

WHAT IS LASER THERAPY?

■ HOW DOES LASER THERAPY WORK?

Laser Therapy is the use of laser energy to create therapeutic effects. Research has shown that these effects include improved healing time, pain reduction, increased circulation and decreased swelling.

Dose Response. 2011;9(4):602-18

When laser light is absorbed by living tissue, it triggers biological reactions in the cells. Chemical substances are produced, released and carried by blood and lymphatic flow to other parts of the system. In this way the effects of cold laser light create broad systemic effects.

Dose Response. 2009 Sep 1;7(4):358-83

In the United States Laser Therapy has only been approved for the treatment of pain. However, although pain treatment is the most common use of laser, there are many other problems that are treated successfully with laser therapy. Research on humans and animals document:

- *Reduction in pain by causing production of natural pain killer endorphins.*
 - *Reduction in inflammation by suppressing inflammatory enzymes that create swelling, redness, pain and heat.*
 - *Enhanced lymphatic drainage, which increases circulation and reduces swelling.*
 - *Release of tight muscles that create chronic pain, joint problems and decreased mobility.*
 - *Faster bone repair by stimulating fibroblastic and osteoblastic proliferation.*
- Tuner, J., & Hode, L. (2010). The New Laser Therapy Handbook. Grangesberg, Sweden: Prima Books.*

■ HOT VERSUS COLD LASERS?

There are two broad categories of lasers, HOT and COLD. Hot lasers are used for surgery, skin resurfacing, destroying tumors, and, when the power is lowered, for pain relief. However, the heat that so effectively destroys tissue becomes a problem because the heat may slow down healing and cause burns. Hot lasers may retard healing. As the heat increases, it initially produces tissue over-heating, followed by tissue damage. The Apollo laser used by your clinician is a safe, powerful cold laser.

■ IS LASER THERAPY SAFE?

The FDA has cleared laser therapy for the treatment of many pain syndromes. The investigation of a broad array of conditions has been completed and more are presently underway. The FDA considers laser therapy to be a safe and effective modality when used properly by a licensed practitioner.



■ WHAT CONDITIONS DOES IT TREAT?

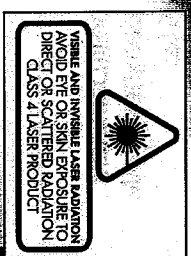
There are thousands of published studies that describe the beneficial therapeutic effects of cold laser therapy, including hundreds of carefully controlled scientific trials that have demonstrated its clinical effectiveness. The following is a partial list of conditions that have shown successful outcomes in recent studies:

<i>Tennis Elbow</i>	<i>Sciatica</i>	<i>Arthritis</i>
<i>Nerve Pain</i>	<i>Bursitis</i>	<i>Herpes (Shingles)</i>
<i>Jaw Pain/TMJ</i>		<i>Soft tissue Injuries</i>
<i>RSD (CRPS)</i>		<i>Tendinitis</i>
<i>Peripheral Neuropathy</i>		<i>Sprains/Strains</i>
<i>Non-healing Wounds</i>		<i>Back and Neck Pain</i>
<i>Lymphedema</i>		<i>Repetitive Strain Injuries</i>
<i>Whiplash</i>		<i>Carpal Tunnel Syndrome</i>
<i>Bell's Palsy</i>		<i>Chondromalacia Patellae</i>
<i>Fractures</i>		<i>Muscle Pain</i>
<i>Headache & Migraines</i>		<i>Plantar Fasciitis</i>
<i>Herniated Disc</i>		<i>Skin Problems</i>

Tuner, J., & Hode, L. (2010). The New Laser Therapy Handbook. Grangesberg, Sweden: Prima Books

■ CAN LASERS BE USED ON ANIMALS?

Doctors of Veterinary Medicine successfully use lasers for a wide range of pain management and healing issues experienced by large and small animals. Contact Pivotal Health Solutions for more information on veterinary applications.



ABOUT LASER THERAPY

- **IS COLD LASER THERAPY PAINFUL?**
No. Low level lasers do not generate perceivable heat. Therefore, when the laser contacts the skin the patient experiences no warmth or burning as a result of the laser. Most people feel nothing at all while a few may feel a slight tingling during the treatment.
- **CAN LASER TREATMENTS BENEFIT ME?**
For most patients, the results have been sustainable. *Lancet. 2009 Dec 5;374(9705):1897-908*
While some patients get immediate results, others require several treatments before there is a lasting effect. Since each person's condition varies the doctor or therapist will determine after review of your case if laser treatments can benefit you.

- **HAS LASER THERAPY BEEN PROVEN?**
There are more than 3000 scientific research studies on laser therapy. These investigations verify the clinical value and effectiveness of laser therapy.
- **IS IT SAFE OVER IMPLANTS?**
People with a pacemaker or other types of implants or prosthesis can still safely receive cold laser treatments. It may be necessary to adjust treatments times and dosage for patients with artificial joints since implanted metal can reflect laser light in a way that increases absorption. We suggest you contact your clinician and discuss dosage prior to treatment.

Tuner, J., & Hode, L. (2010). The New Laser Therapy Handbook. Grangseberg, Sweden: Prima Books.

MORE ABOUT LASER THERAPY

- **HOW WILL I KNOW IF THE LASER IS WORKING?**
Many people will see a reduction in symptoms immediately. Others will experience relief more gradually. How fast your symptoms improve will help your clinician design the most effective treatment regimen.
- **WHY LASER THERAPY INSTEAD OF ELECTRICAL SIMULATION OR ULTRASOUND?**
Alternative modalities may relieve pain but do nothing to promote deep healing of damaged tissue. Electrical stimulation is often uncomfortable. It lacks the consistent pain reduction of laser and does not provide the same stimulation of tissue healing. Ultrasound is not as efficient at blocking pain and is not as effective with tissue regeneration.
- **HOW MANY TREATMENTS WILL I NEED?**
A patient usually comes in for a treatment several times a week. The number of treatments can range anywhere from 2 to 20, depending on the nature and severity of the condition.

FOR MORE INFORMATION CONTACT:

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LASER & LIGHT THERAPY

HOW IT CAN HELP YOU



apollo



Healthy Reasons Why You Should Make An Appointment To Get A Massage Today!

- Massage increases red blood cells, T-cells and killer cells that result in a more aggressive immune response.
- Massage dilates the blood vessels, improves lymphatic circulation, relieving congestion throughout the body.
- Massage increases excretion of waste products, via the kidneys.
- Massage stretches connective tissue, rehydrates tissue, improves circulation, breaks up and prevents adhesions.
- Massage increases the range of motion of joints, decreases swelling, increases blood flow and alleviates pain.
- Massage improves muscle tone, preventing muscle atrophy and bed sores due to forced inactivity.
- Massage increases mental alertness and one's ability to solve complex problems, such as mathematics.
- Massage decreases anxiety levels by stimulating the rest and repose response in the central nervous system.
- Massage decreases post surgical healing time.
- Massage increases absorption of medication.
- Massage intervenes in our long-term stress response, bringing it to an end and re-establishing homeostasis.

■ Massage improves balance and gait helping to prevent falls



Whole Body Cryotherapy and Rheumatoid Arthritis

WHAT IS RHEUMATOID ARTHRITIS?

Toshima Yamauchi is regarded as the father of modern cryotherapy. In 1978 he began experimenting with his rheumatoid arthritis patients using whole body cryotherapy. According to the Mayo Clinic, "Rheumatoid arthritis is a chronic inflammatory disorder that can affect more than just your joints. In some people, the condition also can damage a wide variety of body systems, including the skin, eyes, lungs, heart and blood vessels. An autoimmune disorder, rheumatoid arthritis occurs when your immune system mistakenly attacks your own body's tissues. Unlike the wear-and-tear damage of osteoarthritis, rheumatoid arthritis affects the lining of your joints, causing a painful swelling that can eventually result in bone erosion and joint deformity."

HOW DOES CRYOTHERAPY AFFECT RHEUMATOID ARTHRITIS?

In Dr. Yamauchi's studies and studies by Reinhard Fricke, the results were impressive (https://www.researchgate.net/scientific-contributions/2034140451_R_Fricke). Among other findings they determined that cryotherapy had an analgesic and pain blocking effect, it became easier to move joints, and this therapeutic effect lasted a minimum of three hours and beyond. The studies also found a significant functional improvement in all joints affected by chronic polyarthritis (rheumatoid arthritis). Lastly, they found that cryotherapy decreased the number of lymphocytes for a minimum of three hours. That is important because this inhibits the tissue destroying activity of rheumatoid arthritis. Since tissue destruction is a serious problem with RA, this find may be one of the more encouraging.

WHAT DOES THIS MEAN FOR YOU?

The body of research by Yamauchi and Fricke determined that whole body cryotherapy can be a combination therapy for inflammatory joint diseases. Clients with these conditions are finding various levels of relief and experiencing analgesia, pain blocking, easier movement of joints, improvement in all joints affected by rheumatoid arthritis, and the ability to inhibit the destruction of tissue that comes with this disease. While Fricke found many other results, the ones highlighted here are a great source of encouragement for anyone suffering from RA. This is leading clients all over the world to begin experimenting with whole body cryotherapy locations to see how WBC can help them in this battle with RA. What seems to be the most successful protocol is to use WBC daily or even twice daily in the first 1-2 weeks and then, depending on results, to begin to scale back to 2-3 times per week. Since everyone reacts differently, each client may find a different level of maintenance that works for them. This could be anywhere from 1 time per week and up.



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