Graston

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Abstract:

Graston is an instrument-assisted soft tissue mobilization technique that uses specially designed tools to break down scar tissue and fascial restrictions. This fairly new technique is used by chiropractors, physical therapists, occupational therapists, and athletic trainers. There are many techniques that are utilized in this mobilization tool. Due to this there is also a rigorous training program a practitioner would need to complete in order to become certified. There has been minimal research done on this form of therapy which causes its use to be disputed in the professional world. The pros and cons of this technique are often discussed in those disputes.
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Executive Summary

Graston is an instrument-assisted soft tissue mobilization technique that breaks up scar tissue and fascial restrictions. Areas exhibiting soft tissue fibrosis or chronic inflammation are often worked on using the Graston technique. The specialized stainless steel tools allow for practitioners to specifically detect and treat those areas. These can be found in a wide range of chronic pain sites and injuries. The purpose of overall therapy is to modify the physiologic responses to and injury (inflammation, muscle spasms, pain) or enhance the components of normal musculoskeletal function (range of motion, muscle strength). Graston is a tool that can be implemented in the rehabilitation plan that can achieve the purpose of overall therapy.

Graston is used with six different stainless steel tools that are either concave or convex in shape. The different shapes allow practitioners either disperse pressure over a large area or concentrate the pressure on a smaller surface area. The different tools also allow for different stroke techniques to be utilized on the patient. These different kinds of strokes allow practitioners to work scar tissue and fascial restrictions in a variety of ways to aid in the healing and rehabilitations process. With the number of tools and different techniques that can be used with Graston a practitioner must become certified. In order to become certified a practitioner must go through a two-step certification process. The first step is basic training and the second is advanced training.

There has not been a significant amount of research done on the Graston technique. The few studies done that compared this instrument facilitated soft tissue mobilization technique to the regular soft tissue mobilization techniques (massage) have found that there is little difference between the two techniques. The lack of significant evidence for or against this technique has caused disputes within the professional realm of physical and occupational therapists and athletic trainers. Also due to the lack of research the pros and cons are often based primarily in practitioner and patient testimonies.

Even with the lack of significant research and findings I would recommend the use of the Graston technique in a rehabilitation setting. I would recommend this through personnel experience and testimonials from athletic trainers and athletes who have used this technique.

Introduction

History

The Graston technique was developed by an athlete who suffered a knee injury while water skiing. With his background in machining he developed the initial Graston tools when he became frustrated by the slow progress of the conventional therapy used in his rehabilitation program. It was then researched and further developed at Ball Memorial Hospital and Ball State University.
Then in 1994 TherapyCare Resources Inc. opened an outpatient clinic in Indianapolis to collect data on a range of chronic and acute injuries. In 1999 the focus turned to teaching and training practitioners how to utilize the new technique. It is now used by over 16,000 clinicians worldwide, including physical therapists, occupational therapists, chiropractors, and athletic trainers. It is also used in about 1,550 outpatient facilities, 39 industrial sites, over 234 professional and amateur sports organizations and is part of the curriculum at 54 colleges and universities.

Tools

Graston uses six stainless steel tools (seen on left) to facilitate the breakdown of scar tissue and fascial restrictions. Scar tissue and fascial restrictions can occur from chronic or acute injuries. The tools either have a convex or concave shape allowing for the practitioner to vary pressure. The concave shapes allow for pressure to be more dispersed. The larger the surface area the pressure is the less discomfort the patient will feel. The convex shaped tools are used to concentrate pressure on a smaller surface area which can cause greater discomfort. The instruments can also have single- or double-beveled edges. The double-beveled edges, like those on GT-2 and GT-6 limit the depth of tissue penetration. This makes those specific tools ideal for sensitive areas or treatment areas that do not allow the full stroke. The single-beveled edge allows for greater pressure to be placed on the tissues and the separation of subcutaneous tissue. The different sizes and shapes also make certain tools ideal for certain parts of the body. For instance the GT-1 tool is ideal for use on the quadriceps and hamstrings and the GT-6 tool is ideal for use on the hands and wrists. A set of the tools costs $2,755.
There are many indications that would lead to the use of Graston, such as:

- Medial & Lateral Epicondylitis
- Carpal Tunnel Syndrome
- Neck & Back Pain
- Plantar Fasciitis
- Rotator Cuff Tendinitis
- Post-Surgical & Traumatic Scars
- Chronic & Acute Sprains/Strains
- Non-Acute Bursitis RSD (Reflex Sympathetic Dystrophy)
- IT-Band Syndrome
- Wrist Tendinitis
- Reduced ROM due to Scar Tissue
- Achilles Tendinitis
- Chronic & Acute Sprains/Strains
- Non-Acute Bursitis RSD (Reflex Sympathetic Dystrophy)
- IT-Band Syndrome
- Wrist Tendinitis
- Reduced ROM due to Scar Tissue
- Achilles Tendinitis

There are also many precautions and contraindications, including:

**Precautions:**
- Anti-coagulant medications
- Cancer
- Burn scars
- Pregnancy

**Contraindications:**
- Open wound
- Unhealed fracture
- Uncontrolled hypertension
- Patient intolerance
- Hematoma
- Hemophilia

**Certification**

The Graston certification process consists a basic training session and an advanced training session. The primary objectives of the basic training, or M1, are to develop an understanding of Graston and how to apply it to a full spectrum of musculoskeletal treatment. According to the Graston Technique website at the end of M1 training a clinician will be able to:

- “Demonstrate a working knowledge of the GT instruments, GT treatments, potential effects and benefits.
- Identify and discuss the indications, contraindications (relative and absolute) of the Graston Technique®.
- Review and develop a better understanding of soft tissue injury, healing and potential reactivity to instrument-assisted soft tissue mobilization (therapeutic and adverse).
- Develop skill and competence in the GT application of IASTM to the major regions of the spine and extremities.” (www.graston-technique.com)

Clinicians should have a working knowledge of the human musculoskeletal system and the major structure as well before starting Graston training.

Advanced training, or M2, will go further in to implementing the most effective and efficient uses of Graston on patients. Some of the objectives of the M2 training are:
• “Advance knowledge of GT examination procedures for assessing musculoskeletal dysfunction while introducing the principles of regional interdependence and functional testing.
• Enhance clinical decision making skills during the application of GT.
• Advance repertoire of GT interventions for the management of musculoskeletal dysfunction/mechanical pain.
• Develop a higher level of skill acquisition for utilizing GT while introducing movement, resistance, weight bearing and provocation patterns to treatment.
• Review major GT concepts covered in M1 (eight fundamental strokes, ergonomics, scar & edema techniques, physiology of GT if necessary).” (www.graston technique.com)

The completion of M1 and a continual working knowledge of functional anatomy and human movement analysis are prerequisites for M2 training. It is also suggested that participants in this advanced training be currently using advanced orthopedic and functional testing in their practices. There are also continuing education credits that a practitioner can work for during their career. The number and manner that a clinician receives these hours vary based on profession and on a state-by-state basis

Research

There is not much research that has been formally conducted on Graston as a technique of instrument-assisted soft tissue mobilization. Most research that has been conducted on Graston has found it to be just as useful as general soft tissue mobilization therapy. There has not been a study that has placed any significant evidence for or against Graston. The Graston company compiled outcome data which they have published on its website

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<th>Injury</th>
<th>Average # of Treatments</th>
<th>Complete 100%</th>
<th>Excellent 90%+</th>
<th>Good 80%+</th>
<th>Fair 70%+</th>
<th>Unchanged less than 70%</th>
<th>Success Rate</th>
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* = Median # of treatments

Success Rate: Percentage of Resolution equates to attaining the patient/clinician goals of
1) increase in function
2) decrease in pain.

Chart 1: Outcome Data from grastontechnique.com
Most research for the Graston technique comes from personal use and testimony. A practitioner or client is more likely right now to choose to use Graston based on testimonials from others than by reading significant amounts of research. This has caused some disputes within the professional communities. The article “The Graston Technique – Inducing Microtrauma with Instruments” posted on Science-Based Medicine by Harriet Hall tears apart Graston and its informative website. One main argument against Graston is that it is purposefully inflicted Microtrauma which can sometimes result in bruising within the treated area.

**Methods**

To research the Graston technique I started with a simple Google search using Graston as the search word. I also conducted search using EBSCOHost. I used different search terms to see if I could find more articles. I used the terms Graston, Graston technique, and Graston tools. All three of these search terms came up with the same articles. I also conducted informal interviews in the athletic training room at The University of Tulsa. I asked both athletic trainers and student-athletes. I simply asked if they liked using Graston.

**Results**

From my Google search I was able to find the official website of the Graston technique ([www.grastontechnique.com](http://www.grastontechnique.com)). I used this website for the majority of my basic information on Graston. My EBSCOHost search resulted in few articles of which I choose three:

1. The Use Of Diagnostic Musculoskeletal Ultrasound To Document Soft Tissue Treatment Mobilization Of A Quadriceps Femoris Muscle Tear: A Case Report
2. Instrument-Assisted Soft Tissue Mobilization

My informal interviews found that most student-athletes and athletic trainers believe Graston to be extremely helpful for the rehabilitation and healing process. There were a few student-athletes who said that although they did like how they felt after having Graston performed on them they do not necessarily like having it actually done. They said that Graston can be painful and leave marks and bruises. The athletic trainers said they like it because it gives their hands a break from manual massages and because they believe it works the soft tissue of injured areas much deeper and breaks up the scar tissue better than just a manual massage.
Conclusion

The instrument-assisted soft tissue mobilization technique of Graston has had little research conducted on it. This has caused some controversy within the professional world. Even with the lack of evidence either for or against, Graston is used very widespread by numerous professionals. Most “evidence” for or against come from personal testimonies comes from either professionals or their clients. Through research, informal interviews, and my own personal experience I would recommend the use of Graston in most professional settings.

Recommendations

Even with the low amount of research done on the Graston technique I would still recommend its use in a clinical setting. I would leave the choice up to the actual practitioners and clients but the option of using Graston as part of a rehabilitation program would be an option. I would however keep trying to find further studies on the technique to see if any new studies find information that would suggest anything significantly for or against the technique.

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