

Instrument-Assisted Soft-Tissue Mobilization Explained

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THE USE OF INSTRUMENT-ASSISTED-SOFT-TISSUE-MOBILIZATION (IASTM) is on the rise among health care practitioners, particularly doctors of chiropractic (DCs). In fact, Graston Technique, the most well-known of IASTM modalities, is used by more than 16,000 clinicians worldwide. ACANews spoke with experts in IASTM to discover the benefits—both for patients and for DCs—of using the instruments.

What Is a Soft-Tissue Injury?

A soft-tissue injury involves damage to the muscles, ligaments, tendons and/or myofascia. Sprains and strains are the most common soft-tissue injuries and are the result of either a trauma, such as falling or twisting an ankle, or repetitive use, such as a person who plays tennis five times a week and develops pain in his or her shoulder. “It’s either misuse (i.e., the wrong muscles are used to complete an action) or over-use (i.e., using a muscle too often without proper recovery time),” explains Marc Heller, DC, an expert in IASTM who practices in southern Oregon.

“There’s almost always a soft-tissue component associated with any injury or condition,” says Travis McCathie, DC, ATC, director of the Northwestern Health Sciences University’s Center for Sports and Rehabilitation.

What Is IASTM?

Though doctors of chiropractic (DCs) have always used their hands to increase blood flow and break up restrictions in injured soft tissue, fingers alone can’t

detect restrictions at deeper levels or treat the full range of restrictions. Because of this, several companies have now developed handheld tools to perform instrument-assisted soft-tissue mobilization.

Graston is the leading technique when it comes to IASTM, says Dr. Heller. It has developed a set of six stainless steel instruments of various shapes and sizes. “You would want an instrument with a beveled edge to go deeper into the tissue, and you would use an instrument with a flat edge if you were working more on the surface,” explains Dr. McCathie. Though many different materials have been used to make the instruments—wood, ceramics, plastics, stone—stainless steel appears to be the best, says soft-tissue expert Warren Hammer, DC, DABCO, who practices in Norwalk, Conn. “Stainless steel instruments have the highest resonance and make it easier to feel both local and broad areas of tissue restriction,” he continues. “Using the tools produces outcomes that are equal to, or better than, palpation by hands.”

IASTM has two main functions: to break up abnormal densities in tissue, such as scar tissue, and to reinitiate first-stage healing in the body. “When a body is injured, it sends blood, specifically the healing substances found in white blood cells, to the wounded area to begin laying down new collagen tissues and repairing the injury—building scar tissue,” says Dr. Heller. “IASTM is like a mild injury to the tissue which starts this process over again and helps the body to heal itself,” he adds. Though scar tissue is essentially a “patch” at the site of an injury, helping it to heal, it is much less flexible than normal tissue. In the long run, scar tissue can cause restricted motion, which leads to pain when, for example, a patient with a sprained ankle tries to return to running. Typically, patients with soft-tissue injuries do not seek out a DC until the injuries have become chronic, usually months post-injury. By this point, the body has completed most of its self-healing process—scar tissue has built up, restricting motion—and it’s necessary for the DC to restart the curative process.

It’s important to note that what gives IASTM the ability to reinitiate first-stage healing is that it is essentially reinjuring the body, although to a lesser degree, which may cause discomfort during the procedure and bruising afterward. “Patients may experience soreness in the treatment area for a day or two following IASTM,” explains Dr. Heller.

Dr. Hammer explains that most of the tissue treated by DCs is not actually scar tissue but is densification of the loose connective tissue beneath the deep fascia due to entanglement of hyaluronic acid (HA) molecules, causing a gel-like restriction. It has been found that increased temperature and friction normalize the HA, allowing freedom of the gliding between the fascial layers to return.

According to Dr. Hammer, the injuries—or types of injuries—that respond best to IASTM include acute and chronic spinal and extremity problems, such as tendinopathies, Achilles tendinosis, rotator cuff injuries, IT band syndrome and plantar fasciitis, among others. And Dr. Heller notes that the patients who see the best results from IASTM are those who are younger and more physically active. “A person who is willing to exercise the involved tissues is more likely to respond well to this particular type of treatment,” he says. “But that doesn’t mean that it won’t work on older patients or on those with a more sedentary lifestyle.”

Treatment Protocol

In very basic, general terms, Dr. McCathie recommends a three-step approach to IASTM.

1. Warm up the tissue to make it more pliable;
2. Perform IASTM; and
3. Have the patient engage in light exercise.

“You want to start with tissue in its most workable state,” he explains. “This helps you get the most benefit from the treatment.” Then, after performing IASTM, you should guide your patient through some form of easy exercise—usually a lower-intensity, higher-rep workout. For example, if you’re working on a hamstring and you break up some of the scar tissue with an instrument, it’s important to then put that muscle through light exercises to restore its movement pattern, says Dr. McCathie.

IASTM is often accompanied by home exercise: [stretching muscles to build flexibility](#) and strength in the area of the injury. While soft-tissue injuries, particularly chronic soft-tissue injuries, can’t be healed overnight, patients who perform the home stretches and exercises prescribed by their DC greatly accelerate the process.

Contraindications

Though IASTM is a very effective treatment modality, there are certainly situations in which you wouldn’t want to use it, says Dr. McCathie. “Be smart about it,” he cautions. “You wouldn’t want to use instruments on a patient with a skin infection or an open wound or a bone fracture.” Dr. Hammer also recommends avoiding recent suture sites and not using IASTM on patients with uncontrolled hypertension, kidney dysfunction, hematoma or osteomyelitis. He suggests adopting a more delicate approach when using instruments on patients who are taking anti-coagulant medications and on patients with varicose veins, cancer, rheumatoid arthritis or acute inflammatory conditions. “It doesn’t mean you can’t treat them; it just means you need to be careful with your pressure,” says Dr. McCathie.

Additionally, IASTM may not be the first-choice modality for a very recent injury. “In this case, the body’s already working on its first-stage healing,” explains Dr. Heller. “IASTM has a pro-inflammatory effect, and if the patient is already inflamed, I would be hesitant to use it on him or her.”

Benefits for DCs

In addition to improved diagnostic treatment/outcomes and increased patient satisfaction, IASTM also reduces the stress placed on the hands and arms of the practitioner and expands business opportunities. Dr. Hammer notes that many studies have shown that the most frequent injuries to clinicians in the physical therapy field involve the wrists and upper extremities. “IASTM would certainly save the practitioner over the years,” he says.

Instrument-assisted-soft-tissue mobilization can also help bring in new patients. “It’s becoming somewhat of a niche now. People are getting good results, and it’s becoming well-known to the general population,” says Dr. Hammer. This is resulting in more and more patients seeking out practitioners who use instruments.

Too often DCs rely entirely on spinal or joint manipulations, and that’s not sufficient for treating the whole structure. DCs need to work with the connective tissues and the muscular system as well, says Dr. Hammer.

“The future of chiropractic depends on us being more aware of, and treating, soft-tissue modalities and not simply falling back on manipulation,” he warns.

Certification

Graston has set the standard for training within the IASTM field. A practitioner must be certified to use Graston instruments. While there is no certification test, there are two Module courses offered, which include two-day seminars of hands-on skill building. “IASTM is a relatively easy concept, but it takes years to really master it,” explains Dr. McCathie.

There are companies that will sell the tools without a certification course, but experts agree that it’s necessary to have specific training with the instruments. “It’s bothersome that now anybody can buy instruments online and perform IASTM without training and potentially cause harm to patients,” says Dr. McCathie.

Though he is a Graston instructor, Dr. McCathie explains that it doesn’t matter which company you decide to work with as long as you do your due diligence, make sure there is research that supports the product and go through a training course. The most important considerations are that you understand the healing process and are comfortable with the instruments that you choose, he says.

Dr. McCathie also recommends that any practitioner interested in adding IASTM to his or her repertoire should experience the treatment for him- or herself. “Everyone should understand what it feels like to have it done by a skilled provider,” he notes.