MEDICAL POLICY – 2.01.100
Dry Needling of Myofascial Trigger Points

BCBSA Ref. Policy: 2.01.100
Effective Date: Jan. 1, 2019
Last Revised: Dec. 13, 2018
Relates to: N/A

Introduction
Dry needling is one way to try to manage pain. It does this by accessing trigger points. A trigger point is a band of tight muscle fibers which are attached to the skeleton and located inside of a larger group of muscles. A needle is inserted through the skin and into the taut band of muscle fibers. By stimulating the trigger points the goal is to stop pain and increase range of motion. It’s known as dry needling because no medication is used. Dry needling is not acupuncture. In dry needling, the needle can go deep inside muscle tissue, directly into areas that a physical therapist isn’t able to directly touch, examine, or manipulate. A number of studies have been done on dry needling and there is no evidence to show that dry needling is more effective than other treatments in reducing pain or increasing range of motion. Dry needling is considered investigational (unproven).

Note: The Introduction section is for your general knowledge and is not to be taken as policy coverage criteria. The rest of the policy uses specific words and concepts familiar to medical professionals. It is intended for providers. A provider can be a person, such as a doctor, nurse, psychologist, or dentist. A provider also can be a place where medical care is given, like a hospital, clinic, or lab. This policy informs them about when a service may be covered.
Dry needling of trigger points is considered investigational.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<td>CPT</td>
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<tr>
<td>20999</td>
<td>Unlisted procedure, musculoskeletal system, general</td>
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<tr>
<td>97799</td>
<td>Unlisted physical medicine/rehabilitation service or procedure</td>
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</table>

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Related Information

N/A

Evidence Review

Description

Trigger points are discrete, focal, hyperirritable spots within a taut band of skeletal muscle fibers that produce local and/or referred pain when stimulated. Dry needling refers to a procedure whereby a fine needle is inserted into the trigger point to induce a twitch response and relieve the pain.
Background

**Dry Needling**

Dry needling is proposed to treat dysfunctions in skeletal muscle, fascia, and connective tissue; diminish persistent peripheral pain, and reduce impairments of body structure and function.

Dry needling refers to a procedure in which a fine needle is inserted into the skin and muscle at a site of myofascial pain. The needle may be moved in an up-and-down motion, rotated, and/or left in place for as long as 30 minutes. The intent is to stimulate underlying myofascial trigger points, muscles, and connective tissues to manage myofascial pain. Dry needling may be performed with acupuncture needles or standard hypodermic needles but is performed without the injection of medications (eg, anesthetics, corticosteroids).

**Mechanism of Action**

The physiologic basis for dry needling depends on the targeted tissue and treatment objectives. The most studied targets are trigger points. Trigger points are discrete, focal, hyperirritable spots within a taut band of skeletal muscle fibers that produce local and/or referred pain when stimulated. Trigger points are associated with local ischemia and hypoxia, a significantly lowered pH, local and referred pain and altered muscle activation patterns. Trigger points can be visualized by magnetic resonance imaging and elastography. The reliability of manual identification of trigger points has not been established.

Deep dry needling is believed to inactivate trigger points by eliciting contraction and subsequent relaxation of the taut band via a spinal cord reflex. This local twitch response is defined as a transient visible or palpable contraction or dimpling of the muscle, and has been associated with alleviation of spontaneous electrical activity; reduction of numerous nociceptive, inflammatory, and immune system related chemicals; and relaxation of the taut band. Deep dry needling of trigger points is believed to reduce local and referred pain, improve range of motion, and decrease trigger point irritability.

Superficial dry needling is thought to activate mechanoceptors and have an indirect effect on pain by inhibiting C-fiber pain impulses. The physiologic basis for dry needling treatment of excessive muscle tension, scar tissue, fascia, and connective tissues is not as well described in the literature.
Alternative nonpharmacologic treatment modalities for trigger point pain include manual techniques, massage, acupressure, ultrasonography, application of heat or ice, diathermy, transcutaneous electrical nerve stimulation, and spray cooling with manual stretch.²

Summary of Evidence

For individuals who have myofascial trigger points associated with neck and/or shoulder pain who receive dry needling of trigger points, the evidence includes RCTs and a systematic review. Relevant outcomes are symptoms, functional outcomes, quality of life, and treatment-related morbidity. As reported in the systematic review of literature published through 2013, only 1 of 8 studies found significantly greater reductions in pain with dry needling compared with other treatments. Two more recent RCTs comparing dry needling with manual therapy did not find significantly better outcomes after dry needling. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals who have myofascial trigger points associated with plantar heel pain who receive dry needling of trigger points, the evidence includes RCTs, quasi-experimental studies, and a systematic review. Relevant outcomes are symptoms, functional outcomes, quality of life, and treatment-related morbidity. The systematic review, which included 3 quasi-experimental studies, rated study quality as poor. One RCT was double-blinded and sham-controlled; it found a statistically significant greater reduction in pain in the dry needling group than in the sham group, but the difference was not clinically significant (ie, it did not meet the prespecified minimally important difference). The other RCT, a single-blind trial comparing dry needling with usual care, found a significantly greater reduction in pain at the end of active treatment, but not at follow-up 1 month later. Moreover, range of motion outcomes did not differ significantly between groups at either time point. To date, the studies have not demonstrated a statistical or a clinical benefit for dry needling. Additional RCTs, especially those with a sham-control group, would strengthen the evidence base. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals who have myofascial trigger points associated with temporomandibular myofascial pain who receive dry needling of trigger points, the evidence includes an RCT. Relevant outcomes are symptoms, functional outcomes, quality of life, and treatment-related morbidity. One double-blind, sham-controlled randomized trial was identified; it found that 1 week after completing the intervention, there were no statistically significant differences between groups in pain scores or function (unassisted jaw opening without pain). There was a significantly higher pain pressure threshold in the treatment group. Additional RCTs, especially
those with a sham-control group, are needed. The evidence is insufficient to determine the effects of the technology on health outcomes.

**Ongoing and Unpublished Clinical Trials**

Some currently unpublished trials that might influence this review are listed in Table 1.

**Table 1. Summary of Key Trials**

<table>
<thead>
<tr>
<th>NCT No.</th>
<th>Trial Name</th>
<th>Planned Enrollment</th>
<th>Completion Date</th>
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<tbody>
<tr>
<td><strong>Ongoing</strong></td>
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<tr>
<td>NCT02532595</td>
<td>Trigger Point Dry Needling, Manual Therapy and Exercise vs Manual Therapy and Exercise For the Management of Achilles Tendinopathy</td>
<td>66</td>
<td>Dec 2016 (ongoing)</td>
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<tr>
<td>NCT02373618</td>
<td>Dry Needling Versus Conventional Physical Therapy in Patients With Plantar Fasciitis: a Multi-center Randomized Clinical Trial</td>
<td>108</td>
<td>May 2017 (completed)</td>
</tr>
<tr>
<td>NCT02373644</td>
<td>Spinal Manipulation and Dry Needling Versus Conventional Physical Therapy in Patients With Sacroiliac Dysfunction: a Multi-center Randomized Clinical Trial</td>
<td>95</td>
<td>Feb 2018 (ongoing)</td>
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<tr>
<td>NCT02312895</td>
<td>Randomized Controlled Trial Comparing the Use of Dry Needling to Manual Therapy for Patients With Mechanical Low Back Pain</td>
<td>72</td>
<td>Aug 2018</td>
</tr>
<tr>
<td><strong>Unpublished</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NCT02373631</td>
<td>Dry Needling Versus Conventional Physical Therapy in Patients With Knee Osteoarthritis: a Multi-center Randomized Clinical Trial</td>
<td>105</td>
<td>May 2017 (completed)</td>
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<tr>
<td>NCT02373618</td>
<td>Dry Needling Versus Conventional Physical Therapy in Patients With Plantar Fasciitis: a Multi-center Randomized Clinical Trial</td>
<td>108</td>
<td>May 2017 (completed)</td>
</tr>
</tbody>
</table>

NCT: national clinical trial.
Practice Guidelines and Position Statements

American Physical Therapy Association

A 2012 educational resource paper by the American Physical Therapy Association defined dry needling as “a skilled intervention used by physical therapists (where allowed by state law) that uses a thin filiform needle to penetrate the skin and stimulate underlying myofascial trigger points, muscular, and connective tissues for the management of neuromusculoskeletal pain and movement impairments.”

In 2013, the Association issued an educational resource paper that included the following indications for dry needling: radiculopathies, joint dysfunction, disc pathology, tendonitis, craniomandibular dysfunction, carpal tunnel syndrome, whiplash-associated disorders, and complex regional pain syndrome.1

American Academy of Orthopaedic Physical Therapists

In 2009, the American Academy of Orthopaedic Physical Therapists issued a statement that dry needling fell within the scope of physical therapist practice.15 In support of this position, the Academy stated that “dry needling is a neurophysiological evidence-based treatment technique that requires effective manual assessment of the neuromuscular system.... Research supports that dry needling improves pain control, reduces muscle tension, normalizes biochemical and electrical dysfunction of motor endplates, and facilitates an accelerated return to active rehabilitation.”

Medicare National Coverage

There is no national coverage determination.

Regulatory Status

Dry needling is considered a procedure and, as such, is not subject to regulation by the U.S. Food and Drug Administration.
References


<table>
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<tr>
<th>Date</th>
<th>Comments</th>
</tr>
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<tbody>
<tr>
<td>01/01/19</td>
<td>New policy approved December 13, 2018. Dry needling and trigger point injections are considered investigational. Policy updated with literature review through February 2018.</td>
</tr>
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</table>

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U.S. Department of Health and Human Services
200 Independence Avenue SW, Room 509F, HHH Building
Washington, D.C. 20201, 1-800-368-1019, 800-537-7697 (TDD)

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