



# Level 2: ADVANCED TECHNIQUES

*Improved efficiency of motion with negative pressure tools via fascial mobility and neuromuscular re-education*

## ABOUT THE COURSE

The Level 2 Advanced Course will pick up where the Level 1 class left off and build a multi-planar approach to using cups with exercise principles and specific interventions integrating neuroanatomy, neurophysiology, and various demographics. A Precision Pressure Pump will be provided to ensure accuracy of pressure and application.

This course will continue to fill the gap in the literature on the appropriate pressures, dosage, timing, and frequency for the proper application of IASTM in the rehabilitation and wellness arenas.

Students will be given the opportunity to dive deeper into the structural functions of fascia in various layers of tissues and pathologies and provide exposure to a variety of IASTM tools that are on the market.

In this one-day course, students will learn to increase the efficiency of motion with negative pressure tools through fascial mobility and neuromuscular re-education.

Myofascial Decompression (MFD) is one of the few techniques that works in the decompression of connective tissue, which often makes more physiologic sense for fascial mobility, blood flow improvement, and metabolic exchange. The needs

assessment for the MFD course will integrate negative pressure tools with Western

evidence based physiologic principles and EBM foundations. Participants will be able to evaluate their ability to intervene appropriately using IASTM tools by describing safety, competency, precautions, contraindications, and appropriate timing, and demonstrating effective interventions with efficient approach and mechanics.

*Prior knowledge of basic manual therapy concepts and movement science is recommended, and Level 1 MFD course completion is required.*



# Level 2 Course Objectives



## **PARTICIPANTS WILL BE ABLE TO:**

- **Perform a systematic examination including movement assessment, ROM acquisition, patterned strength testing and palpation exam**
- **Analyze the evidence on cup therapy pressures used, time left on, materials, and their effects on blood flow and tissue responses**
- **Determine appropriate pressures and time frames for specific tissue layers, including facilitation vs inhibition in movement retraining using cups.**
- **Recommend how to operate the precision MFD pump at specific mmHg to target specific tissue layers**
- **Demonstrate how to utilize MFD to assist with lymphatic flow and dysfunction**
- **Describe and trace EBM fascial slings and correlate them to commonly known movement patterns and restrictions in the body**
- **Discuss the basic principles of kinesthetic awareness and proprioception, and how MFD is used with kinesthetic awareness cueing to improve movement efficiency**
- **Recognize the basic principles of muscle inhibition, and how to utilize MFD for inhibitory influence to promote improvements in coordination and movement efficiency**
- **Combine MFD techniques (extensibility, inhibition, and kinesthetic awareness) with neuromuscular re-education principles to build a program for specific sport populations**
- **Administer specific intermediate neuromuscular re-education principles after MFD to restore optimal function, as demonstrated in lab**
- **Design a specific plan of care including soft tissue interventions and exercise prescription with temporal variables taken into account.**

## **COURSE GOALS**

The goal of this course is to provide clinicians with a new perspective to various negative pressures and tissue layer effects, including macro and microstructures. Instruction on hands-on manual therapy tools and approaches for the musculoskeletal, neurologic, and lymphatic systems will provide the learner with a systematic approach to physiologic integration of subsystems in the human body and integrate their understanding of movement science and neuromuscular re-education with manual therapy. Techniques will include appropriate application of soft tissue mobilization with proper identification of densification and specific fascial plane restrictions. Inhibition techniques will be paired with efficient activation patterns, with a review of facilitation interventions and movement awareness.

# MFD Level 2

## Course Outline



**8:00-9:30am** Research updates and applications. Improving MFD technique and integrated approach. Review fasciocyte vs fibroblast functions and response to specific treatments. The MFD system overview and multi-planar approach. Utilization of the MFD Precision Pump. MRI tissue review. Mini Lab.

**9:30-10:30am** Low Pressure: Superficial Techniques & Applications. Lymphatics and fluid dynamics. Neurodynamics Lab Session.

**10:30-12:00pm** High Pressure: Techniques for Inhibition; Common rehab exercises w/ negative pressure. Techniques for improving joint mobilization. Trigger Points Review. Lab Session.

### **12-1pm Lunch**

**1:00-2:00pm** Moderate Pressure: Kinesthetic sense and proprioceptive awareness. IASTM techniques and timing with other rehabilitation and physical demands. Lab Session.

**2:00-3:45pm** Sport-Specific Approaches: The Swimmer. The Runner. The Golfer. The Cyclist. Contact-sport Athletes. Throwing Athletes. Lab Session.

**3:30-4:45pm** Bringing it all together. Linking CNS mechanisms to MSK presentations. Exam review. Case review. Group review.

**4:45-5:00pm** Summary and Adjourn.

**Course is 60% lab, and 40% didactic.**

**Student to Faculty PT <16:1**

# Improve Outcomes With:

- Inefficient movement patterns
- Scar mobilization
- Sports injuries
- Muscle hypertonicity
- Post-surgical adhesions
- Contractures
- Overuse injuries
- Postural syndromes
- Rib dysfunctions
- Decreased flexibility
- Chronic orthopedic issues



## Difficulty Level:

Intermediate/Advanced – Includes in-depth theory, concepts and applications of information and/or techniques that are beyond the Essential Level.

## Recommended For:

Physical Therapists, Physical Therapy Assistants, Athletic Trainers, Massage Therapists, Occupational Therapists, Occupational Therapy Assistants, Medical Doctors, Doctors of Osteopathy, Chiropractors, Naturopathic providers, and other health professionals

## Subjects Covered:

- Connective tissue system structure and function; movement impairments
- Healing response in normal & abnormal tissue
- Imaging research on connective tissue and trigger points
- Instrument Assisted Soft-Tissue Mobilization techniques & applications including specific pressures and depth of layers affected with MFD using the Precision Pressure Pump
- Neuromuscular re-education principles in combination with IASTM

# CANCELLATION POLICY

All course cancellations must be submitted in writing and received at least 10 days prior to the course. Refunds or transfers may incur a \$50 fee for processing. BAS Performance and Rehabilitation will not be responsible for other expenses refunded other than course tuition. No refunds given after 7 days prior to the course. BAS Performance and Rehabilitation reserves the right to cancel a course up to 2 weeks prior to course for circumstances beyond its control, with only tuition being fully refunded.

## Basic References

- Bishop JH, Fox JR, Maple R, Loretan C, Badger GJ, Henry SM, Vizzard MA, Langevin HM. Ultrasound Evaluation of the Combined Effects of Thoracolumbar Fascia Injury and Movement Restriction in a Porcine Model. PLoS One. 2016 Jan 28;11(1)
- He X, Zhang X, Liao F, He L, Xu X, Jan YK. Using reactive hyperemia to investigate the effect of cupping sizes of cupping therapy on skin blood flow responses. J Back Musculoskelet Rehabil. 2020 Dec 30. doi: 10.3233/BMR-200120
- Hou X, He X, Zhang X, Liao F, Hung YJ, Jan YK. Using laser Doppler flowmetry with wavelet analysis to study skin blood flow regulations after cupping therapy. Skin Res Technol. 2020 Oct 22
- Ichikawa, K. et al. The reliability of displacement measurement of the deep fascia using ultrasonographic imaging. Journal of Japan - Academic Health Science 16, 21 e 28. 2013.
- Jan YK, Hou X, He X, Guo C, Jain S, Bleakney A. Using elastographic ultrasound to assess the effect of cupping size of cupping therapy on stiffness of triceps muscle. Am J Phys Med Rehabil. 2020 Oct 15.
- Langevin HM, Fox JR, Koptiuch C, Badger GJ, Greenan-Naumann AC, Bouffard NA, Konofagou EE, Lee WN, Triano JJ, Henry SM. Reduced thoracolumbar fascia shear strain in human chronic low back pain. BMC Musculoskelet Disord. 2011 Sep 19;12:203
- Lowe DT. Cupping therapy: An analysis of the effects of suction on skin and the possible influence on human health. Complement Ther Clin Pract. 2017 Nov;29:162-168.
- Markovic, G. Acute effects of instrument assisted soft tissue mobilization vs. foam rolling on knee and hip range of motion in soccer players. Journal of Bodywork & Movement Therapies. Vol 19, 690-696. 2015.
- Rozenfeld E, Kalichman L. New is the well-forgotten old: The use of dry cupping in musculoskeletal medicine. J Bodyw Mov Ther. 2016 Jan;20(1):173-8.
- Schilder A, Hoheisel U, Magerl W, Benrath J, Klein T, Treede RD. Sensory findings after stimulation of the thoracolumbar fascia with hypertonic saline suggest its contribution to low back pain. Pain. 2014 Feb;155(2):222-31
- Teut M, Kaiser S, Ortiz M, Roll S, Binting S, Willich SN, Brinkhaus B. Pulsatile dry cupping in patients with osteoarthritis of the knee - a randomized controlled exploratory trial. BMC Complement Altern Med. 2012 Oct 12;12:184
- Wang X, Zhang X, Elliott J, Liao F, Tao J, Jan YK. Effect of Pressures and Durations of Cupping Therapy on Skin Blood Flow Responses. Front Bioeng Biotechnol. 2020 Dec 8;8:608509.
- Zuhorn F, Schäbitz WR, Oelschläger C, Klingebiel R, Rogalewski A. Cervical Artery Dissection Caused by Electrical Cupping Therapy with High-Negative Pressure - Case Report. J Stroke Cerebrovasc Dis. 2020 Nov;29(11):105207.