute kidney injury.[15]

If plantar fasciitis symptoms do not improve within several weeks, diagnostic imaging such as ultrasound or MRI may be used to rule out any further contributing factors. Modalities such as physical therapy, steroid injections, prolotherapy, platelet-rich plasma injections, Botox, anterior night splinting, and custom orthotics may be included in the treatment plan.[16]

If there is no improvement after six or more months of treatment, shock wave therapy and plantar fasciotomy may be used next. Extracorporeal shock wave therapy is reported to be a beneficial, non-invasive approach, however it can be painful and lead to numbness and swelling in the region applied. Plantar fasciotomy has been shown in two studies to provide relief in a majority of patients surveyed (80-85%) but also includes the risk of side effects and complications of surgical procedure.

Conversely, studies on acupuncture for plantar fasciitis have shown few to no adverse effects, in addition to overall high levels of effectiveness. While there is a variety of styles of treating plantar fasciitis with acupuncture, each displays a strong ability to reduce pain and improve function, helping people with plantar fasciitis to get back on their feet!

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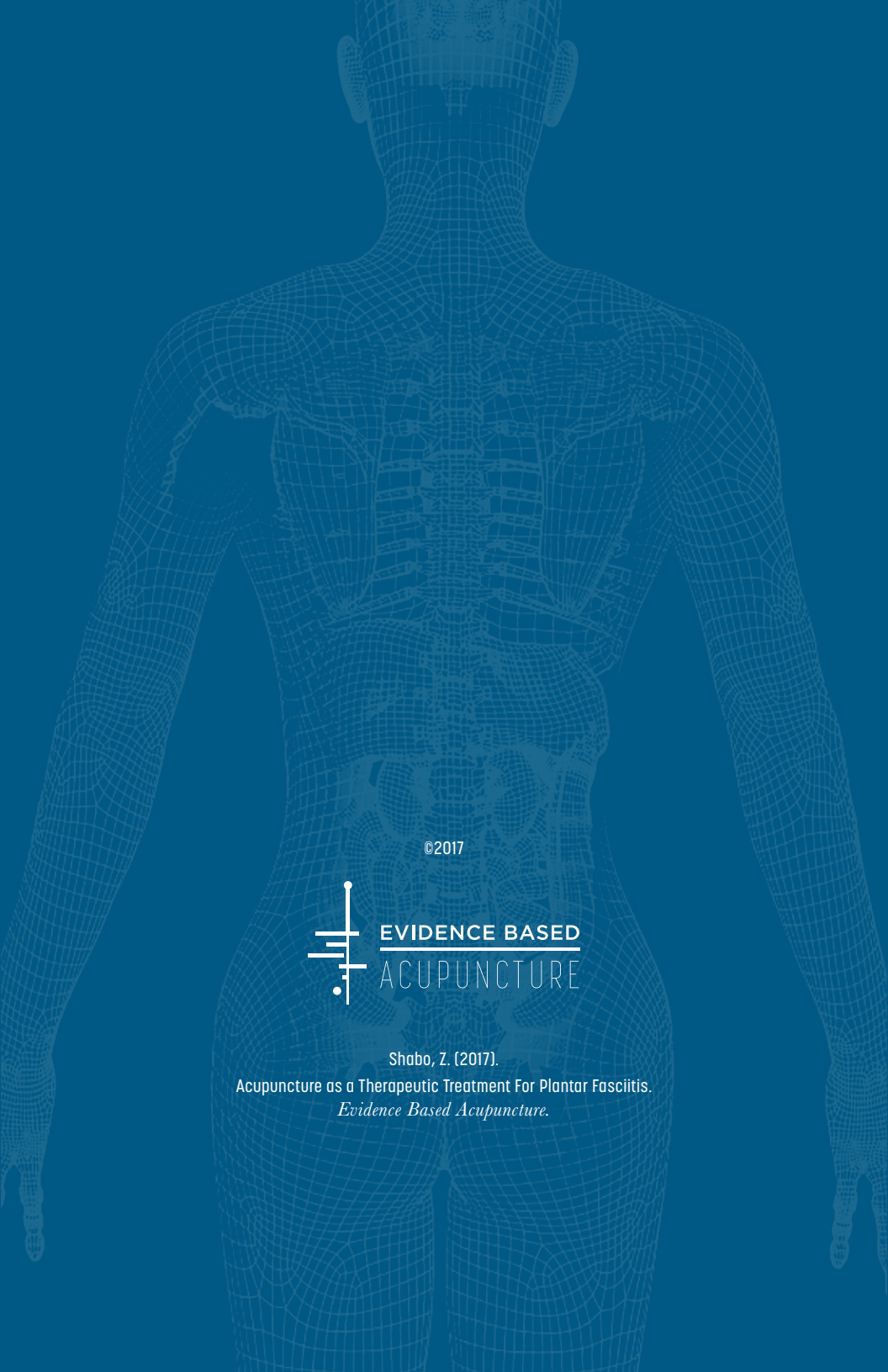

EVIDENCE BASED
ACUPUNCTURE

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