



## **Astym Therapy Virtual Certification Course**

### **Introduction (0.5 hr):**

- Introduction to Astym Therapy and what to expect with the online learning and onsite course.
- Overview of the foundational research on Astym therapy, including a brief review of evidence regarding the degenerative nature of tendinopathy, and the investigations into how cellular mediators and growth factors may enhance healing.

## **Astym Therapy for the Upper Extremity (Pre-Lab Lectures)**

### **Physiology (1.25 hr):**

- A review of the research on the pathophysiology of common musculoskeletal disorders; analyzing the research to understand theories on the lack of effectiveness of traditional treatments for tendinopathy.
- Discussion of the research on the formation, structure, and characteristics of scar tissue, and how Astym therapy research builds upon the existing research on the pathophysiology of scar tissue and tendinopathy.
- Examination of the basic science research on Astym therapy showing how Astym protocols improve tendon repair, increase limb function, and normalize movement patterns in animal models.
- Further review of how Astym protocols result in a significant increase in both fibroblast activation and fibroblast number, as well as the production of fibronectin, which together with interstitial collagens may interact to form a fibrillar component of the extracellular matrix.
- Discussion of how this preparatory line of basic science research provides insight into the cellular impact of Astym treatment and informs the protocols to be used clinically.

### **Research (1.0 hr):**

- Discussion and analysis of the peer-reviewed research on Astym therapy (guided by the Research Overview document -attached), including systematic review, randomized controlled clinical trials, basic science studies, observational studies and data, and case studies/series.

### **Upper Extremity Anatomy (1.5 hr):**

- Review of the anatomical literature, pertaining to the areas of the body in the upper extremity that may be treated with Astym therapy.
- Anatomical knowledge is important because to be the most effective, the protocols and application of Astym instruments need to be made in proper alignment with the muscles, tendons, and ligaments in each area. The more accurately you understand anatomy, the more successful your application of Astym therapy will be.

### **Website (0.5 hr):**

- Presentation of the support resources available to Astym Certified clinicians through the astym.com website; ongoing clinical support, including anatomy review, physiology review, protocol review, research updates, treatment checklists, indications and contra-indications, and more; advanced and continuing education opportunities on specific conditions, patient populations, and advanced research; professionally designed marketing resources.

### **Demonstration of the Astym Treatment (0.25 hr):**

- Presentation of theoretic patient example and video demonstration of full Astym treatment and patient-friendly verbal explanation of treatment process and goals
- Discussion and presentation of appropriate exercises for the patient example.

### **Astym Treatment Review (0.5 hr):**

- How does the physiologic response, as shown in basic science research, translate to the practical application of Astym therapy in the clinical or training room settings?
- Presentation of physiologic indications and cellular response, dosing of treatments and clinical benefits of utilizing Astym therapy

### **Indications, Precautions, and Contraindications (1.5 hr):**

- Detailed presentation of basic science research on physiologic responses to topical pressures and Astym therapy-specific research on physiologic response; contraindications to Astym treatment.
- Overview of common cautions associated with certain co-morbidities, patient types, pharmaceuticals, disease, and injury, as shown in the medical literature. Instruction on how to utilize the medical literature to discern how to avoid complications and unfavorable results. Specific precautions to Astym treatment; situations that might require medical clearance or adjustments in the plan of care.
- Analysis of the study and findings in research on the neuro-musculoskeletal conditions where Astym therapy can be utilized.

### **Application of Astym Therapy (1.0 hr):**

- Detailed presentation and demonstration of Astym therapy stroke patterns, instrument hand holds, pressure, speed, and angle of strokes

## **Upper Extremity Online Labs & Practical Exams**

### **Astym Application Lab:**

#### **Online Lab (1.0 hr)**

- Guided instruction for each type of Astym therapy basic stroke pattern
- Participants perform and experience all basic stroke patterns.

#### **Lab Practical Exam (1.0 hr)**

- Focused feedback from Instructors regarding: instrument hand holds, pressure, speed, and angle of strokes
- Participants perform basic stroke patterns individually on a volunteer, with 1:1 corrective feedback given

### **Elbow, Wrist, and Hands Lab:**

#### **Online Lab (2.25 hr)**

- Guided instruction for treatment of each section and each region of the *Elbow, Wrist and Hand Sequence*

#### **Lab Practical Exam (1.0 hr)**

- Participants perform treatment according to the *Elbow, Wrist, and Hand Sequence*
- Focused feedback from instructors regarding: patient positioning, instrument hand holds, speed and angle of strokes, treatment pressure, anatomic specificity, problem solving strategies, and time management

### **Shoulder and Shoulder Girdle Lab:**

#### **Online Lab (2.25 hr)**

- Guided instruction for treatment of each section and each region of the *Shoulder and Shoulder Girdle Sequence*

#### **Lab Practical Exam (1.0 hr)**

- Participants perform treatment according to the *Shoulder and Shoulder Girdle Sequence*
- Focused feedback from instructors regarding: patient positioning, instrument hand holds, speed and angle of strokes, treatment pressure, anatomic specificity, problem solving strategies, and time management

# **Astym Therapy Clinical Lectures**

## **Therapeutic Loading (0.75 hr):**

- Examining research findings on functional and therapeutic loading; discussion of how these findings support the practice of loading the tissue in the recovery process and why it is so critical.
- Further, more specific examination of research findings on different types of tissue load, how exercises are chosen, and guidelines for the prescription of corrective exercise.
- Discussion regarding the goals of tissue loading, loading variables, and how patients will respond differently to progressive loading.
- Presentation of two case studies and discussion on individualized exercise prescription

## **Putting It Together (0.75 hr):**

- Utilizing the newly acquired understanding of research and practical skills in a clinical setting.
- Key methods for the evaluation process, baseline testing, patient education, exercise prescription, home instructions, and documentation requirements specific for Astym treatment
- Presentation of case study, with examples given for subsequent visits, the progression of care, treatment expectations, problem-solving and conclusion of care

## **Specific Hand Techniques (0.5 hr):**

- Clinical tips for a variety of diagnoses, specific to the hand and wrist areas. Presentation and demonstration of individual Astym therapy protocols for treatment of DeQuervain's tenosynovitis, Trigger finger, and 1st CMC joint pain.

## **Making Sense of Precautions (0.25 hr):**

- Extensive list of the impact of co-morbidities presented in the Online Course are re-grouped in a manner to facilitate decision-making process in the clinic

## **Treatment of Surgical Incision Scars (0.25 hr):**

- Lecture presentation of stroke techniques specific to treatment of surgical incisions
- Video presentation of Astym therapy techniques for the treatment of surgical scars

### **Bringing Astym Therapy into Your Clinical Practice (0.25 hr):**

- Discussion of prepared clinical scenarios and questions, related to Astym therapy
- Instruction to facilitate successful incorporation of Astym therapy into clinical practice. Concepts includes: Tips for Monday, standard order of treatment, time management strategies, sources for clinical support, recommendations to facilitate tissue recovery

### **Upper Extremity Written Test (0.5 hr):**

- Written exam on Upper Extremity labs and lecture materials

## **Astym Therapy for the Lower Extremity (Pre-Lab Lectures)**

### **Lower Extremity Anatomy (1.5 hr):**

- Review of the anatomical literature, pertaining to the areas of the body in the lower extremity that may be treated with Astym therapy. Anatomical knowledge is important because to be the most effective, the protocols and application of Astym instruments need to be made in proper alignment with the muscles, tendons, and ligaments in each area. The more accurately you understand anatomy, the more successful your application of Astym therapy will be.

### **Lower Kinetic Chain Biomechanics (1.0 hr):**

- Analysis of peer-reviewed research on movement patterns, qualitative and quantitative analysis of movement, the geometry of motion, forces and torques on the body, normal gait mechanics, identification of abnormal patterns, and the resultant effects on soft tissue and bones. How does the understanding of these concepts present in the literature, and how is that understanding translated into clinical practice?
- Normative data on ROM and biomechanical factors are explored.
- Discussion on various precipitating and perpetuating factors that can lead to degeneration of tissue

## **Lower Extremity Online Labs & Practical Exams**

### **Foot, Ankle, and Knee Lab:**

#### **Online Lab (2.0 hr)**

- Lab and interactive instruction on Astym therapy – *Foot, Ankle, and Knee Sequence*, with an emphasis on: Patient positioning, instrument hand holds,

speed and angle of strokes, anatomic specificity, problem solving strategies, time management

- Guided instruction for treatment of each section and each region of the *Foot, Ankle, and Knee Sequence*

**Lab Practical Exam (1.0 hr)**

- Participants perform treatment according to the *Foot, Ankle, and Knee Sequence*
- Focused feedback from instructors regarding: patient positioning, instrument hand holds, speed and angle of strokes, treatment pressure, anatomic specificity, problem solving strategies, and time management

**Hip, Pelvis, and Back Lab:**

**Online Lab (1.25 hr)**

- Lab and interactive instruction on Astym therapy – *Hip, Pelvis, and Back Sequence*, with an emphasis on: Patient positioning, instrument hand holds, speed and angle of strokes, anatomic specificity, problem solving strategies, time management
- Guided instruction for treatment of each section and each region of the *Hip, Pelvis, and Back Sequence*

**Lab Practical Exam (1.0 hr)**

- Participants perform treatment according to the *Hip, Pelvis, and Back Sequence*
- Focused feedback from instructors regarding: patient positioning, instrument hand holds, speed and angle of strokes, treatment pressure, anatomic specificity, problem solving strategies, and time management

**Lower Extremity Written Test and Course Evaluation (0.5 hr):**

- Written exam on Lower Extremity labs and lecture materials

**Total: 28 hr**