

IASTM

Instrument Assisted Soft Tissue Mobilization

Primer

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INTRODUCTION & AUTHOR BIAS

Manual therapies are practiced by many types of practitioners worldwide to alleviate human suffering from myofascial syndromes, improve well-being and/or to increase athletic performance. Instrument Assisted Soft Tissue Mobilization (IASTM) is an adjunct modality that can help in the delivery of many manual therapy techniques and ultimately improve patient outcomes.

Like some other manual therapies, IASTM has not been immune to controversy and confusion created by proprietary entities dueling over language, precedence, and exclusivity. This has unfortunately prevented evolution in the technique by making academics reluctant to teach and innovate fearing reprisal for not properly endorsing a commercial brand. Today, there is no need to endorse any commercial brand of instrument or technique school.

This short Primer is designed to be used a resource to introduce IASTM to practitioners, educational institutions, clinic systems, and continuing education seminars in an open manner. All technique recommendations are rooted in the current science of manual therapy and serve as a *baseline* for intuitive practice while allowing the flexibility for innovation.

When IASTM is seen as an *adjunct* modality vs. proprietary stand-alone protocol, its benefits will affect far more therapists and patients allowing its evolution alongside other manual techniques. Please, use the information to accessorize and evolve your manual therapy of choice.*

That said, the authors bias involves ownership of <http://myobar.com/gpl-series> where IASTM tools are available for purchase. The author's instrument designs will be showcased in this text. That however, **does not** exclude the use of this text in connection with other techniques, instrument brands/types, authors, professions, or schools of thought. Reproduction and distribution of the PDF format is allowed for any educational purposes. The author's email is included in the foot note and any correspondence is welcomed.

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IASTM & MANUAL THERAPY

In clinical practice a manual therapist uses multiple hands on techniques. Within the scope of his or her practice there are hundreds of choices for treatment. The smart clinician absorbs new techniques and combines them with their own experiences and successful approaches to ultimately achieve two goals. The first is to improve the patients outcome measured by lessened pain, improved mobility, or enhanced performance; and the second is to achieve this in as short a time frame as possible. IASTM as a niche adjunct therapy can be practiced to *synergize with* many techniques that you already know, or are unique to your professional training. In other words, IASTM does not require strict adherence to one professional skill set or protocol. And, for hands-on purists out there- it is certainly not a replacement meant to usurp the beauty and effectiveness of the human hand in daily practice.

Over the years, I have had many conversations with clinicians from many different professions worldwide about the use of IASTM tools and what I've found is that each person has discovered a very unique way to incorporate their use. Some practitioners have a vast collection of instruments and use one or more different tools on nearly every patient for the good part of a treatment session. Others, use the tools to prep or warm an anatomical region before performing another modality or therapeutic exercise. And, there are those who, *do not* use the tools on every patient, but utilize them for specific conditions such as Illio-tibial Band Syndrome or plantar fasciitis. **However you choose to use IASTM instruments they can improve the delivery of manual therapy in these simple ways:**

- Unique access to anatomy- we are familiar with thumb, index, thenar, knuckle, and elbow as the customary points of contact to perform therapy. We use each depending on how much force we have to exert and depending on how we must conform to the topography of the human body. If this is true, could we not add new sizes and shapes of contact that are thinner, more pointed or uniquely profiled?

- Improved palpation of tissue topography- instrument edges and points (especially polished stainless steel) will ride over soft tissues as a stylus does a record groove giving “feedback” as to density, fibrosity and tension. Additionally, the patient has unique sensations when palpated with the tool, like “itchy”, “warm”, “numb”, “crunchy,” or “painful” that can help the clinician. This is especially true when palpating capsules, tendons, ligaments, and nerve sheaths, which are difficult at best to palpate with the human hand.
- Allows deeper or more focused therapeutic strokes- a tool edge or point contact can be angled into the tissues to get into capsular areas, close to nerve and tendon sheaths and “tease apart” densifications, trigger points, and/or fibrous tissue. A tool edge or point has no “slack” or “give,” which increases penetration of mechanical force into the patient’s tissues.
- Acts as a force multiplier- performing manual therapy is intensive work for a clinician. So much so, that many practitioners accumulate physical trauma and injury over the years. This discourages the practitioner from practicing deeper myofascial work that a client often needs. IASTM tools simply multiply the tissue force by lessening the surface area of contact
- Shortens treatment time- you will find, especially after using the tools for a while, that the soft tissue lesions/restrictions involved with a patient’s complaint are *very small*, often “pea sized.” Not only can you find the small ones faster, but you can direct your treatment right to the spot without working “around and around” it. This saves your time, putting your manual work in the right place, and leaves you more time in a session for patient education, therapeutic exercise, or proprioceptive work. More exact treatments with time for added modalities improves recovery times and outcomes with your patients.

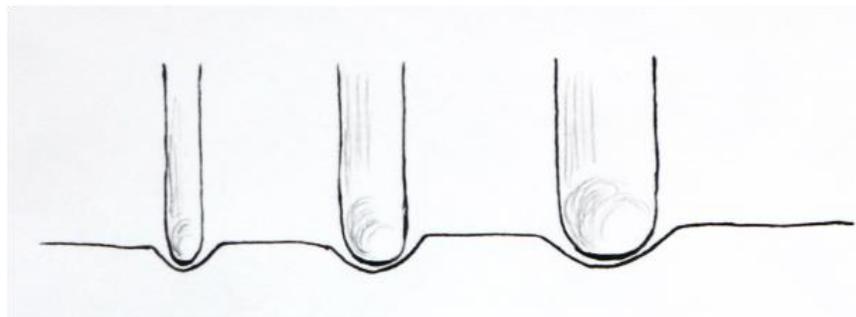
INSTRUMENT CHARACTERISTICS

Instruments can be made of many materials. Polymers, thermoplastics, and aluminum can be acceptable. However, while more expensive, it is the author's opinion (after years of prototyping and listening to clinicians' opinions) that highly polished stainless steel has many advantages for daily clinical practice. These are:

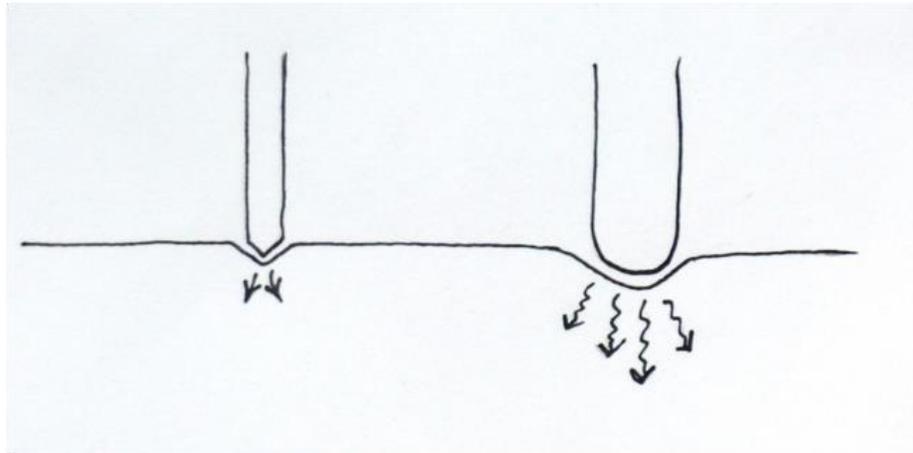
- Easily sanitized and cleaned
- Durability over a lifetime of daily use.
- Low coefficient of friction when gliding over the skin
- Excellent “feedback” when performing scanning strokes

In terms of “shape,” instruments for soft tissue mobilization are generally divided into two categories- **Point** and **Edge**. T-Bars, Accuforce®, Jacknobber®, and Asian Medicine “cups” are examples that make point contacts. Runner's Stick, foam rollers, Gua Sha tools, and recent IASTM tools are examples that make Edge contacts. While there are merits in manual therapy for all these types of tools, IASTM is most commonly associated with *profiled edge tools*.

Profiled edge tools are described by their convexities, concavities, size/length, thickness, weight, grip, and edge radius. Of these characteristics it is important to note the below images regarding the scale of contact and edge radius:



Surface contact geometry scale will effect tissue penetration of mechanical forces.



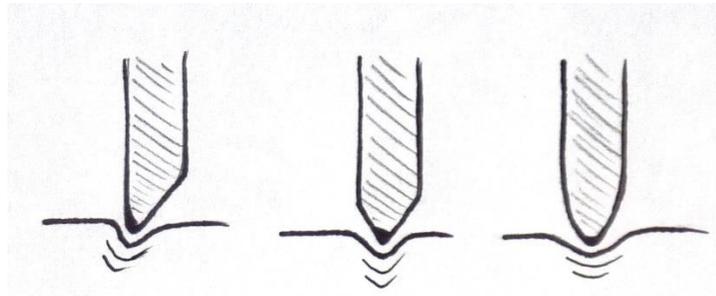
A more acute contact penetrates superficial tissues intensely. A more diffuse contact will be less focused or intense when accessing superficial structures, but will allow transfer of greater mechanical forces through superficial layers into deeper ones.

As a rule, there are sharp radius edges (1/32"), standard radius edges (1/16") edges, and large radius edges (1/8"). Sharp edges are less versatile for all around IASTM but are good for the neurological effects (mechanoreceptor stimulation) of brushing strokes on the skin, or the formation of petechia when a Asian Medicine Gua Sha rationale is intended.* Standard radius edges are what are most commonly available on IASTM tools and, as such, are the most versatile for a variety of treatment strokes. Large Radius edges are useful for performing deep Fascial Manipulation® type strokes, performing strokes over sensitive tissue, or performing deep pressure strokes without causing the patient pain.

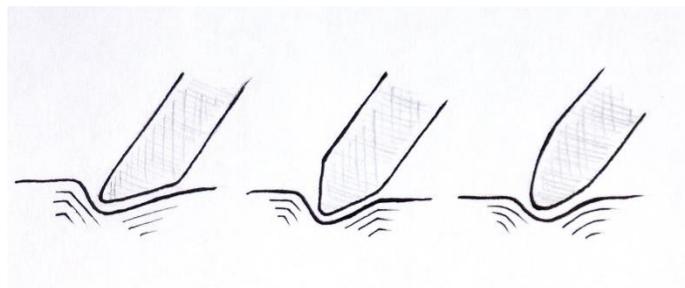
*IASTM vs. Gua Sha

Gua Sha has a specific treatment goal- to raise “sha” evidenced by broken capillaries, redness, mild swelling, and possibly mild bruising. This is acceptable only when treating in the context of Eastern Medicine protocols and must be documented as such. Western physical medicine protocols and rationale would never require this outcome even when the intention is to create mild tissue trauma and initiate connective tissue remodeling. IASTM is not Gua Sha. If you are interested in Gua Sha, please consult Arya Nielsen’s text: *Gua Sha: A Traditional Technique for Modern Practice, 2nd Ed.*

After considering the size of the edge radius, there is the consideration of the bevel. Double bevels are the most versatile as they are applied between 45° and 90° in either direction regardless of the tool position or the handedness of the practitioner. Single bevels are useful if you prefer mainly low angled strokes with your dominant hand.

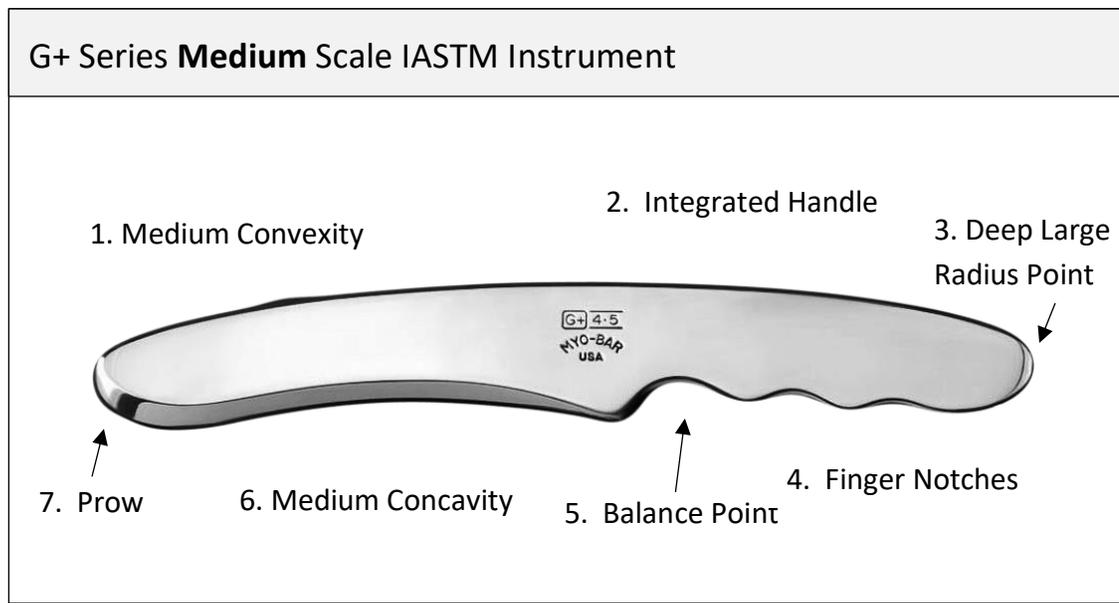


Cross sections of common edge styles: Single Bevel, Double Bevel, & Softened Double Bevel.



Variations in tissue contact with common edge styles. Single Bevel will have the most aggressive contact. A softened double bevel will have the least.

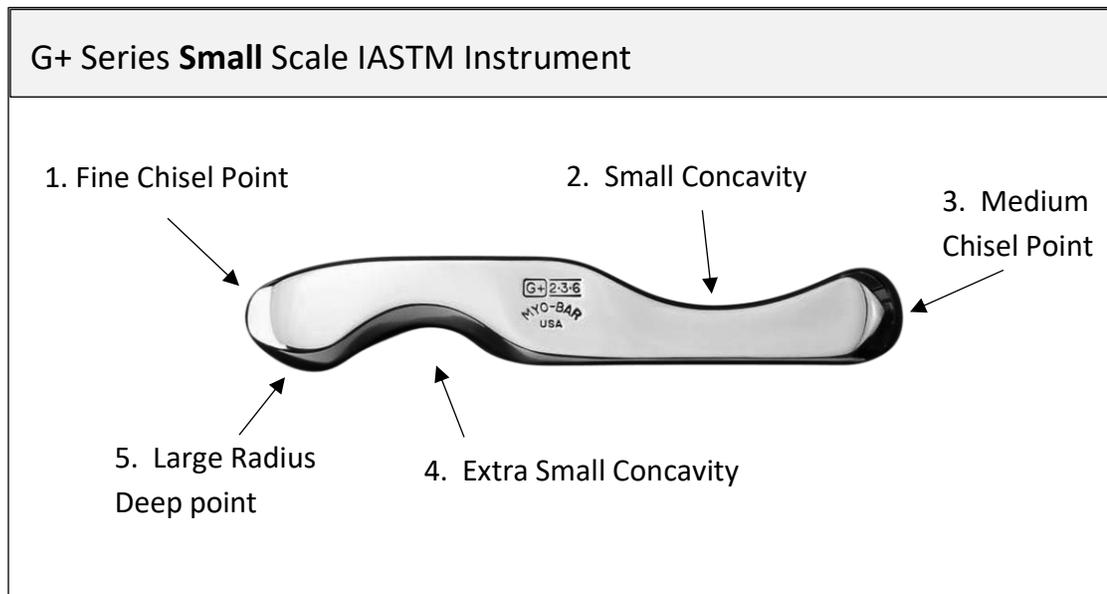
The profile of the tool is an important feature. Various sizes of convexities, concavities & chisel points can be considered for specific applications to anatomical targets. A concavity distributes edge forces more evenly and is less aggressive. A convexity distributes edge forces more intensely at its apex and can be worked deeper into the tissues. Finally, a “chisel point” is a point that can reach into recesses between muscle fascicules or small joint capsules. While the G+ brand instruments will be featured in this text, the profile concepts apply to all brands/styles of tools.



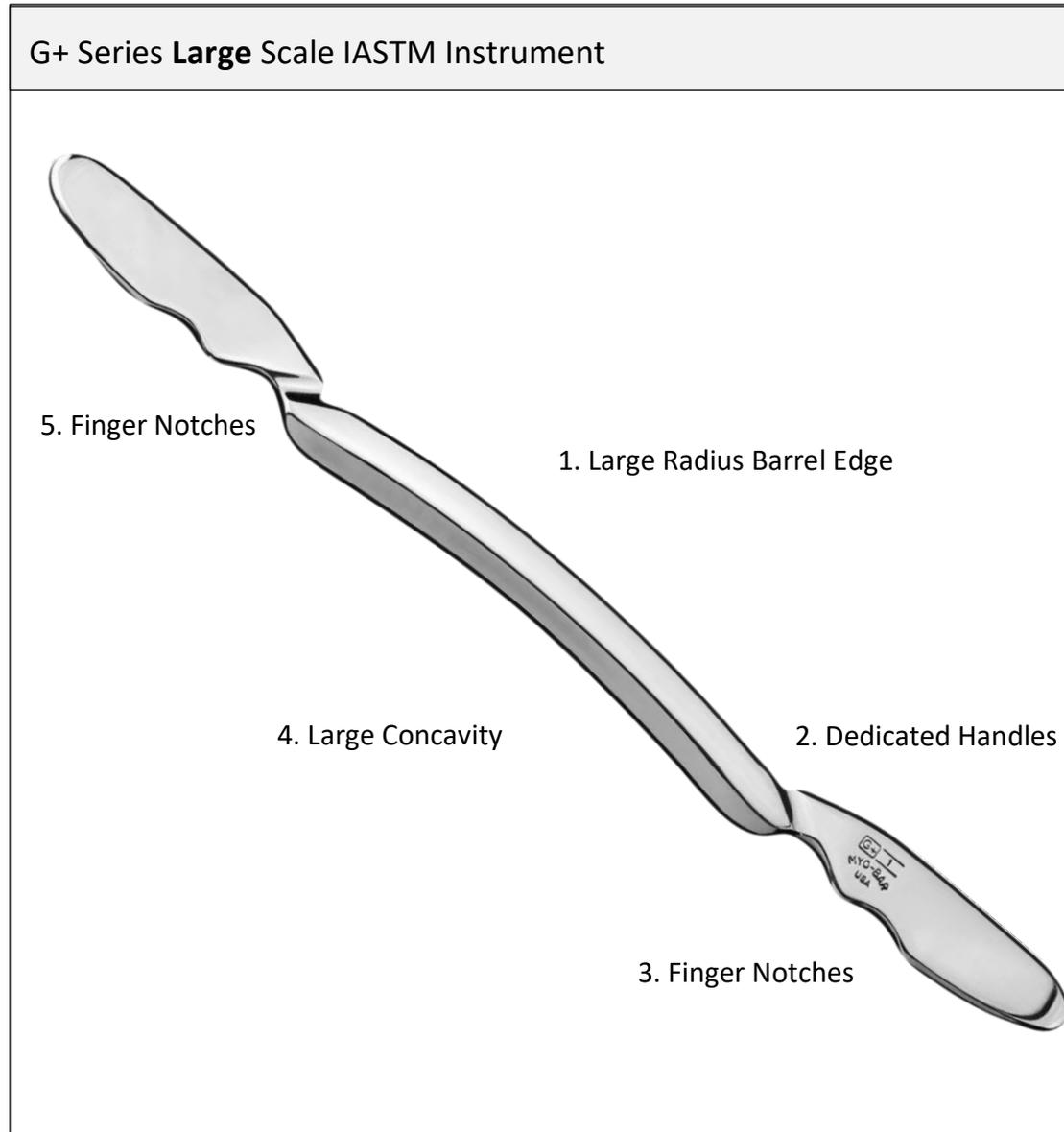
The G+ Series “M” instrument has edges designed for treatment of “Medium” sized targets and/or treatment strokes 2-12” (5-30cm) long. Examples of Medium anatomical targets could be deltoids, patellar tendon, triceps, gastroc, or cervical spine muscles (when treated as a group). Features listed above are:

- 1) **Medium Convexity**- most commonly used edge for treatment and diagnostic palpation to “feel” tissue topography through the tool.
- 2). **Integrated Handle**- allows a consistent, familiar non-slip grip for all your treatment strokes.
- 3). **Deep Large Radius Point**- allows you to either perform a less intense stroke over sensitive structures (thin skin, bony prominence, nerve sheath), or to exert deeper pressure into a muscle belly, Trigger Point/Band, or Fascial Manipulation® point causing less patient discomfort than a smaller edge.
- 4). **Finger Notches**- totally secure grip, rests deep in the hand. No need to “pinch” the tool with the tips of your fingers.
- 5). **Balance Point**- rests on the lateral portion of the 2nd or 3rd digit. Will both carry the weight of the tool and act as a fulcrum making treatment strokes easier.
- 6). **Medium Concavity**- less intense contact, good for brushing, warming, lymphatic/edema drainage.
- 7). **Prow**- intensifies convexity and depth of force penetration as you tilt the tool up.

The G+ Series “S” instrument has edges designed for treatment of “Small” sized targets and/or treatment strokes 0.5-2” (1-5cm) long. Examples of Small anatomical targets could be any structure in the hand or foot, radial head, rotator cuff, TMJ, fibular head, coccyx, A/C joint, surgical scars, and intraspinous ligaments.



It is important to note that for *any* focal area, even in Medium or Large target muscles/fascia, the smaller tool will allow comfortable application (for the practitioner, especially) of treatment strokes. This is because the tool can be manipulated in the “pen-hold” with much finer control. The G+ Series “S” has the same features of the G+ Series “M” with the addition of two “chisel points.” The chisel point is designed to tease apart fibers in recess of joint capsules, or to “rive” *along the outside* of a nerve or tendon to loosen its sheath/supportive connective tissue.



The G+ Series “L” instrument has edges designed for treatment of “Large” sized targets and/or treatment strokes 6-24” (15-60cm) long. Examples of Large anatomical targets could be Glutes, Erector Spinae, Trapezius, Quadratus Lumborum, Hamstrings, Quadriceps Femoris, and Illio-Tibial Band. The increased weight of the “L” bar along with the ability to lean into the target with two hands makes quick work of the large muscle/fascial groups of the back and hip.

A Unique feature of the “L” Bar is:

- 1). **Large Radius Barrel Edge**- Deep pressure with a double bevel edge can cause discomfort and limit the degree of penetration when mobilizing the soft tissue compartments of the lower extremity. A wider/larger edge surface makes deep mobilizing strokes possible, and is a HUGE timesaver and body saver vs. performing the strokes with the unaided hand/elbow/forearm. This benefit multiplies tremendously when treating larger/muscular athletes, laborers, or bariatric patients.

Finally, the tools ergonomic features for the practitioners are important to consider. A properly scaled tool is an ergonomic feature. A larger tool is heavier and appropriate for *long deep strokes* in larger muscle groups or anatomical targets like the Gluteus Medius or Hamstrings. But, when applied to the wrist or ankle becomes clumsy and difficult to manage. The opposite is also true. A smaller tool that is easy to control and comfortable to hold for *small refined strokes* would be cumbersome and time consuming to use when treating the quadriceps femoris. Three other important ergonomic features to consider are:

- 1). **Grip**- can you get a good hold on a large tool with a firm, full handed grasp? Can you control a smaller tool as you would a pen- can it used with the “pen hold?” These features become important when using IASTM tools in daily practice.
- 2). **Balance**- ultimately, the center of mass of any instrument is an ideal place to have a pivot point by which to use your fingers for fine control. Think about holding a fork- how it balances on your third finger. It would be much harder to eat holding the fork at the far end.
- 3). **Cleaning/Logistics**- is the tool easy to clean? Do you have a proper place to put the tool during a treatment session (not your pocket)? Can you easily transport your tools to events or other clinic sites?

When various instrument characteristics are taken into account you can make a solid choice in selection for initial purchase and for daily clinical use. Some clinicians prefer several tools with specific designs/profiles for various anatomical treatment areas. Other's try to maximize most of their treatments with a single tool. There is no one "right" instrument or set of instruments- you need to find out what works for you and your practice style.

TREATMENT INTEGRATION

Once a quality set of IASTM tools are within reach in your treatment room, you will suddenly find yourself finding “perfect” applications for them. Treating plantar fasciitis is an obvious example, normally the myofascial work on this structure is quite difficult with ones thumbs- now, not only does the tool make the work easier, but you will be able to “feel” and treat smaller entities within the plantar fascia, ankle ligaments, Achillies T, and digits. In fact, a whole new world will open up- suddenly, you can gain a lot more diagnostic information about little sections of tendon or ligament... or between recesses of a joint capsule.

Although your main focus will be learning new was to apply your IASTM tools to patient conditions, also be aware of the following aspects of adding this adjunct treatment to your practice:

- Patient Communication- introduce the tools to your patients before you apply them. Let them see what they look like. Without an introduction, an IASTM instrument may look like a knife coming at them. Explain your treatment rationale- how the tool helps you “get into the tissues better,” or “stimulates special cells called fibroblasts that repair injury.” Warn the patient that the treatment area may be sore for a day. Advise them to drink plenty of water, take their supplements, get adequate rest, etc.
- Therapy Combinations- IASTM works best when used in concert with joint mobilization, therapeutic exercise, ergonomic/lifestyle/nutrition coaching, other soft tissue therapies, and a patient home exercise regimen. Fortunately, adding IASTM to your therapy repertoire will not hog treatment time. In fact, it might even save you time by making soft tissue treatments shorter and more efficient.
- Movement Integration- always after an IASTM session, have the patient immediately move the associated tissue in a functional manner. Have them choose an activity/motion that is similar to their mechanism of injury if known. This will allow the proprioceptors to begin giving

information back to the cortex... that, “hey that problem area is back online!”

- Insurance & Documentation- write up a generic description of IASTM *and how it relates to one or more insurance codes*. Refer to IASTM in your notes as (manual therapy) MT-IASTM or (therapeutic exercise) TE-IASTM if you perform accessory movement with your tissue stroke. If medical necessity is questioned, you’ll have your write-up ready to send.
- Operational Procedure- always have a tray or towel available to set your tools down during a treatment session. Patients do not want to see an instrument touching them that was just in your pocket or laying on the floor. Have sanitizing spray or wipes or a sink with soap and water at hand for cleaning. Keep the tools secure- do to their unique (and shiny) appearance they have a reputation for “walking off” with patients or staff, especially in large clinic settings.

PRECAUTIONS

First and foremost- go easy! The tools concentrate mechanical forces and you will be using less pressure than you would if you were using your thumbs, fingers, etc. The last thing you want to do is cause more (macro) inflammation to an injured area. The idea of “micro” trauma (only one of several rationales for IASTM) is exactly that- very refined and specific application to induce connective tissue regeneration *only within the confines of the tissue lesion*.

Welts, bruising, petechia are an indication that your treatment was too aggressive. Obvious (but certainly not all) contraindications are diabetes, recent scars, recent surgery, blood thinners, clotting disorders, steroid use, open sores, and tattoos.

More cautions to consider regarding IASTM treatment are:

- Acute Injuries- many IASTM rationales and the strokes associated with them are not appropriate for acute injury. However, edema stroking with a concave edge around the tissue- bringing interstitial swelling proximally out of the injured compartment is extremely beneficial. Following that, kinesio-tape can often be used to support the compartment and lessen further edema.
- Performance Event/Life Event Timing- it is not a good idea perform an intense treatment (one that requires 1-3 days of recovery) right before the championship game, marathon, work commitment, travel, etc. All you have to do communicate with your patient and adjust the treatment accordingly.
- Compressive Neuropathy- Nerves are obviously not connective tissue and are extremely sensitive. A radiculopathy or nerve compression is treated by addressing the connective tissue **adjacent** to the nerve. Having

a tool that is easy to control along with an appropriate understanding of anatomy will make treatment successful. Be aware when using deep strokes with a long edge, that you may be incidentally applying too much pressure over a nerve.

- Injured Tendons/Ligaments- Never apply IASTM to the site of acute tendon or ligament trauma. Understand the **Kinetic Chain** concept enough to know that the point of failure or site of pain is RARELY the primary site of myofascial dysfunction. Look for points above and below the injury to perform your treatment.
- Bony Prominences- ease up pressure during the stroke when you are working near or crossing over a bony landmark.
- Treatment Mark/Social Implications- occasionally incidental during the correct application of IASTM, bruising, reddening, and capillary damage can be misinterpreted as abuse, and either cause a loved one of the patient to make false assumptions, or cause embarrassment to the patient if the mark is in a visible area of the anatomy during social interaction. Case in point- the author left a mark on the levator scapulae the day before a female patient was to stand up in a wedding wearing a strapless dress.

BASIC TECHNIQUE STROKES

This section will describe different therapy strokes with IASTM instruments to include its clinical rationale, and one or more of the following stroke descriptors: **tool contact, approach direction, pressure, target tissue, & duration**. If you have skipped directly to this section please go back and quickly review the precautions.

If you have clinical experience with manual therapy, these technique strokes will be very easy to assimilate. My recommendation is to begin with straightforward cases of lateral epicondylitis or Illo-Tibial band syndrome. After a few treatments you will get a feel for the instruments and patient responses and soon be able to move on to more advanced cases.

If you are a student or new to IASTM, have the tools at hand and **literally** practice the stroke on your forearm while you read the descriptions. After that practice the strokes lightly on a friend, fellow student, or family member. I have been asked many times to make videos of these strokes (which I may soon), but remember it is actually easier to assimilate tactile information by reading simple step by step directions and practicing at your own pace vs. trying to imitate a stroke while watching a video.

A quick note about the use of emollient- **many strokes do not require emollient or oil**. A highly polished finish on stainless steel gives a balance of “glide” and “grab.” If you require more glide, oil is often preferred, because it can be applied by the drop and absorbs into the skin quickly. It is best to use a dropper bottle, or a flip-cap bottle where you can squeeze out one drop at a time. Sunflower oil and Jajoba oil are natural, hypoallergenic, provide good glide, and absorb quickly into the skin. Jojoba and IASTM emollient is available from www.skinalvy.com

Some strokes like Cyriax or Fascial Manipulation® specifically DO NOT require emollient/oil, because more “grab” is desired to pull the skin back and forth over the underlying myofascia. **Finally, many strokes can be performed through the cloths** when treating during a sports event, or in your treatment room when approaching sensitive anatomy (e.g. sternal area, coccyx).

#1 – Diagnostic Scanning Stroke

Diagnostic scanning is used with light pressure and applied in a slow manner in long strokes around the area of concern to make use of a tool's ability to “amplify” palpation of tissue topography under the skin. It is important to check an area from different vectors—both directions, parallel, cross fiber, and diagonal. When you find a general area of interest scanning, you can leave the tool fixed to the skin (like the Cyriax stroke described later) to get an even better feel for tissue density and tension.

Rationale: A resonance phenomenon of hard surface myofascial tools as they glide over the skin and “reverberate” over subdermal tissue topography has been described by Hammer in relation to application of Graston Technique® (GT) with stainless steel tools (Hammer, WI 2008 *The effect of mechanical load on degenerated soft tissue. J Bodyw Mov Ther 12:246-56*).

Considerations: Keep in mind that collagen fibers are normally wavy—so many tissues will have a normal “bumpy” feel to them. Also, keep in mind that trouble areas of tissue that are binding up the kinetic chain are often very small, “pea sized.”

Possible Tool Contacts: Most edges can be used to scan an area for abnormalities. Use the contact edge that best conforms to your area of interest. For instance, in the hand or within smaller tendons the “S” prow or chisel point will be indicated. In the quadriceps femoris the “M” convexity will work best.

Example 1: Patient presents with Left thumb pain. In order to localize possible fascial lesions the clinician would scan the thenar muscles, thumb muscles of the forearm, and 1st CMC and MCP joint capsules. This is a great example where an instrument can save time and provide diagnostic information about small anatomical structures vs. the same approach with the clinician's hands (see cover picture).

Example 2: Patient presents with plantar fasciitis. Noting the pain site in the foot, you understand that the primary lesion is likely in the SBL (Superficial Back Line) or Retro-motion sequence. After evaluating movement, you can scan these long kinetic chains quickly with diagnostic scanning strokes to determine additional treatment sites.

Notes:

#2 - Warming Pre-Treatment Stroke

This diversified edge stroke is performed like a corresponding therapeutic massage stroke with the hands. There is much flexibility in its application. Pressure is light to medium and strokes are usually long, 3 to 8 inches (8 to 20cm). The Warming Stroke is applied to muscle, tendon, ligament, fascia, or capsule **in preparation for, and to improve the effectiveness of a more intense manual therapy to follow**- such as more specific IASTM, contract/relax stretching, therapeutic exercise, or joint manipulation. Direction tends to be parallel to fibers, and duration is less than 30s for each area. The Warming Stroke is more specific and quicker than traditional massage as a pre-treatment.

Rationale: Increasing blood flow, lessening superficial fascial matrix viscosity under the skin, and stimulating mechanoreceptors prepares the soft tissues for various physical therapies and joint manipulation.

Example 1: perform strokes with prow of “S” instrument around Right T4 costovertebral joint before manipulation. Manipulation will likely require less force and be more comfortable for the patient. (IASTM pre-treatment strokes are especially helpful for extremity joints before mobilization/manipulation).

Example 2: perform several quick strokes with long convexity of “M” instrument along length of hamstrings before contract/relax stretching. Mechanoreceptor stimulation alone will allow better lengthening of the muscle and allow a more effective stretch.

Example 3: in less than two minutes, you can perform warming strokes on all the rotator cuff muscles, plus pectoralis, and levator with the LRE Point on either “M” or “S” tools (on one side) before leading the patient in rotator cuff strengthening exercise.

Considerations: Watch for bony prominences. Ask your patient for feedback, many times they can “feel” areas of dysfunction in deeper layers that you cannot.

Possible Tool Contacts: Usually longer convex edges, or LRE Deep Point.

Notes:

#3 - Cross Friction Strokes

Traditional, Modified, & Combined Movement

These three stroke styles are the most common and versatile therapeutic strokes for IASTM. These strokes are applied *perpendicular* to fibers... mostly to tendons, musculo-tendonous junctions, capsules, and ligaments where tendonosis, chronic inflammation, and/or structural dysfunction has occurred.

Based on our current understanding of connective tissue “perpendicular to the fibers” can mean in any direction over the skin depending on which layer of muscle, fascia, or ligament is being treated. Functional movements and palpation with and without the tools will help localize the plane of restriction.

Rationale: Connective tissue remodeling, mechanical signaling, microtubule force transmission, and fibroblast activity updated with Helene Langevin’s research. It is now understood that actual traumatic or surgical scars are “permanent,” and it is the surrounding fascial structures that improve with remodeling and increased mobility. *Changes in fascial planes relative to each other, and in layers of connective tissue that separate various anatomical structures allow functional improvement, rather than changes in individual collagen fibers.*

Traditional Cross Friction (TCS): No emollient is used. With moderate to deep pressure, the tool surface is reciprocated back and forth (about 1/4”) keeping hold of the skin- without slipping. A brisk stroke rate is applied for 20s at a time and repeated several times with a 10s break. Total treatment application 3-4 minutes.

Considerations: between intervals, move the contact surface of the tool up or down the target area along the fibers in a 50% overlap.

Possible Tool Contacts: Most likely the prow of the “S” or “M” instruments. It is often helpful to let the tool edge grab between the fibers- the edge is parallel- while stroking perpendicular.

Modified Cross Friction (MCF): Applied *just as above* with the *exception* of “holding onto the skin.” Here, you can let the tool contact surface slide during the reciprocation. Emollient/oil is optional and may help in some applications.

Combined Movement Cross Friction (CMCF): the modified stroke above- with additional reciprocating perpendicular to fibers- now following a vector parallel to the fibers. This concept was first described by therapist Therese Pfrimmer. It is also conceptualized by Andre Farasyn with his IASTM tool in the picture below. (Farasyn A, Meeusen R (2007) *Effect of Ropthrotherapy on Pressure Pain Thresholds in Patients with Sub acute Non-Specific Low Back Pain.* J Mus Pn 15: 41-53)



Example 1: Scan for tissue density in the lumbosacral and sacroiliac ligaments. Perform Cyriax strokes as described to address these extremely important fascial structures (and pain generators) to improve your Low Back Pain outcomes.

Example 2: Utilize the combined stroke when treating lateral epicondylitis. You can use smaller amplitudes and stroke lengths near the radial head, then open up the stroke length and amplitude as you get into the muscle fibers of the wrist extensors.

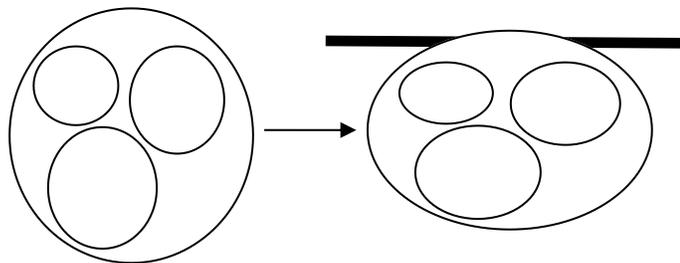
Example 3: Impingement syndrome & rotator cuff tendonosis are years in the making. Results are greatly improved with the specific mechanical forces localized with IASTM. In 3-4 minutes you can find and treat the rotator cuff and involved muscles to initiate connective tissue remodeling. Once activated, your postural exercises, ergonomic recommendations, and strengthening can begin to shape a properly functioning shoulder. You will have lessened a patient's pain in the shoulder while likely preventing a surgery that may have been needed if degeneration continued.

Notes:

#4 - Deep Fascial Release/ Travell Deep Stroking

This stroke is applied *parallel* to fibers... A low viscosity massage oil like jojoba is best. With deep pressure, the tool surface moved slowly along the fibers for the full length of a muscle and sometimes across anatomical landmarks (easing pressure accordingly) into larger fascial planes according to the lines described by Thomas Myers. Three to Five passes through a given treatment area is usually sufficient. Travell Deep Stroking requires the same deep, slow, linear application. Although it was never given much of an official protocol, it seems intuitive to apply the Deep Fascial Release stroke over the string of points in a fibrous trigger band.

Rationale 1: Look to the fine work of Structural Integration professionals. “Input” mechanical forces as they effect fascia are of two kinds; 1.) Lines of pull– The classic picture of the chisel point pulling the sweater illustrates this concept, and 2). Deformation– The myofascia is a “closed” system. Therefore exerted pressure must be absorbed within the system. **Pressing into the myofascia causes shape changes within deeper structures.** The large diameter edge and the large surface contact by the “L” Bar will give the *greatest deformation*– appropriately applied as corrective forces to restore fascial integrity/pliability.



Deformation occurs within the entire closed system

Rationale 2: “stripping/deep stroking” massage was given improved rationale in the 1999 edition of Travell & Simons– that destruction of fragile myofibrils which are sensitizing the motor end plate, creating tension, and causing local energy crises helps to resolve Trigger Points. This effect has been evidenced by increased myoglobin after deep massage that will lessen (indicating fewer fragile myofibrils) with progressive deep tissue treatments.

Considerations: The human body senses stress more acutely that indicate pull/acceleration *away from* the center, or distally from any given movement vector. Deep strokes therefore may be more effective when directed from insertion to origin or distal to proximal.

Possible Tool Contacts: The G+ “L” Bars were designed to optimize this stroke in large muscle groups like traps, erector spinae, glutes, and muscles of the lower extremity. An edge tool would cause pain for the patient if used with too much pressure in larger muscles, but in smaller muscles they are preferred. When using the edge tools in medium to small muscles, the key to this stroke is slow, deep pressure, along a long path (as opposed to other strokes you may perform with edge tools that are more localized).

Example 1: With the patient side lying work with the “L” bar from the lateral leg compartment... easing up over the knee... pressing down again over illio-tibial band... into tensor fascia lata... and finally ending at the Iliac Crest with a pass through the Glute Medius.

Example 2: With the patient seated, hand on hip, work the triceps into the posterior deltoids... ease up over scapular spine... press into upper trapezius and end at the occiput with a stroke through the lateral cervical spine. Once you practice these examples you will see how a bar type tool can give the necessary pressure for treatment while saving exertion on the part of the practitioner. There, will always be stroke combinations that are better performed with the hand... but after using the bar you will find some where it excels.

Notes:

ADVANCED TECHNIQUE STROKES

This section will describe advanced therapy strokes with IASTM instruments where it is assumed you have specialized training in the methodology pertaining to them. The author is not suggesting the associated techniques be simplified with these short descriptions. Rather it is intended to show the possibilities for ancillary maneuvers with IASTM.

Acronyms for Technique Strokes

BASIC:

| | |
|-----------------------------|-----------|
| (DS) Diagnostic Scan | DS-IASTM |
| (WPT) Warming Pre-Treatment | WPT-IASTM |
| (DFR) Deep Fascial Release | DFR-IASTM |
| (CF) Cross Friction | CF-IASTM |

AVANCED:

| | |
|---------------------------------|-----------|
| (HAV) Hyaluronic Acid Viscosity | HAV-IASTM |
| (RC) Riving Channeling | RC-IASTM |
| (MA) Movement Assisted | MA-IASTM |
| (ER) Edema Reduction | ER-IASTM |

#5 - Hyaluronic Acid Viscosity Stroke

This stroke is similar to a traditional cross fiber stroke in that the contact moves fixed to the skin in a back and forth manner, but with two main differences.

The first is the unique diagnostic methodology of Fascial Manipulation® that is used to determine your treatment strategy. In FM you are RARELY treating the pain site or the point of structural failure as you are with a Cyriax approach. Instead, you are treating *points of fascial densification* that relate to the kinetic chain in 10 possible planes of motion- the two reciprocal directions in the standard anatomical planes along with reciprocal pairs in two diagonal planes.

The second difference is the duration of the stroke. This was a Eureka! moment for the author. Where many “points” had been treated over the years relating to different techniques... none maintained that steady contact be made with consistent strokes **for up to 4 minutes**. As soon as the third or fourth minute approached there was a simultaneous “letting go” of the tissues- an actual felt “release” that was also experienced by the patient.

Rationale: In FM you are treating the ECM (extra-cellular matrix) with the specific goal to change the phase of hyaluronic acid from gel to sol. This concept was popularized by Ida Rolf in the 1970's but now has the scientific backing of the many papers published by the Steccos.

Hyaluronic Acid Viscosity Stroke (HAVS): No emollient/oil is used. With moderate to deep pressure, the contact is reciprocated back and forth anywhere from ¼” (1 cm) in the scalp to over an inch (2.5 cm) in the back and hip. Keeping hold of the skin- without slipping. A moderate, consistent stroke rate is applied for up to 4 minutes or when the patient and practitioner share a felt loosening of the point, or “release.”

Considerations: I think many practitioners can palpate fascial densities and apply the FM stroke with good results. However, much greater success will be had if one studies the Stecco text and ideally attends training.

For practitioners who have been to FM training, the points most likely to benefit with IASTM instruments are: 1). The smaller points in CP, CA, DI, TA, PE (with use of the “S” tool) it being much easier to find a treat densifications “hiding” within fascicles, sulci, and small joint capsules. And, 2). The larger points in LU, PV, CX (with use of the “L” bar) it making deep prolonged contact more tolerable for the practitioner than when using the elbow/forearm.

#6 - Riving / Channeling

(Tendon Release, Nerve Flossing, Surgical Scar Mobilization)

Linear channels for nerves, vessels, tendons, and muscle fascicles are transition points in the fascial system where layers come together. When glide is facilitated between layers as the body moves all is well- a nerve, for example can absorb stretch within its entire length. If, however, injury overuse, or structural dysfunction limits linear movement of nerve, tendon, or fascicle these structures will be prone to inflammation and degeneration. With a good understanding of anatomy and good palpation skills a practitioner can “trace” the channels of various structures with IASTM instruments and affect better manual therapy treatment. **This is yet another example where the human hand/finger is too big to adequately work at this scale of anatomy.**

Riving Stroke- this stroke is performed with the edge of the tool parallel to the direction of “channels,” usually on one side or the other of the nerve, tendon, or fascicle in question. With a very small lateral amplitude, a combined reciprocating movement can be worked into the treatment line lateral to the structure. The “prow” or “chisel point” is often indicated while using the “S” tool held in the “pen-hold.”

Considerations- In a riving stroke, the clinician is being careful not to exert pressure on the tendon or on the nerve itself only lateral to it. Here are other considerations related to these subsets of the riving stroke:

- **Tendon Release-** with Biceps, Achillies, Hamstrings, & finger/wrist flexors you can get “under” them and actually add a “lift” as part of the mobilization.
- **Nerve Flossing-** this needs to be done in a posture that maximizes tension to the nerve. Gentle passive movement to increase stretch is also helpful as the IASTM contact travels against the tension.
- **Surgical Scar Mobilization-** The sooner you can get working along the edge of an incision the less chance of wide spread fibrous tissue limiting post-surgical recovery. The earlier the better, but also requires more therapist precautions around wound closure and infection. One strategy is to place a newly opened sheet of gauze over the site, make sure the tool is sanitized, and work through the gauze with gentle strokes.

#7 - Movement Assisted

(Pin & Stretch, Levy Style, FAKTR, Kinetic Mirroring)

These strokes styles are very intuitive, and synergize greatly with IASTM for certain approaches. For sure, the hands will still be the main avenue... but there will be the “ah-ha!” times when an instrument really helps. When the practitioner is combining complex therapeutic movement with both hands- the grip and maneuverability of an IASTM instrument becomes vital. The tool’s grip and especially, the balance point will either make the treatment a joy for the practitioner... or be a source of frustration, if the tool is uncomfortable to control.

Rationale: Integrating movement is the key to successful therapy, because the CNS must make a proprioceptive & neuroreceptive catalog of changes you have made to the system during treatment. Otherwise, the CNS itself can perpetuate dysfunction via faulty receptor firing and movement patterns. One strategy is to perform manual therapies like IASTM, and perform movement therapy or exercise *after*. Or, as the below strokes describe- integrate movement *during* IASTM application,

Pin & Stretch Movement Assisted: with one hand the therapist closes the kinetic chain by holding the head, finger, wrist, elbow, leg, foot, etc. and leads a passive movement to activate the treatment tissue. The other hand holds a contact point in the tissue with a concave edge of the “S” or “M” tool or the LRE Deep Pont. During the course of the movement densified tissue or trigger points are forced through the contact point.

Example: When treating lateral epicondylitis, practitioner holds the wrist with non-dominant hand and performs flexion/extension at wrist and elbow while the instrument edge is held on the treatment site in the extensors. Edge can be held still or move slightly proximally during extension.

Notes:

Levy Style Movement Assisted: (acknowledgement to Peter Levy, DC seminars).

This stroke involves **open chain, patient active movements**. Patient is set up on the table to perform movement, usually in a single muscle group. Since the patient is performing the movement the practitioner has **both hands free** to concentrate at the treatment site. When combining with IASTM, emollient/oil is used and the tool edge is moved from distal to proximal along the muscle as the fibers are lengthening underneath it. This is a truly effective technique- one of the author's favorites because it combines so many manual therapy rationales into a single action.

Example: Tight/short hamstrings treatment- Patient prone, flexes the knee and extends the hip off the table. Practitioner is set up with the Bar "L" tool at the distal hamstrings. The Barrel Edge is used and the Tendon Notch is carefully placed over one of the tendons so as not to injure the insertion. While the patient slowly reverses the movement of the setup, the tool edge follows proximally up toward the origin and continues up into the Glute Max. Same setup and movement is repeated and the apex of contact of with the bar edge can be maneuvered to each section of the hamstrings. Immediately following, MA-IASTM contract/relax or MAT stretching is performed and the patient gets off the table to integrate functional movement of the hamstring.

FAKTR Movement Assisted: (Functional and Kinetic Training Rehabilitation) is taught by Tom Hyde, DC and Greg Doer, DC. Patient is set up in the provocative movement- the movement associated with the mechanism of injury or pain. The movement can be performed on a stationary bike, treadmill, with resistive bands or with free weights. During the movement, the practitioner reaches in with a tool edge and strokes the dysfunctional tissue involved with the patient's complaint. This technique is very successful with sports injuries, especially when the patient knows the recent mechanism of injury. FAKTR seminars are highly recommended.

Example: A Right handed golfer presents with L sided shoulder pain that is exacerbated during the first phase of golf swing. Palpation reveals tenderness in the L. Latisimus. Standing, you have the patient imitate their swing while you, standing behind, reach under the L shoulder to stroke the Latisimus with the convex long edge of the "M" tool... making sure the stroke follows into the shoulder insertion. Monitor the patient's response. You are waiting (maybe up to 4 minutes) for the provocative actively to become 50-100% pain free.

Notes:

Kinetic Mirroring Movement Assisted: Goodheart explained the spindle resetting effect of bringing muscle fibers closer together. Fendenkrais developed his entire technique around bringing hyper-tonic tissues together for a length of time enough to allow the CNS to reset its proprioceptive awareness. A Kinetic Mirroring IASTM stroke is a light “brushing” designed to reset spindles in a tight/hyper tonic muscle. With one hand move proximally along a muscle... toward the hand with the tool that is stroking distally. The stroke meets in the middle and is essentially the opposite of a stretch.

Example: In the headache case described in the next section, one SCM was hypertonic. This muscle was “quieted” by performing gentle “brushing” Kinetic Mirroring IASTM strokes to reset the spindles.

Notes:

#8 – Edema Reduction Stroke

The concave edge of an IASTM tool works just like a squeegee. Similar to washing water off your car windshield, it is much easier to do with the squeegee at the gas station than with your bare hands.

Long recovery times associated with sports sprains are due mainly to the inflammatory mediators and pain generating proteins sitting in the interstitial fluids around the injury site. Icing after injury has been seriously questioned as it promotes immobilization, proprioceptive numbing, and may increase swelling in the long term.

Example: For acute ankle sprain, wrist sprain, hamstrings sprain, etc. you can use edge tools to push interstitial fluids proximally out of the injured compartment. Following that, you can kinesio-tape the area to prevent edema build up. If the during the first 24 hours after injury this technique is performed **along with movement** as soon as bearable to the patient recovery times can be much, much quicker.

Notes:

KINETIC CHAIN APPROACH

Can a previous big toe injury be the primary dysfunction causing current low back pain? Can restriction around the fascia of the posterior elbow be the primary cause of mid thoracic pain localized near T4? Can a hypertonic SCM be causing a tension headache? Yes, yes, and yes. The myofascial system is beginning to be understood as *a single functional unit* and our view of motion as separate muscle groups acting at a joint is fading.

Any, soft tissue therapy including IASTM will be more effective if you can quickly and accurately determine which points in the chain need treatment. Diagnostically, the Anatomy Trains concept focuses on the continuity of anatomical structure across joints, and the Fascial Manipulation concept focuses on the continuity of movement through myofascial sequences. Each serve as methods to figure out complex connections leading to and from the pain site. The cases below were all resolved by the author without treating the “main complaint.”

Case 1: Typical Right sided LBP localized to the Right upper SI joint. The urge to manipulate the joint right away was controlled... and the kinetic chain was evaluated. Fascial lesions were found in the R big toe associated with a severe “toe stubbing” years ago and in the R hamstrings. On the reciprocal plane tenderness and “density” was found over the R anterior hip capsule. The pre-treatment Warming Stroke, followed by CMCF (combined movement cross friction) to the hamstrings and anterior hip capsule was performed. Tendon riving/channeling to Flexor Hallucis Longus was performed along with HAVS (hyaluronic acid viscosity stroke) to points of restriction density surrounding the toe. Patient reported 50% symptom reduction off the table, and 95% the following day.

Case 2: Office worker with 15 year history of chronic recurrent thoracic pain localized to T4. Patient has been through several manual therapy regimens with other professionals in the last year with little symptom resolution. Resisted urge to manipulate thoracic T/S and T4 costovertebral joints. Evaluated kinetic chain and found painful points/tissue density near the olecranon and within the Biceps Brachii tendon bilaterally. Out stretching the hand worsened symptoms- when questioned why she thought that position increased the pain, she remembered competitive martial arts years ago... when during daily practice sparring she would hold the defensive posture and block blows with the forearm. Warming Pre Treatment IASTM followed by DFR-IASTM (deep fascial release) strokes to wrist extensors bilaterally was performed. MA-IASTM (Levy Style Movement Assisted) stroke was performed to biceps brachii bilaterally. Patient left treatment reporting 100% symptom resolution in the upper back. *The T/S and T4 ribs were not treated.*

Case 3: Health care professional with 4 years 3x/week chronic R sided tension headache. Palpated away from the Suboccipital pain site into the R SCM and followed into contralateral L Pectoralis as shown in Anatomy Trains- both were hyper-tonic. Left sided SCM was weak/ hypo-tonic. Performed Kinetic-Mirror stroke on hypertonic SCM and Pin & Stretch Movement Assisted stroke on weak/hypo tonic SCM. Did CMCF (Combined Movement Cross Friction) Stroke on trigger points/densities in L Pectoralis. Over the course of several treatments including C/S manipulation and posture restoration exercise, headache incidence lessened to less than 1x/month.

Notes:

CLINICAL CONDITIONS- TIPS

The conditions below are good cases to start integration of IASTM. Although each presentation is different, functional evaluation of movement and the kinetic chain will always reveal soft tissue findings. The tips below come from my personal experience, and are not meant to be a catch-all. As for my biggest tip- I have had greatest clinical success when palpating away from the pain site distally and proximally- and treating secondary and tertiary “points” first. Also, as taught in FM, always look for at least one soft tissue restriction/point in the *antagonist* kinetic chain/line to the pain site.

Achilles Tendonitis

- Check for inflammation/tendonitis or previous micro tears to the Achilles T.- often a palpable nodule can be observed/palpated. Here is an example where an obvious finding of fibrous tissue **should not** be treated directly with IASTM, because it is the symptom not the source of dysfunction.
- Facilitate remodeling/repair/strengthening of the tendon *above and below* the lesion site with Combined Movement CF-IASTM.
- Find and treat with your choice of appropriate IASTM strokes the restrictions in the chain below (plantar fascia, interosseous areas of the toes) and above (Gastrox/Soleus, Hamstrings, Glute Medius).
- Re-educate walking or running gait using Jack Cady’s book “Efficient Running” available at www.stridemechanics.com.

Carpal Tunnel Syndrome

- Identify myofascial points/restriction in the transverse ligament, Pronator Teres, Biceps Brachii, Pectoralis, and Scalenes.
- Rule out/in functional TOS (thoracic outlet syndrome) which may be causing the tingling and numbness that is thought to be “carpal tunnel.” Whatever the combination, compressive neuropathies are treated with great outcomes when utilizing riving/channeling, RC- IASTM strokes with “nerve flossing” postures that promote mobilization-stretch of the nerve in its sheath .
- Supportive therapies include joint manipulation, seated ergonomics, and nutritional support for the nervous system. Also therapeutic exercise to correct upper-crossed syndrome.

Coccydynia

- Here is a condition that has little treatment options within traditional medical approaches. Manual therapy can even be difficult because the area is so small. IASTM with a focused chisel point contact can grab the tissue just lateral to the bone in the sulcus, and move the supporting ligaments/fascia in a specifically cephalad and/or cephalad-lateral direction.
- Stroking without emollient for 3-4 minutes will often resolve the nutated (anterior-inferior) position of the coccyx. This would be a more conservative approach before considering an invasive coccyx manipulation. The author has had nearly perfect success rate treating this condition with IASTM.

Heel Spur/Plantar Faciitis

- Find soft tissue lesions or enthesopathy/spur in the plantar fascia with the DS-IASTM stroke and the “prow” and “chisel point” of the G+ “S” tool.
- Perform only cross-fiber IASTM strokes in the plantar fascia, as linear strokes will promote shortening/thickening and worsen the condition (*fascia remodels/thickens along lines of stress*).
- Figure out what is going on with the Big Toe and treat the tendon and Extensor Hallicus Longus muscle.
- Find out if hip/sacrum dysfunction is limiting the extensor chain and correct.
- Consider nutritional issues or mineral metabolism imbalance that may cause leaching of calcium from the Calcaneus.

Notes:

Ilio-tibial Band Syndrome

- The functional cause of IT Band Syndrome is related to Gluteus Maximus and Hamstrings (from hip extension fatigue– mainly in distance runners and walkers). The Gluteus Maximus over fires in hip extension and the TFL/ITB is shortened during the swing phase of gait. *(Another great illustration in Anatomy Trains shows how the Gluteus Maximus fibers flow into the Tensor Fascia Lata which flows into the Iliotibial Band showing that it functions as a single unit).*
- Resolve the fibrous tissue restriction at the ITB insertion with the prow of the “S” tool and up to 4 minutes of moderate (not too aggressive) CF-IASTM.
- Perform the DFR-IASTM as described in the earlier example... patient side lying... using “L” bar work from distal IT to Tensor Fascia Lata to Glute Medius.
- Teaching patient to be aware of firing patterns and fatigue involved with the Glute Max and repetitive gait is the key to never developing the problem again.
- The hardest part of fixing this problem in runners is getting them to STOP training before they do six months of damage to the ITB insertion

Lateral epicondylitis/osis (Tennis Elbow)

- Find restrictions/points in wrist/fingers distally and Triceps/Infraspinatus proximally. Work from farthest points (switching distal and proximal) with WPT-IASTM stroke and Combined Movement CF-IASTM stroke until you reach the pain site.
- Perform Kinetic Mirroring MA-IASTM stroke on wrist extensors to help reset muscle spindles. Do Levy MA-IASTM stroke in wrist flexors to activate inhibited flexors.
- Have the Thera-Band Flexbars on hand for “Tyler-Twist” exercise & recommend the “Wrist Wand” for preventative maintenance. Have patient restrain from using compressive elbow brace- if they came in wearing one.

Low Back Pain

- DFR-IASTM to Quadratus Lumborum in side lying position with “L” bar. Drop leg off table in Ober’s position and activate QL in hip hike to perform Levy MA-IASTM.
- CF-IASTM to fascial restrictions, fibrous tissue in Sacro-iliac ligaments and Ilio-lumbar ligaments with “M” instrument.
- Perform **traditional hands-on** myofascial work to Psoas/Iliacus which is almost always involved in LBP (*this is one area difficult to treat with instruments*).

Piriformis Syndrome

- Use the Deep LRE Point of the “M” Tool with a HAV-IASTM stroke in Piriformis.
- Levy MA-IASTM stroke set up: Patient side lying, top side knee flexed and brought toward chest. Patient actively performs internal/external hip rotation while “L” bar is held over hip external rotators, riding into the lengthening muscles.
- DFR-IASTM to Hamstrings into Glutes to loosen Sciatic fascial channel (*Sciatic Nerve is too deep for the RC-IASTM stroke*).
- Why is Piriformis involvement almost always on the Right side? (*Gas pedal*).

Rotator Cuff Syndrome

- A rotator cuff “tear” or tendonitis/osis is the symptom of impingement from internally rotated shoulders and faulty scapular stabilization.
- Fix the posture, coordination, and stability of the shoulder girdle first.
- Address seating at work (assure forward tilt of office chair seat pan-or recommend wedge) and home- demonstrate healthier “relaxed” postures on the couch/recliner to minimize slouching.
- CF-IASTM work into the Supraspinatus (*patient hand behind back to give access to tendon in seated or prone position*) will stimulate the healing response in the tendon (as long as it’s only partially torn)
- DFR-IASTM or MA-IASTM Infraspinatus/Teres Minor, Pectoralis, Deltoid, Triceps.
- Use Deep LRE edge to for Pin & Stretch MA-IASTM of Subscapularis/Serratus Anterior (patient supine, hold arm overhead and reach under scapulae).
- Save the patient from the degeneration spiral by strongly discouraging cortisone injections.

Notes:

Surgical/Traumatic Scars

- *New* scars are in the process of remodeling collagen tissues not only at the scar site *but at a distance away*. It is the changes in the collagen matrix at a distance from the scar site that will be the harbinger of pain syndromes to come (investigate Karl Lewit). Post-surgical or trauma rehab patients will benefit tremendously from IASTM in proximity to and around, developing scars.
- As soon as wound closure dictates, begin gentle RC-IASTM as close to the sutures as possible- *through sterile gauze on top of the bandage if necessary*. Treatment can obviously get more aggressive when the sutures are removed.
- *Old* surgical scars are often the monkey wrench in the kinetic chain. Work them aggressively next to and in proximity to the scar site with deep aggressive DFR-IASTM strokes.
- Check tissue tension at different vectors around the scar. Follow the tensional line to other fascial restrictions, or “points.”

Tension Headache

- In prone position, work the Sub-occipitals and fascia into the scalp with WPT-IASTM. Use the Deep LRE Point or Prow of “S” tool to work around the C-1 all the way into the fold of the ear (lots of fibrous “densities” here).
- Check the SCMs, Scalenes, and the Temporalis for referring points that reproduce the headache (*Anatomy Trains* has a picture showing how both SCM’s form a band into the Sub-occipital fascia).
- Look further down the chain in Pectoralis, and Levator Scapulae.
- Use Kinetic Mirroring MA-IASTM on hypertonic muscles. Pin & Stretch or Levy MA in inhibited/weak/short muscles.
- Teach abdominal breathing, and seated ergonomics. Consider electrolytes, food allergies, alcohol/caffeine, and vision.

Notes:

Trigger Finger

- Releasing the finger flexor tendon sheath with “chisel point” of the “S” almost always resolves this condition within a few treatments.
- RC-IASTM channeling stroke of adjacent fascial sheath/channel, taking care not to “squash” and irritate the tendon pulley itself.
- A previously difficult to treat condition with manual therapy becomes much easier when the anatomical scale can be accessed with the instrument.
- You will be surprised when you start getting referrals for this.

Interesting “Other” Myofascial Conditions treated with IASTM

- Many odd and rare conditions are treated with IASTM instruments. This gives the practitioner an avenue for treatment not otherwise available for unique conditions and increases the potential for more referrals.
- A professional concert violinist with a show canceling “pinky” (5th digit) injury.
- Inflammation of the inguinal ligament in a cyclist from long hours on the bike in the flexed position.
- Xiphoidynia in a chronically worried, hunched over truck driver who had not engaged his diaphragm properly for respiration in many years.
- “Slipping ribs”, Morton’s neuroma, etc...

Notes:

RESEARCH & THEORY

To a seasoned practitioner, reading the latest research study in their area of interest is helpful in explaining phenomenon that he or she has likely already observed in the course of their practice. Clinical research in manual therapy is born of questions that comes up in the treatment room first - essentially why did or did not this intervention produce results? Or, I observed some unexpected outcomes, how can I explain them? The purpose of answering these questions is to give us new information to make improvements in our practice- not to discover the “one true manual therapy” while debunking all the rest.

Rationale for IASTM overlaps with the underpinnings for manual therapy in general. IASTM is manual therapy. Circulation/blood chemistry, fascia, trigger points, fibrous adhesions, scar tissue, joint mobility, proprioception, acupuncture meridians, and the extracellular matrix are all areas of focus in research related to manual therapy.

With specific regard to IASTM the newest most comprehensive research to support clinical effectiveness and help clinicians direct treatment intervention come from the following:

- Structural Integrationists- this group has made fascia a focus for forty years based on the initial work of Ida Rolf (who in turn was influenced by osteopath Andrew Still). Excellent research and teaching materials have be put forth recently by Thomas Findley, Robert Schliep, Tom Myers, and many others.
- Trigger Point Researchers- these elusive entities have played a pivotal role in the myofascial discussion for decades, yet it seems that there are often attempts at “disproving” their existence. Look to the quality work offered by Jay Shah, John McPartland, Robert Gerwin, Jan Dommerholt and others to guide the discussion of treating trigger points in manual therapy.

- The Fascial Manipulation® Association- Luigi Stecco, his son Antonio, his daughter Carla, and other members of the worldwide Fascial Manipulation association have put together tremendous original research related to fascial anatomy, diagnostic evaluation, and treatment intervention. Their **hyaluronic acid hypothesis** for fascial dysfunction is a welcome explanation for the “restrictions” that are often encountered when palpating soft tissues.
- Helene Langevin- a much updated view of connective tissue and fibroblastic activity (compared to earlier scar tissue and remodeling theories of Cyriax). New concepts are offered like mechanical signaling, microtubule force transmission, fibroblast response to fascial stretch, and the manual therapy component of acupuncture and dry needling.

The theory that best supports IASTM will be related to the method in which you use your tool(s). At the end of the day, however, it will be your improved clinical outcomes and patient satisfaction that justifies this treatment.

As a special note, while interest and research in manual therapy is growing tremendously... so are extreme opinions regarding fascia, connective tissue regeneration, and trigger points. There is nothing wrong with a critique of various approaches- that stimulates further dialog and study. But “absolute” criticisms, based on out-of-context research and ideological bias are unwarranted. Some current examples are:

- “Fascia cannot be stretched or mobilized due to the non-elastic nature of collagen fibers, so manual therapy doesn’t actually modify fascia.” True, **individual fibers** tensioned in-situ lab tests are extremely resistant to stretch. However, properties of glide/mobility *between* fascial layers, fiber bundles, or different connective tissue structures (like a tendon and its sheath) are certainly modifiable through practitioner techniques.
- “Inducing micro-trauma to stimulate connective tissue regeneration (Cyriax theory) takes too long to be clinically effective.” True, this one aspect of functional healing will take a few weeks, but why would that timeframe make it not clinically effective when your goal is to improve

structural dysfunction? Remember the reverse is also true- it takes weeks or more of faulty movement/posture to cause the structural dysfunction in the first place. In the meantime, other effects of manual therapy will offer quicker results and work in concert with longer term treatment goals.

- “Trigger Points don’t exist, the theory has never been proven.” This is a purely semantic argument. The myofascial phenomenon known as Trigger Points has been described across all professions in a number of ways; density, restriction, fibrosis, barrier, hyper-tonicity, chi/energy blockage, etc. Pick your favorite words to describe your findings, but be open to the unique and varied clinical experience (and language) of other manual therapy colleagues.

Notes:

BRIEF HISTORY OF IASTM

Massage aides are an intuitive extension of the human hand recognized by nearly all cultures over a vast range of historical periods. Gua Sha tools and Asian medicine “cups” go back hundreds even thousands of years. T-Bars, Trigger Point tools, and roller massage tools have common in the West for over 50 years.

In the USA around the mid 1990’s a diverse group including a recreational athlete and his friend, a Ball State University medical researcher, and venture capitalist were involved in the development of the first medial quality stainless steel edge tools. They disbanded within a short time to pursue their own individual interests in the market. Their prospective companies did well to promote the widespread use of quality instruments as aides for manual therapy based on a Cyriax rationale of micro-trauma and tissue remodeling.

Ball State University medical researchers, along with independent clinicians like Warren Hammer, Tom Hyde, and Terry Loghmani contributed much to the published research and professional education concerning the IASTM clinical protocols in widespread use from 2000-2010.

Recently, with improving science-based rationales for manual therapy centered on the study of fascia, there has been a growing interest in practicing manual therapies by numerous professions worldwide.

Anyone can guess what the future will bring regarding this niche technique. I’m guessing that by improving access to the smaller scale of anatomical structures, and by easing strain to the practitioner when treating the larger scale of myofascial anatomy, IASTM will continue to evolve as an essential manual therapy approach.

REFERENCES

These are references you should check out to improve clinical understanding of IASTM manual therapy (and other manual therapies). Contact the author if you would like copies of the articles below.

TEXTS:

Chaitow, L (2014) Fascial Dysfunction, Manual Therapy Approaches. Handspring, Edinburgh. *(Chapter 12 is dedicated to IASTM, authored by Warren Hammer).*

Myers, T (2014) Anatomy Trains, Myofascial Meridians for Manual and Movement Therapists, 3rd Ed. Churchill Livingstone, Edinburgh. *(Excellent conceptualization of the Kinetic Chain).*

Stecco, L (2004) Fascial Manipulation for Musculoskeletal Pain. Piccin, Padova. *(An absolute essential for understanding the Kinetic Chain approach and the Hyaluronic Acid Theory of fascial dysfunction).*

ARTICLES: [Available as full articles- PDF's in a zip file- please request via e-mail.](#)

Bordoni B, Zanier E (2014) Understanding Fibroblasts in Order to Comprehend the Osteopathic Treatment of the Fascia. Hindawi. Pre Publication Manuscript article ID 860934. *(Great review current with the literature).*

Farasyn A, Meeusen R (2007) Effect of Roprotrotherapy on Pressure Pain Thresholds in Patients with Sub acute Non-Specific Low Back Pain. J Mus Pn 15: 41-53. *(Highlights a specific IASTM therapeutic stroke).*

Hammer, W (2008) The Effect of Mechanical Load on Degenerated Soft Tissue. J Bodyw Mov Ther 12: 246-56. *(Specifically related to IASTM technique).*

Lewit, K (2004) Clinical Importance of Active Scars: Abnormal Scars as a Cause of Myofascial Pain. J Man Phys Ther 27: 399-402. *(Listen to what one of the leaders in manual therapy has to say).*

Langevin H, et. al. (2005) Dynamic Fibroblast Cytoskeletal Response to Subcutaneous Tissue Stretch ex Vivo and in Vivo. Am J Physiol 288: 747-756.

- Langevin H, et. al. (2010) Tissue Stretch Induces Nuclear Remodeling in Connective Tissue Fibroblasts. *Histochem Cell Biol* 133: 405-415. *(All manual therapists should have a copy of this).*
- Loghamani T, Warden S.(2013) Instrument-assisted cross fiber massage increases tissue perfusion and alters microvascular morphology in the vicinity of healing knee ligaments. *BMC Complementary and Alternative Medicine* 2013, 13:240. *(IASTM specific study, by a leading research expert).*
- McPartland J, Simons D (2006) Myofascial Trigger Points: Translating Molecular Theory into Manual Therapy. *J Man Manip Ther* 14: 232-239. *(Excellent theoretical update).*
- Nagrale A. et. al. (2009) Cyriax Physiotherapy vs. Phonophoresis with Supervised Exercise in Subject with Lateral Epicondylalgia: A Randomized Clinical Trial. *J Man Manip Tech* 17: 171-178. *(Positive outcomes for classic cross-friction).*
- Rhee, S 2009 Fibroblasts in three dimensional matrices: cell migration and remodeling. *Exp Molec Med* 41: 858-865. *(Fibroblasts respond to more than just "stretch").*
- Roman, M. Chaudhry, H. Bukiet, B. Stecco, A. Findley, T (2014) Mathematical Analysis of the Flow of Hyaluronic Acid Around Fascia During Manual Therapy Motions. *JAOA* 113: 600-610. *(A landmark study introducing hyaluronic acid theory).*
- Shah J, Gilliams E (2008) Uncovering the Biochemical milieu of Myofascial Trigger Points in vivo Microdialysis: An application of Muscle Pain Concepts to Myofascial Pain Syndrome. *J Bod Mov Ther* 12: 371-384. *(Shaw is an expert researcher in trigger point theory).*
- Stecco C, Day J (2010) The Fascial Manipulation Technique and its Biomechanical Model: A Guide to the Human Fascial System. *Int J Ther Mas Bod* 3: 38-40. *(Into to the Stecco Fascial Manipulation® Technique).*
- Van Pletzen D (2010) The Relationship Between the Bunkie-Test and Selected Biomotor Abilities in Elite Level Rugby Players. Thesis Presentation Stellenbosch U. *(Comprehensive paper assessing fascial restrictions in high level athletes).*
- Yong-Soon, Y (2012) Development and Application of a Newly Designed Massage Instrument or Deep Cross-Friction Massage in Chronic Non Specific Low Back Pain. *Ann Rehabil Med* 36: 55-65. *(Although self-evident to most manual therapists, here is a study that shows therapist satisfaction with instrumented technique vs. hands alone).*

