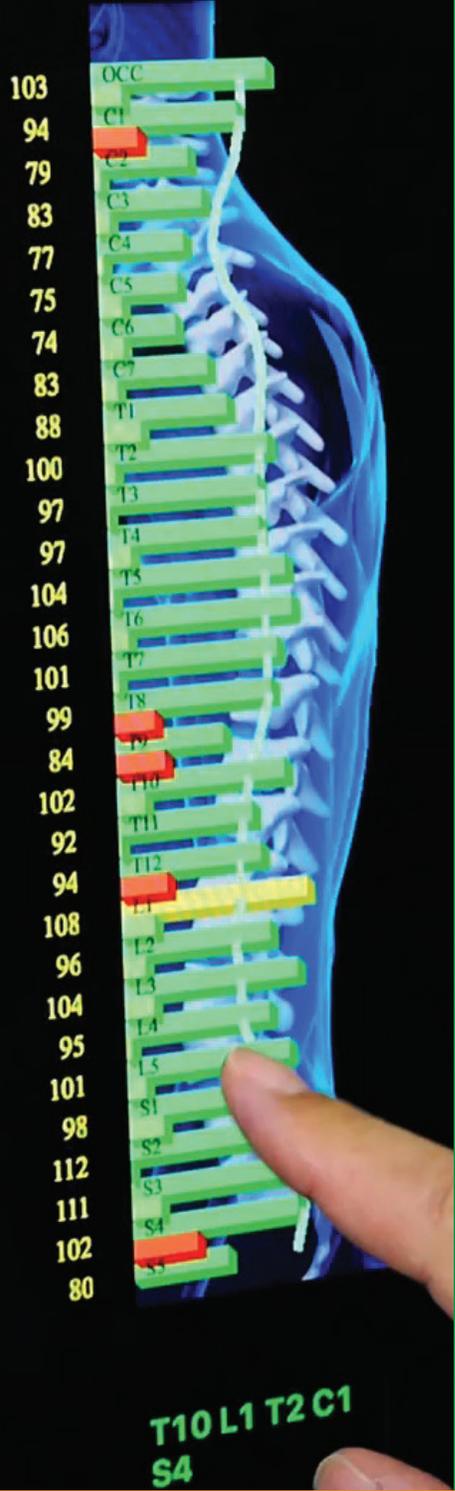


Summary of Recent PulStar Clinical Studies in China and Poland

Studies done by independent parties with no involvement from Sense Technology, show outstanding results

Since 2016, researchers in Poland and China have conducted four separate studies which proved the effectiveness of PulStar® Multiple Impulse Therapy compared to other techniques. The studies unanimously confirmed what we have always known here at Sense Technology—that the PulStar is not only effective in treating musculoskeletal pain, it also helps patients to recover more fully and more quickly.

Country	Study Type	Condition Studied
China	<ul style="list-style-type: none"> • Randomized Control Trials (RCT) • Published/Peer Reviewed 	Acute lumbar strain PulStar vs. Infrared & manual pressure on trigger points
Poland	<ul style="list-style-type: none"> • Randomized Control Trials (RCT) • Published/Peer Reviewed 	Lower back pain PulStar vs. Saunders Lumbar Traction
China	<ul style="list-style-type: none"> • Published/Peer Reviewed 	Tendon calcification—Frozen shoulder
Poland	<ul style="list-style-type: none"> • Published/Peer Reviewed 	Low back pain Paraspinal muscle tone and pain intensity



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THE IMPORTANCE OF RANDOMIZED CONTROL TRIALS (RCTs)

Out of the four recent studies conducted outside the U.S., two were Randomized Control Trials (RCTs). Both the Department of Surgery, Jingxi Hospital in Beijing, China, and The Medical University of Lodz, Poland, published RCT research results comparing the effects of the PulStar's Multiple Impulse Therapy to their hospital's standard therapy for low back pain.

The RTC method of clinical research is considered the "Gold Standard" for clinical studies. It is so difficult, expensive and time consuming that only 15 percent of all medical procedures have been evaluated this way. Extraordinarily, the PulStar has now been validated twice using the RCT in two separate countries, with impressive results.

CHINESE RCT STUDY: "CLINICAL OBSERVATION OF THE PULSTAR MULTIPLE IMPULSE DEVICE IN TREATMENT OF ACUTE LUMBAR STRAIN"

Published in *China Medicine*, July 2017, Vol. 12, No. 7.

Authors: Wei Wanlin, Shi Mao, Xu Kang and Song Kemin from the Department of Surgery, Jingxi Hospital for the Beijing Military Region, Beijing 100144, China

STUDY OBJECTIVE: Researchers aimed to find out if PulStar was as effective as infrared light therapy combined with manual pressure on trigger points, which is the standard treatment at Jingxi Hospital.

METHOD: Researchers studied 60 outpatients at Jingxi Hospital with acute lumbar strain over the course of one year (August 2015-16). All patients signed an informed consent form and the study protocol was approved by the hospital's Ethics Committee. Patients were randomly divided (30/30) into an observation group and a control group, and both groups were comparable with no significant difference in sex and age: the control group was treated with acupressure and the observation group received PulStar multiple impulse therapy. Both groups received daily infrared radiation therapy on their lower back for 20 minutes, plus either acupressure or multiple impulse therapy, over the course of five days.

[Click here to read the full study](#)

RESULTS:

- *The PulStar displayed better results than accupressure after only one treatment*
- *The PulStar was increasingly more effective than accupressure in relieving pain as the patient visits increased*
- *The PulStar treatments were pain-free*

THE AUTHORS OF THE STUDY CONCLUDED:

"This study demonstrates that using the PulStar multiple impulse device in the treatment of acute lumbar strain yields faster and more marked results than conventional treatment, is painless for the patient, and offers safer diagnosis and treatment, shorter treatment times, and greater comfort."



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POLISH RCT STUDY: "MULTIPLE IMPULSE THERAPY AND SAUNDERS LUMBAR TRACTION METHODS IN THE TREATMENT OF LOW BACK PAIN: A RANDOMIZED CONTROLLED TRIAL"

Published in the *Journal of Novel Physiotherapies*, November 22, 2017
Authors: Mariusz Pingot and Julia Pingot from Jan Kochanowski University, and Robert Haładaj and Mirosław Topol from the Department of Normal and Clinical Anatomy at the Medical University of Łódź, Poland

STUDY OBJECTIVE: Researchers at the Medical University of Łódź in Poland set out to compare the effects of the PulStar multiple impulse therapy to their standard therapy technique, Saunders Lumbar Traction.

METHOD: Researchers used the RCT format to study 193 adult patients, who signed their consent to participate in the study, with low back pain and pain-induced limited spinal mobility without lumbar spinal stenosis. Patients were divided (98/95) and randomly assigned into an observation group and a control group: the control group received therapy from the Saunders traction device and the observation group received PulStar multiple impulse therapy. Multiple impulse therapy patients received five sessions, and the Saunders patients received fifteen sessions. Researchers chose to assign the groups randomly, rather than controlling factors such as even distribution of age and gender, as these factors have no proven effect on the treatment of back pain.

[Click here to read the full study](#)

RESULTS:

- Both the PulStar and Traction were effective in relieving pain
- The PulStar was more effective than Traction in relieving pain
- The PulStar required fewer treatments to achieve pain relief than Traction
- The PulStar treatments were pain-free
- The PulStar treatments were more effective for a longer time than Traction treatment



THE IMPORTANCE OF PEER-REVIEWED PUBLISHED CLINICAL STUDIES

Peer-reviewed articles are written by experts and are reviewed by several other experts in the field before the article is published. Both the First People's Hospital at Benxi, China and the Medical University of Lodz, Poland published peer-reviewed clinical studies involving the PulStar.

CHINESE STUDY: "PULSTAR TREATMENT IN 45 CASES OF SUPRASPINATUS TENDON CALCIFICATION" (FROZEN SHOULDER)"

Published in *Journal of Aerospace Medicine*, Vol. 27, No. 2, February 2016
Authors: Liu Deyi, Li Rongwen, Liao Yunfeng, Qi Hong, Liu Fei and Zhang Xuesi at Benxi First People's Hospital, Benxi, Liaoning 117100, China

STUDY OBJECTIVE: Chinese researchers wanted to study the effects of the PulStar multiple impulse therapy on tendon calcification, a form of "frozen shoulder."

METHOD: Researchers studied 45 patients for calcification of the supraspinatus tendon between August 2012 and August 2014. Patients ranged from 39-71 years old. Each patient received 5-10 PulStar multiple impulse therapy treatments over the course of several days.

[Click here to read the full study](#)

RESULTS:

All patients recovered shoulder functionality.

From the study, "The results of the clinical treatment were judged as follows:

Excellent – pain symptoms in the shoulder joint have completely disappeared and joint function has returned to normal.

Good – pain symptoms in the shoulder joint have completely disappeared and joint function has returned to normal, except shoulder abduction and external rotation are still restricted slightly.

There were no cases where symptoms worsened.

The treatment results were: Excellent 99.4% and Good 0.6%."



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POLISH STUDY: "MULTIPLE IMPULSE THERAPY IN THE ASSESSMENT OF PARASPINAL MUSCLE TONE IN PATIENTS WITH LOW BACK PAIN"

Published in *Ortopedia Traumatologia Rehabilitacja*, Vol. 18. 537-547,
Accepted August 26, 2016

Authors: Robert Haładaj from the Social Academy of Science in Łódź, and
Mirosław Topol from the Department of Normal and Clinical Anatomy at
Medical University of Łódź, Poland

STUDY OBJECTIVE: Polish researchers at the Medical University
of Łódź set out to measure the effects of PulStar multiple impulse
therapy on paraspinal muscle tone and pain intensity in patients
with low back pain.

METHOD: Researchers studied 117 patients, who had provided
written consent to participate, with lumbar conditions using a
measure of pain called the Visual Analog Scale (VAS). Participants
received five PulStar multiple impulse therapy sessions over the
course of 14 days. Each participant was evaluated before and after
each treatment using VAS for pain severity, and using both surface
electromyography (sEMG) with the NoraxonMyoTrace 400 system
and the analysis mode of the PulStar to measure muscle tone.

[Click here to read the full study](#)

RESULTS:

*From the report, "Multiple
Impulse Therapy (MIT) is an
effective and non-invasive
method of back pain
treatment. MIT significantly
reduces paraspinal muscle
tone, as confirmed by sEMG
results, and shows a strong
analgesic effect."*

WHAT DO THESE STUDIES MEAN FOR YOU?

First, if you want to offer the most effective instrumentation for low back pain relief, you want to choose a PulStar. Secondly, if you want a painless treatment for your patients with no known side effects, you want to choose a PulStar. Third, if you want your practice to offer the fastest relief, you want to choose a PulStar. Fourth, if you want to offer 21st-century care, choose a PulStar. Fifth, if you want to have a clinically-proven system, choose the PulStar! Visit www.pulstar.us for more information.