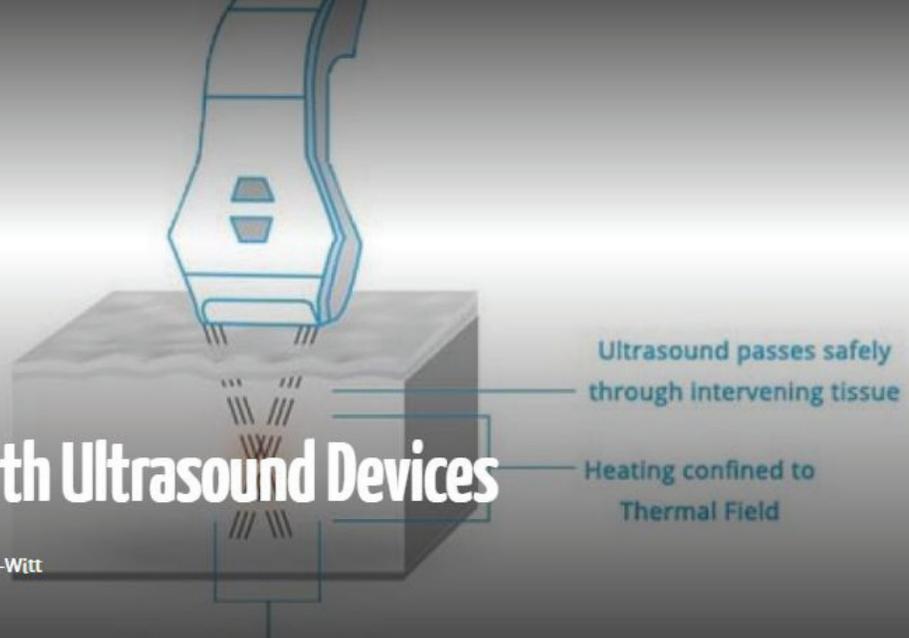


Replacing Scalpels with Ultrasound Devices

6 days 3 hours ago

by Rebecca Rudolph-Witt



The concept of using a high-frequency, ultrasound device to penetrate tissue deep within the body, without breaking the skin, seems more like a treatment from a science-fiction film than one used to treat patients, but that technology is already being evaluated. Guided Therapy Systems recently completed a study of Actisound, the intense therapeutic ultrasound (ITU) technology, to treat chronic plantar fasciitis, which caused patients heel pain.



Rebecca Rudolph-Witt

editor

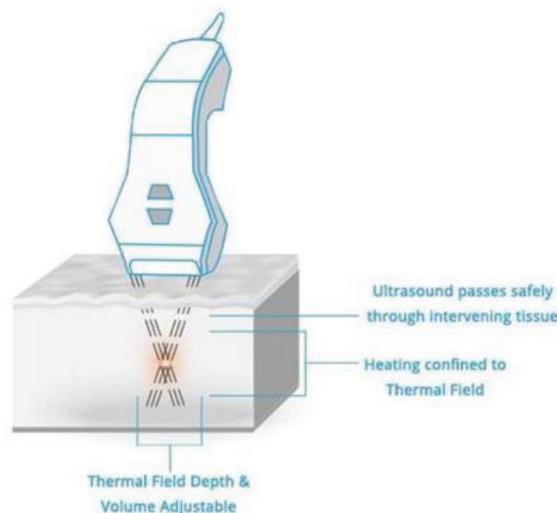
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In addition to a reduction in chronic pain and pain associated with more invasive procedures, the study evaluated the repair of pathology and decreased procedure time.

"In this randomized study of 50 patients, we found that using ITU significantly increased the rate of healing of plantar fasciitis, leading to faster and more complete pain relief and a faster return to activities," Dr. Daniel Latt said.

Dr. Latt, an orthopedic surgeon based in Arizona, was the principal investigator for the study, and shared his feedback with Surgical Products on the tool, which will be submitted for U.S. Food and Drug Administration clearance toward the end of 2016.



(Courtesy of Guided Therapy Systems)

Surgical Products: How does ITU work?

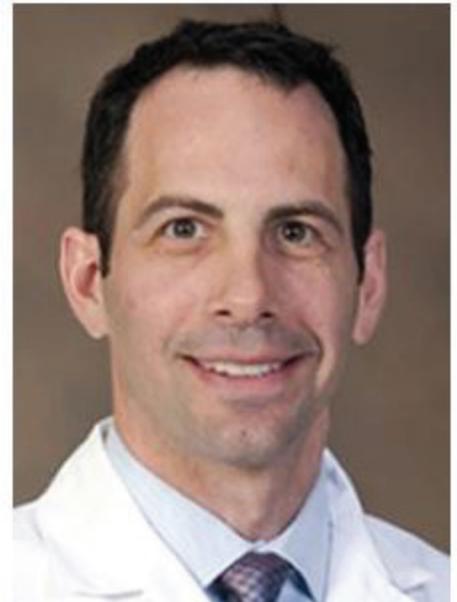
Dr. Latt: ITU creates small zones of thermal injury in soft tissue at desired depths, reaching depths up to 20 mm below the skin.

These injuries restart and enhance the production of endogenous growth factors in connective tissue through three phases of activity:

Inflammatory Phase – disruptive cells release “growth factors;”

Proliferative Phase – angiogenesis and fibroblasts migrate, deposit new collagen; and

Maturation and Remodeling Phase – new collagen converts into fibers, along with formation of collagen fiber cross linkage.



Dr. Daniel Latt

Surgical Products: What potential do you think this tool offers the surgical industry?

Dr. Latt: This tool is a potential game changer in the treatment of soft tissue disorders. ITU helps to accelerate the healing process, acting as an invisible scalpel to repair musculoskeletal injuries by initiating the body's healing response and stimulating tissue growth. However, unlike other energy sources (lasers, microwaves, etc.), the ITU technology used in Actisound can safely penetrate intervening tissue and precisely focus at specific depths within the body to treat patients – all without breaking the skin. This opens up a world of possibilities as the technology has the capability to heal tendons that would otherwise require surgery. Initial indications include: Plantar Fasciitis, Lateral Epicondylitis, Achilles Tendon Injury, and Patella Tendon Injury.

Surgical Products: What should your colleagues know about Actisound and the innovation surrounding this technology?

Dr. Latt: Actisound and ITU innovation solves various limitations in treating musculoskeletal injuries. As of now, musculoskeletal treatment ranges from hot and cold therapy, to physiotherapy and physical therapy to low-intensity ultrasound known as diathermy and shockwave therapy. Minimally invasive options include steroid, PRP and other injections and Radio Frequency with invasive surgery being a last resort. All of these surgeries have proven to be marginally effective at best, and some of which are either very costly or have painful treatments and long recoveries associated with them.

As a result, physicians are left with only two options, to rely on rest, stretching and physical therapy, which is time intensive and can be very expensive; or cut into the body – even if minimally. Currently, there is not an effective non-invasive alternative on the market like Actisound that allows doctors to directly treat soft tissue injuries without breaking the skin and affecting intervening tissue in the process. Actisound offers a fast procedure time, relatively pain free treatments, reduced pain and inflammation within 48-72 hours and full recovery of soft tissue injuries within 12 weeks.

This study was funded by Guided Therapy Systems.