

TRT Announces Release of Article by Journal of the American Heart Association—Shock Wave Treatment Protects Patients from Paralysis Caused by Aortic Surgery and Offers Potential Treatment for Spinal Cord Injuries

Woodstock, GA, October 17, 2015 – Tissue Regeneration Technologies, LLC (TRT) today announced the release of a groundbreaking article¹ in the esteemed Journal of the American Heart Association (JAHA). The article concludes that shock wave therapy (SWT) can protect the body from paralysis that results from a lack of blood flow to the spinal cord following aortic² surgery.

Background

A rare but unfortunate complication following aortic surgery is a condition known as spinal cord ischemia, or in other words, a lack of blood flow to the spinal cord. This condition, which occurs in 15% of high-risk patients, results in the death of neurons within the spine. Consequently, patients begin to experience nearly irreversible symptoms of paraplegia³ immediately after the onset of spinal cord ischemia. The released article from the JAHA supports that shock wave therapy can reduce the risk of spinal cord ischemia immediately before, during, or even shortly after aortic surgery and counteract the symptoms of the condition after the onset of paraplegia.

The Study

The study, performed on mice and confirmed with human cadaver spine cell splices, found many conclusions that support the benefits of SWT in preventing and treating spinal cord ischemia. First, the study showed that SWT, when applied within 3 days of the onset paraplegia, is an effective treatment for regaining motor functionality and increasing chances of survival. Next, the study showed that SWT induces angiogenesis⁴ and increases blood flow to the spine. SWT is also able to influence toll-like receptor 3 (TLR3) to modulate the body's inflammatory response to spinal cord ischemia, which kills neurons which are crucial to motor functionality. Given that neuronal protection is dependent on TLR3 and that SWT can influence TLR3, SWT can effectively protect the neurons in the spine from degenerating. In summary, the study concluded that SWT is an effective and feasible method to prevent and treat spinal cord ischemia.

Acoustic Wave Technology

Shock wave therapy involves emitting sound pressure waves at the body, and it is considered a non-significant risk therapy for healing a variety of indications including nonhealing bone fractures, ulcers, and wound healing disturbances. Patients who opt to undergo acoustic wave therapy experience a treatment time of less than 5 minutes and minimal recurring costs.

¹ Lobenwein, D., Tepeköylü, C., Kozaryn, R., Pechriggl, E., Bitsche, M., Graber, M., ... Holfeld, J. (2015). Shock wave treatment protects from neuronal degeneration via a toll-like receptor 3 dependent mechanism: implications of a first-ever causal treatment for ischemic spinal cord injury. Journal of the American Heart Association. doi:10.1161/JAHA.115.002440

² The aorta is the main artery of the body that supplies oxygenated blood to the body's circulatory system.

³ Paraplegia is the impairment of motor or sensory function in the lower part of the body.

⁴ Angiogenesis describes the creation of new blood vessels.

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Earlier research has shown that acoustic wave technology causes stem cell migration to the treatment area, thus allowing for the regeneration of tissue. Consequently, SWT is able to induce angiogenesis, resulting for increased blood flow and stronger protection against pathogens. Specifically for spinal cord ischemia, this study found that SWT heals the spine, and as a result, combats paralysis. This study and much prior research support the notion that if a patient suffers a catastrophic spinal injury and is treated with SWT within 12 hours, the patient is drastically less likely to die, significantly less likely to suffer permanent paralysis, and should recover all essential movement and sensitivity. The CEO of TRT, John Warlick, said in a statement regarding the study that “these experiments, and our [TRT’s] past clinical trials, strongly support that spinal cord injury patients should be immediately treated after trauma to reduce or prevent paralysis.”

About TRT and Its Technologies

Tissue Regeneration Technologies, LLC, is the leader in the sales of acoustic wave technologies for indications that benefit from the proven biologic response of shock waves. TRT’s clear advantage over competitors in the shock wave industry is TRT’s dominant patent portfolio for unfocused SoftWave™ technology. SoftWave™ technology refers to unfocused acoustic waves that do not damage cells as competitors’ focused acoustic wave treatments might. TRT’s unfocused, patented technology works by using forces within waves to trick the body into starting an immune response. Effectively, SoftWave™ technology tells when and where to heal itself.

Additional advantages for TRT include time to market, management team experience, internationally approved products and distributors, relationships within the shock wave community, and a multiple of modern device platforms for different indications.

TRT has FDA 510K approval for its premier kidney lithotripter, the LithoGold™ and successfully markets this device. Additionally, TRT has submitted a Premarket Approval Application (PMA) to the FDA for its orthopedic device, the OrthoGold™, for the indication of nonhealing fractures. Also, TRT is engaged in a PMA study for its wound care device, the DermaGold™, at Walter Reed Army Medical Center, through a Congressional Appropriation.

TRT is actively seeking strategic partners and investors to propel this amazing technology forward and to establish SoftWave™ therapy as the new standard of care in wound care, cardiology, and orthopedics.

See our website **www.trtllc.com** for the latest about TRT technologies and to view a copy of the article mentioned in this news release. A direct link to the article is **<http://goo.gl/XoZla4>** .