

# COOK COUNTY HEALTH & HOSPITALS SYSTEM

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March 2<sup>nd</sup>, 2020

I, Dr. Jenn Tsai, Burn Research Fellow, associated with Trauma and Burn Department at John H. Stroger Jr. Hospital of Cook County, have been incorporating the Phoenix Thera-Lase system into the standard of care alongside Dr. Stathis Poulakidas, Director of Burn Services. Under his guidance, we have seen incredible outcomes associated with postoperative burns, hypertrophic scars and contractures, hidradenitis, and inflammation without the use of painful and invasive surgical intervention.

Current application of the Phoenix Thera-Lase system has shown significant improvements to contracture release and physical appearance of scars of various stages of healing. Patients have reported immediate decrease in erythema and scar height, along with an increase in mobility and pliability.

Expensive, painful surgeries and procedures seem to be a thing of the past when dealing with functionality of disfiguring scars. We look forward to conducting further research incorporating the Phoenix Thera-Lase transformative technology to shifting the paradigm in treatment of burn scars.

A handwritten signature in black ink, appearing to read "Jenny Tsai".

Jenny Tsai, MD  
Research Director

# John H. Stroger, Jr. Hospital of Cook County

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I, Dr. Stathis Poulakidas, Director of Burn services, associated with Trauma and Burn Department at John H. Stroger Jr. Hospital of Cook County, has been incorporating the Phoenix Thera-Lase system into my standard of care. The Phoenix Thera-Lase system offers my patients an innovative, non-invasive, state of the art technology that aids with the various medical conditions associated with postoperative burns, wounds, hidradenitis, scarring, scar release and inflammation.

I have been utilizing The Phoenix Thera-Lase system on my patients for approximately 4 months. Presently, our focus has been with hypertrophic scarring, osteoarthritic pain, neuropathic pain, postoperative adhesions and have seen success on various postoperative procedures.

Current treatment approach is to saturate problematic areas for at least 4-8 minutes weekly, with close post laser treatment monitoring. In addition, we are working closely with Dr. Dysico, Director of Physiatry at John H. Stroger Jr. Hospital of Cook County in Chicago by utilizing the Thera-Lase system with focal Thera-Lase treatments in conjunction with acupuncture.

Overall feedback from both physicians has been remarkable after the initial treatment of 4 minutes per treatment area. Subjects with complaints of hypertrophic scarring have showed reduction in scar size, erythema, neuropathic sensitivity and inflammation. In addition, sub-dermal adhesions appear to have decreased and reported noticeably softer to palpation. Consistently, patients have reported a decrease in the level of chronic osteoarthritic pain by 50% with subsequent increased range of motion post Thera-Lase treatment. Most importantly, we have identified a decrease in narcotic use overall in our patient population.

I am looking forward to collecting more data to determine the impact and wide variety of applications the Phoenix Thera-Lase can provide for patients at John H. Stroger Jr. Hospital of Cook County. At this time, retrospective and prospective studies are currently ongoing to evaluate utility in improving function, decreasing pain and assisting in improvement in cosmesis.

**Stathis Poulakidas, MD, FACS**  
Director of Burn and Wound Services

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**Gerard Dysico, MD**  
Director of Physiatry

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**Jenny Tsai, MD**  
Research Director

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# Treatment of Hypertrophic Burn and Wound scars using a Novel Cold Laser System



## Conclusions

A novel non-invasive high-intensity laser reduces the appearance of hypertrophic burn scars in accelerated time.

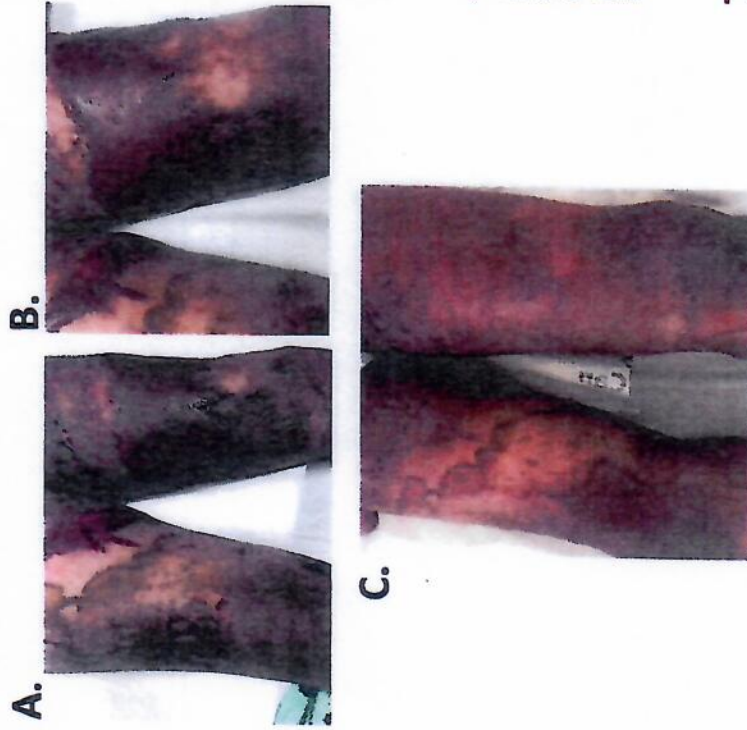


Figure 1: (A) no laser therapy, (B) after 4 treatments with Phoenix Thera-Lase System <sup>®</sup>, (C) after 16 laser treatments

## Significance

Hypertrophic scars are seen in 70% of individuals after a burn. Management of such scars have been limited to invasive and non-invasive management. One innovative technology is a non-invasive high-intensity laser optimizing increased depth of penetration into the tissue utilizing photomechanical effects to biostimulate tissue to heal and regenerate.

## Methods

10 patients were enrolled with hypertrophic scarring secondary to deep partial or full thickness burns. Hypertrophic areas were identified and numerical pain scale, Vancouver Scar Scale and the World Health Organization Quality of Life score were recorded. The non-contact, high-intensity laser was passed over the hypertrophic scars, continuously moving the laser over the entirety of the scar. Each area of hypertrophic scar tissue was lasered for progressively longer sessions, reaching a therapeutic time of 10 min in each section.

## Results

Patients were previously utilizing known non-invasive therapies for scar reduction. In our series, 90% of the patients reported decrease in scar pain, inflammation, pigmentation and improved pliability by the second treatment. Decreased scar height was identified by the eighth session.

## Lessons Learned

- **High-intensity lasers** provides **non-invasive therapy** to decrease hypertrophic scar characteristics in an outpatient setting.
- Further studies is needed to see if this **non invasive therapy** can show improvements in the **reduction of appearance in other types of scars.**