

# Laser And Ultrasound Treatment Protocol

Clinical Protocol Guide to Support Joint Health and Recovery From Musculoskeletal Injuries\*



## The Mechanism of Action of Laser and Ultrasound Treatment

Since the mid-20th century, laser and ultrasound treatment have been used to promote healthy inflammatory and pain responses, wound healing, and nerve and tissue health.<sup>1,2</sup> They have also been used to help support the recovery of patients from musculoskeletal injuries and damage from osteoarthritis or neuropathy.<sup>3-6</sup>

Laser treatment is a noninvasive application of light or radiation energy to the body to promote tissue repair and wound healing.<sup>1</sup> Laser treatment has been shown to increase adenosine triphosphate (ATP) production, help to mitigate the effects of oxidative stress, attenuate nitric oxide-induced cell death, promote angiogenesis, and induce transcription factors that promote cell growth, cell migration, and healthy inflammatory and pain responses.<sup>1,7,8</sup> Furthermore, laser treatment may stimulate fibroblasts (cells that produce collagen, elastin, and glycosaminoglycans) to proliferate and migrate, which may help to support proper wound healing, repair, and recovery.<sup>1,7,8</sup>

Ultrasounds are diagnostic imaging tools and clinical treatment modalities that stimulate circulation and healthy immune responses and enable ionophoresis (the transfer of charged molecules across the dermal barrier).<sup>2,9</sup> Ultrasound treatments can be thermal (heated) or nonthermal and may be used in many clinical applications.<sup>2,9</sup>

This clinical protocol guide is designed to combine laser and ultrasound treatment with one of the appropriate protocols below based on the clinical condition. The protocols below support joint health and recovery from injuries of connective tissues, bone, or nerves through lifestyle techniques, diet, and specific nutrients.\*

**Click on one of the protocols below to access the supplement recommendations based on your patient's clinical condition.**

### • **Pain and Inflammation Protocol**

SPM Supreme™, Cannab-PEA 300™, Inflammatone™, OmegAvail™ Hi-Po, OmegAvail™ Hi-Po Liquid, or OmegAvail™ TG1000

### • **Osteoarthritis Protocol**

Arthroben® or Whole Body Collagen, Glucosamine Chondroitin or ArthroSoothe™ Supreme, OmegAvail™ Hi-Po or OmegAvail™ TG1000, based on EFA testing, SPM Supreme™

### • **Rheumatoid Arthritis Support Protocol**

SPM Supreme™, ImmunoMod-A™, GI Revive®, ProbioMed™ 50, Vitamin D Synergy™, Vitamin D Supreme, D-Evail™ Supreme, or D-Evail™ 10K (based on 25(OH)D3 testing), OmegAvail™ Hi-Po or OmegAvail™ Hi-Po Liquid

### • **Postoperative/Post-Injury Recovery\* Protocol**

Whole Body Collagen, BCAA Powder with L-Glutamine, ProbioMed™ 100, Glucosamine Chondroitin, OsteoForce™ Supreme

Additionally, clinicians may use the **Foundational Health Support Protocol** as a basis. If the patient is older or clinical assessment reveals the need for mitochondrial support, you can add the **Mitochondrial Biogenesis Support Protocol**.

For a list of references cited in this document, please visit:

<https://www.designsforhealth.com/api/library-assets/literature-reference---laser-and-ultrasound-protocol-references>

Dosing recommendations are given for typical use based on an average 150 pound healthy adult. Health-care practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage. Any product containing botanical substances has the potential for causing individual sensitivities, appropriate monitoring, including liver function tests (LFT) is recommended.

For considerations regarding herb-drug and nutrient-drug interactions, please refer to reliable, evidence-based resources such as the Natural Medicine Database or Stargrove MB, Treasure J, McKee DL. *Herb, Nutrient, and Drug Interactions: Clinical Implications and Therapeutic Strategies*. St. Louis, MO: Mosby-Elsevier; 2008.

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