The Graston Technique® represents a specific approach to soft tissue manipulation that uses six different stainless steel instruments (Figure 1) to release scar tissue, adhesions, and fascial restrictions.¹ The tools used for the Graston Technique® were initially developed by a competitive water skier who had a tool and dye background.² When he injured his knee and did not respond completely to therapy, he began to experiment with various shapes of tools to mimic the manual techniques of his therapist in order to provide an enhanced manipulation of his soft tissue. From his curiosity, and trial and error by the therapy staff, the Graston Technique® of Instrument-Assisted Soft Tissue Manipulation (ISTM) was developed. The purpose of this report is to provide an overview of the Graston Technique®, which will include a review of documented therapeutic outcomes.

**The Graston Technique**

Most clinicians agree that there is no single technique, tool, or modality that will completely resolve an impairment of musculoskeletal function. The goal of therapy is to provide an optimal environment for healing, by either modifying physiologic responses to injury (e.g., inflammation, muscle spasms, pain) or enhancing components of normal musculoskeletal function (e.g., increase range of motion, increased muscular strength).³ The principles of the Graston Technique® fits well with this philosophy; it is one tool that can be used in the rehabilitation plan to achieve the desired outcome. In developing this plan, a systematic approach should be used, including six sequential steps that should be followed during the therapy session:¹

- Examination
- Warm-Up
- ISTM
- Stretching exercises
- Strengthening exercises
- Cryotherapy

Upon completion of the pretreatment examination, the targeted tissue area should be warmed, preferably through cardiovascular exercise. Warm-up of tissues that are adjacent to the targeted treatment site is beneficial. Options include use of a stationary

**Key Points**

- The Graston Technique® can assist the clinician with manual therapy assessment and treatment of soft tissue pathology.
- The Graston Technique® is just one part of the overall rehabilitation program.
- Patients must be well informed of the potential effects when using this therapeutic approach.

![Figure 1 Stainless steel instruments.](image)
cycle, upper body ergometer, or elliptical trainer. Light jogging for 5-10 minutes is also beneficial or the administration of ultrasound, diathermy, or a heat pack. For example, when treating plantar fasciitis, the Achilles tendon and the posterior lower leg musculature could be warmed through 5-10 minutes on a stationary cycle. After the warm-up, the ISTM treatment is administered. Subsequently, targeting stretching and therapeutic exercise should be performed. Both of these rehabilitation procedures are necessary to promote tissue lengthening and collagen fiber realignment, which help to prevent the released tissue from becoming restricted again. The treatment session should be concluded with cryotherapy, which may be substituted with heat or some other modality, depending on the specific nature of the patient’s condition.

When deciding if ISTM might provide an effective treatment option, the etiology of the injury and the type of pathology must be considered. Table 1 outlines indications for use of ISTM, which is primarily focused on soft tissues; however, not all soft tissue pathologies can be effectively treated through ISTM. Currently, the benefits derived from ISTM include release of fascial restrictions, breakdown of collagen cross-linkages, increased blood flow, and possibly an increase in regenerative cellular activity.1,4-6 Even with the greatest care, however, there are potentially adverse treatment responses to ISTM that may occur. The patient may experience discomfort during administration of the treatment, and petechiae (i.e., bruising) may become apparent during or after the treatment (Figure 2). Bruising results from localized trauma, which may be associated with separation of adhesions from healthy tissue.4 Personal clinical experience has shown that the cervical region, lateral thigh, anterior pelvic regions, and posterior calf appear to be most sensitive during administration of ISTM. Although discomfort and bruising may be experienced, patients who have realized a decrease in symptoms have returned repeatedly for additional ISTM sessions. The patient must be informed about the potential effects and benefits of the treatment, and other therapeutic modalities should be administered for pain management. See Table 2 for precautions and contraindications.

### Instruments
The Graston Technique® instruments have either a convex or a concave shape. The concave shape allows for the pressure applied by the clinician to be dispersed over a large area, thereby promoting comfort during treatment. The convex shape concentrates pressure over a smaller surface area, which may cause greater patient discomfort, but allows the clinician to focus on a defined specific area of tissue. The instruments have either a single-beveled edge or double-beveled edge. The GT-2 and GT-6 instruments have a double-beveled

---

**Table 1. Instrument-Assisted Soft tissue mobilization: possible indications**

<table>
<thead>
<tr>
<th>Indications</th>
<th>Possible Indications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medial &amp; Lateral Epicondylosis</td>
<td>Carpal Tunnel Syndrome</td>
</tr>
<tr>
<td>Neck &amp; Back Pain</td>
<td>Plantar Fasciitis</td>
</tr>
<tr>
<td>Rotator Cuff Tendinosis</td>
<td>Tibialis Posterior Tendinosis</td>
</tr>
<tr>
<td>DeQuervain’s Syndrome</td>
<td>Post-Surgical &amp; Traumatic Scars</td>
</tr>
<tr>
<td>Myofascial Pain &amp; Restrictions</td>
<td>Chronic &amp; Acute Sprains/Strains</td>
</tr>
<tr>
<td>Non-Acute Bursitis</td>
<td>RSD (Reflex Sympathetic Dystrophy)</td>
</tr>
<tr>
<td>IT-Band Syndrome</td>
<td>Wrist Tendinosis</td>
</tr>
<tr>
<td>Reduced ROM due to Scar Tissue</td>
<td>Achilles Tendinosis</td>
</tr>
</tbody>
</table>

---

![Adverse treatment responses to ISTM.](image)
edge, which limits the depth of tissue penetration. Because this design is tolerated well by the patient, it can be used in sensitive areas, and it is appropriate for treatment of areas that do not allow for full-stroke movements. The single-beveled edge is used to obtain greater tissue penetration and separation of subcutaneous tissues.

**Therapeutic Outcome**

Research evidence that documents the effectiveness of ISTM is limited; however, several experimental and case studies have produced positive findings. McLaughlin investigated the effectiveness of ISTM for reduction of edema associated with ankle sprains. Participants were intercollegiate, intramural, and high school athletes. They were randomly assigned to either a traditional edema control protocol or a traditional edema control protocol that was combined with ISTM. There was no significant difference in edema control between the two groups (i.e., both therapeutic protocols were equally effective in reducing edema). Achievement of full weight-bearing status for the group that received ISTM averaged one day sooner than that for the comparison group, however.

Loghmani and Warden assessed short-term and long-term effects of ISTM on healing of the medial collateral ligament (MCL) in an animal model. Thirty-one of the animals received instrument-assisted cross-fiber massage treatment three times per week for three weeks to one extremity (i.e., the other was untreated), and 20 animals received the same treatment for 10 weeks to one extremity. At four and 12 weeks postinjury, MCLs were harvested for testing. The nontreated MCLs were noted to have more adhesions and granular tissue, which made the harvesting process more challenging. In comparison to nontreated MCLs at four weeks postinjury, the treated MCLs had 43.1% greater tensile strength, 39.7% greater stiffness, and were able to absorb 57.1% more energy before failure. At 12 weeks postinjury, the treated MCLs were 15.4% stiffer than the nontreated ligaments, but there was no significant difference in tensile strength or energy absorption to failure. The treated ligaments demonstrated greater cellularity and better collagen fiber alignment when compared to the nontreated ligaments at weeks 4 and 12. The nontreated ligaments demonstrated greater scarring and more poorly organized collagen, especially at four weeks postinjury.

Use of ISTM was reported in a case study that involved a 59-year-old man with a one-year history of intense low back pain (i.e., subacute lumbar compartment syndrome) that caused him to miss two to three days of work every two to three months. His initial treatment protocol consisted of bed rest and analgesics. His pain was managed well enough to allow him to work as a shoe salesman until he experienced pain that would not subside, and that prevented performance of his activities of daily living for a period of two weeks.

ISTM treatments were administered to the hamstrings, sacrum, right hip lateral rotators, and low back region. The patient received six treatment sessions (twice per week for three weeks), and each included performance of two sets of three stretches to the affected area after administration of ISTM. The patient was instructed to perform the stretches at home between treatment sessions. After the six sessions, the patient was asymptomatic and able to complete all tasks necessary for daily living and work.

**Summary**

Training expenses and the cost of the instruments are the primary limitations to widespread utilization of ISTM. Also, the time required to attain skill mastery in the use of the instruments limits the number of clinicians who can use it effectively, which limits the
accumulation of evidence to support its use. ISTM is not a magical cure for all ills; it must be used in conjunction with other therapeutic procedures for its full benefits to be realized.

Athletic trainers and therapists who are interested in learning ISTM can access information at www.grastontechnique.com, or by calling 888.926.2727. Graston Technique® training is offered at various locations throughout the United States, Canada, and England. Completion of two training modules is required for certification (i.e., Module 1, Basic Training and Module 2, Upper/Lower Extremities and Spine).

References


Robert Stow is an assistant professor and director of the athletic training education program in the Department of Kinesiology at the University of Wisconsin - Eau Claire and is certified in the use of the Graston Technique.