Dry Needling of Myofascial Trigger Points
Corporate Medical Policy

File name: Dry Needling of Myofascial Trigger Points
File code: UM.REHAB.09
Origination: 04/2015
Last Review: 07/2016
Next Review: 07/2017
Effective Date: 11/01/2016

<table>
<thead>
<tr>
<th>Populations</th>
<th>Interventions</th>
<th>Comparators</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individuals:</td>
<td>Interventions of interest are:</td>
<td>Comparators of interest are:</td>
<td>Relevant outcomes include:</td>
</tr>
<tr>
<td>□ With trigger points</td>
<td>□ Dry needling of trigger points</td>
<td>□ Standard physical therapy</td>
<td>□ Symptoms</td>
</tr>
<tr>
<td>associated with</td>
<td></td>
<td></td>
<td>□ Functional outcomes</td>
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<tr>
<td>myofascial pain</td>
<td></td>
<td></td>
<td>□ Quality of life</td>
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<td></td>
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<td>□ Treatment-related morbidity</td>
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Description/Summary
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.

For individuals who have trigger points associated with myofascial pain who receive dry needling of trigger points, the evidence includes a number of randomized controlled trials and systematic reviews. Relevant outcomes are symptoms, functional outcomes, quality of life, and treatment-related morbidity. Overall, dry needling of trigger points has not been shown to be clinically superior to sham treatment or manual therapy. In addition, dry needling is associated with a high incidence of mild adverse events. The evidence is insufficient to determine the effects of the technology on health outcomes.

Policy
Dry needling of trigger points for the treatment of myofascial pain is considered investigational.
Coding Information

Click the links below for attachments, coding tables & instructions.

Attachment I - CPT Code Table & Instructions

There is currently no specific CPT code for dry needling. The AMA CPT instructs that the unlisted code 20999 (unlisted procedure, musculoskeletal system) general should be used for the dry needling procedure for Allopathic physicians and CPT code 97799 (unlisted physical medicine/rehabilitation service or procedure) for Chiropractic and Physical Therapists. Because dry needling is not acupuncture, CPT codes 97810-97814 are not appropriate.

BCBSVT does not consider dry needling to be a manual therapy and should not be billed with CPT code 97140 (Manual therapy techniques, (eg, mobilization/manipulation, manual lymph drainage, manual traction, one or more regions, each 15 minutes).

BCBSVT does not consider dry needling to be an injection and should not be billed with CPT code 20552 (Injection(s); single or multiple trigger point(s), 1 or 2 muscle(s) or CPT 20553 (single or multiple trigger point(s), 3 or more muscles.

Background

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). 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.

The physiological 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. 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 mechanoreceptors and have an indirect effect on pain by inhibiting C-fiber pain impulses. The physiological basis for dry needling treatment of excessive muscle tension, scar tissue, fascia, and connective tissues is not as well described in the literature.¹

Alternative non-pharmacologic 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.

**Rationale**

This evidence review was created in January 2016 with a search of the MEDLINE database through December 17, 2015.

Randomized controlled trials (RCTs) are particularly important to assess treatment of pain, due to expected placebo effect, the subjective nature of pain outcomes, and the variable natural history of pain that often responds to conservative care. For these reasons, controlled trials are needed to demonstrate the clinical effectiveness of dry needling of trigger points for treating myofascial pain. Evidence assessed for this review focuses on sham-controlled RCTs and RCTs that compare dry needling with manual therapy.

**Dry Needling of Trigger Points**

A number of RCTs and systematic reviews have assessed dry needling for the treatment of trigger points in the neck, heel, and temporomandibular joint.

**Neck Pain**

A 2015 qualitative systematic review by Cagnie et al included 8 studies that met selection criteria for deep dry needling of trigger points of the upper trapezius in patients with neck pain.³ Only studies rated as moderate or good quality were included. Outcomes for the short and medium term were assessed for pain, range of motion (ROM), functionality, and quality of life (QOL). Control treatments included lidocaine injection plus self-stretching, non-trigger point deep needling, mini-scalpel needling, sham acupuncture, and superficial dry needling. All studies showed a decrease in pain with dry needling, but only 1 study found greater improvement in pain with dry needling compared with other treatments. The review found moderate evidence that dry needling, ROM exercises, and lidocaine injections increased ROM. One study found an improvement in QOL comparable to that of nonsteroidal anti-inflammatory medications and, of 3 studies that assessed depression, only 1 found a significant improvement after treatment with deep dry needling.

A 2014 report by Llamas-Ramos et al compared trigger point dry needling with trigger point manual therapy in an RCT of 94 patients.⁴ Strengths of this study included allocation concealment, blinding, intention-to-treat analysis, and adequate power. Patients treated with manual therapy had outcomes similar to dry needling for the primary outcomes of decreased neck pain intensity and disability. For example, pain intensity was 6.2 at baseline for both groups; it decreased to near 2 immediately postintervention and near 1 at 2-week follow-up. Cervical ROM was also improved to a similar extent in the 2 groups, while pain pressure threshold was significantly better.
for the dry needling group. Temporary muscle soreness or fatigue was reported by 55% of the dry needling group and 23% of the manual therapy group.

**Plantar Heel Pain**

Cotchett et al reported a systematic review of dry needling and injections of myofascial trigger points associated with plantar heel pain in 2010. Three quasi-experimental trials were identified: 2 used dry needling combined with acupuncture and a third examined lidocaine injections combined with physical therapy. The methodologic quality of the trials was rated as poor and meta-analysis was not conducted due to heterogeneity between the trials.

In 2014 Cotchett et al reported a double-blinded, sham-controlled RCT of trigger point dry needling for plantar heel pain. Patients (N=84) with plantar heel pain of at least 1 month in duration were assigned to 6 weekly active or sham treatments. The primary outcomes, first step heel pain and Foot Health Status Questionnaire (FHSQ) scores at 6 weeks, were measured in 81 (96.4%) patients. The group given dry needling had statistically significantly greater improvement in first step pain and foot pain (adjusted mean difference of 14.4 mm on a 100-mm visual analog scale [VAS] and 10.0 points on the FHSQ), but the magnitude of change did not reach the prespecified minimally important difference (MID) for the scales used. Seventy (32% of treatments) minor adverse events were reported in the active dry needling group compared with only 1 (<1%) in the sham group. The number needed to harm was 3. Strengths of this trial included allocation concealment, patient and evaluator blinding, sample size calculations for adequate power, and a high rate of follow-up. Limitations included lack of a clinically significant mean response and the lack of reporting response rates (ie, the percentage of patients who experienced improvement on the primary outcome measures that was equal to or greater than the prespecified MID).

**Temporomandibular Pain**

A double-blind, sham-controlled trial of dry needling for the treatment of temporomandibular myofascial pain was reported by Diracoglu et al in 2012. Patients (N=52) with symptoms for at least 6 weeks with 2 or more myofascial trigger points in the temporomandibular muscles were included in the trial. Trigger points were stimulated once weekly over 3 weeks. The sham condition involved dry needling in areas away from the trigger points. Both groups showed significant improvements in pressure thresholds and VAS scores at 1 week posttreatment, although the improvement in pressure threshold was greater for the study group. Neither group showed improvement in unassisted jaw opening without pain. Post hoc power analysis found sufficient power to detect improvement in algometric measurement.

**Adverse Events**

A prospective survey of 39 physical therapists, providing 7629 dry needling treatments, reported 1463 (19.18%) mild adverse events (bruising, bleeding, pain) and no serious adverse events.

**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 NCT No. Ongoing

<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>NCT02312895</td>
<td>Randomized Controlled Trial Comparing the Use of Dry Needling to Manual Therapy for Patients With Mechanical Low Back Pain</td>
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<td>Dec 2016</td>
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<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>Feb 2017</td>
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<tr>
<td>NCT02373618</td>
<td>Dry Needling Versus Conventional Physical Therapy in Patients With</td>
<td>108</td>
<td>Feb 2017</td>
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Summary of Evidence

For individuals who have trigger points associated with myofascial pain who receive dry needling of trigger points, the evidence includes a number of randomized controlled trials and systematic reviews. Relevant outcomes are symptoms, functional outcomes, quality of life, and treatment-related morbidity. Overall, dry needling of trigger points has not been shown to be clinically superior to sham treatment or manual therapy. In addition, dry needling is associated with a high incidence of mild adverse events. The evidence is insufficient to determine the effects of the technology on health outcomes.

SUPPLEMENTAL INFORMATION

Practice Guidelines and Position Statements
American Physical Therapy Association
The American Physical Therapy Association (APTA) guideline BOD G02-14-18-12 on physical therapist scope of practice lists dry needling as 1 of the interventions provided by physical therapists: “Physical therapy, which is limited to the care and services provided by or under the direction and supervision of a physical therapist, includes: ... (2) alleviating impairment and functional limitation by designing, implementing, and modifying therapeutic interventions that include, but are not limited to: Dry needling.” In 2013, APTA issued an educational resource paper that includes the following indications for dry needling: radiculopathies, joint dysfunction, disc pathology, tendonitis, craniofacial 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 (AAOMPT) issued a statement that dry needling is within the scope of physical therapist practice.¹⁰ In support of this position, AAOMPT stated that “dry needling is a neurophysiological evidence-based treatment technique that requires effective manual assessment of the neuromuscular system. Physical therapists are well trained to utilize dry needling in conjunction with manual physical therapy interventions. 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.”

**U.S. Preventive Services Task Force Recommendations**

Not applicable.

**Medicare National Coverage**

There is no national coverage determination (NCD). In the absence of an NCD, coverage decisions are left to the discretion of local Medicare carriers.

**Regulatory status**

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

**Reference Resources**


Document Precedence

Blue Cross and Blue Shield of Vermont (BCBSVT) Medical Policies are developed to provide clinical guidance and are based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. The applicable group/individual contract and member certificate language, or employer’s benefit plan if an ASO group, determines benefits that are in effect at the time of service. Since medical practices and knowledge are constantly evolving, BCBSVT reserves the right to review and revise its medical policies periodically. To the extent that there may be any conflict between medical policy and contract/employer benefit plan language, the member’s contract/employer benefit plan language takes precedence.

Audit Information

BCBSVT reserves the right to conduct audits on any provider and/or facility to ensure compliance with the guidelines stated in the medical policy. If an audit identifies instances of non-compliance with this medical policy, BCBSVT reserves the right to recoup all non-compliant payments.

Administrative and Contractual Guidance

Benefit Determination Guidance

Benefits are subject to all terms, limitations and conditions of the subscriber contract.

An approved referral authorization for members of the New England Health Plan (NEHP) is required. A prior approval for Access Blue New England (ABNE) members is
required. NEHP/ABNE members may have different benefits for services listed in this policy. To confirm benefits, please contact the customer service department at the member’s health plan.

Federal Employee Program (FEP): Members may have different benefits that apply. For further information please contact FEP customer service or refer to the FEP Service Benefit Plan Brochure. It is important to verify the member’s benefits prior to providing the service to determine if benefits are available or if there is a specific exclusion in the member’s benefit.

Coverage varies according to the member’s group or individual contract. Not all groups are required to follow the Vermont legislative mandates. Member Contract language takes precedence over medical policy when there is a conflict.

If the member receives benefits through an Administrative Services (ASO) only group, benefits may vary or not apply. To verify benefit information, please refer to the member’s employer benefit plan documents or contact the customer service department. Language in the employer benefit plan documents takes precedence over medical policy when there is a conflict.

Policy Implementation/Update information

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
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<tbody>
<tr>
<td>04/2015</td>
<td>New Policy</td>
</tr>
<tr>
<td>07/2016</td>
<td>Revised to align with BCBSA Medical Policy</td>
</tr>
</tbody>
</table>

Eligible providers
Qualified healthcare professionals practicing within the scope of their license(s).

Approved by BCBSVT Medical Directors Date Approved

Joshua Plavin, MD
Senior Medical Director
Chair, Health & Payment Policy Committee

Robert Wheeler, MD
Chief Medical Officer
## Attachment I

### CPT Code Table & Instructions

<table>
<thead>
<tr>
<th>Code Type</th>
<th>Number</th>
<th>Brief Description</th>
<th>Provider Type</th>
<th>Policy Instructions</th>
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<tr>
<td>CPT</td>
<td>20999</td>
<td>Unlisted procedure, musculoskeletal system, general</td>
<td>Allopathic Physicians</td>
<td>Deny investigational</td>
</tr>
<tr>
<td>CPT</td>
<td>97799</td>
<td>Unlisted physical medicine/rehabilitation service or procedure</td>
<td>Chiropractors and Physical Therapists</td>
<td>Deny investigational</td>
</tr>
</tbody>
</table>

- **Type of Service**: Medicine & Surgery
- **Place of Service**: Outpatient