

Place name of Medical Policy: Trigger Point Injections			
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POLICY

- Recommended for Sub-Acute and Chronic Trigger Points/Myofascial Pain
- Not recommended for typical chronic low back or neck pain, nor are they recommended for radicular pain.
- Injections may consist of local anesthetic such as bupivacaine.
- The addition of a corticosteroid or botulinum toxin is not recommended.
- Using ultrasound/sonography is not always necessary, but is safe and more effective. There are many case reports and randomized controlled trials showing significantly improved efficacy with ultrasound vs. blind trigger point injections, especially in the cervical spine.

CRITERIA FOR USE OF TRIGGER POINT INJECTIONS

1. Documentation of circumscribed trigger points with evidence upon palpation of a twitch response as well as referred pain;
2. Symptoms have persisted for more than three months;
3. Medical management therapies such as ongoing stretching exercises, physical therapy, NSAIDs and muscle relaxants have failed to control pain;
4. Radiculopathy is NOT PRESENT (by exam, imaging, or neuro-testing);
5. Not more than 3-4 injections per session;
6. No repeat injections unless a greater than 50% pain relief with reduced medication use is obtained for six weeks after an injection and there is documented evidence of functional improvement;
7. Frequency should not be at an interval less than two months;
8. Trigger point injections with any substance (e.g., saline or glucose) other than local anesthetic with or without steroid are not recommended;
9. There should be evidence of continued ongoing conservative treatment including home exercise and stretching. Use as a sole treatment is not recommended;

10. If pain persists after 2 to 3 injections the treatment plan should be reexamined as this may indicate an incorrect diagnosis, a lack of success with this procedure, or a lack of incorporation of other more conservative treatment modalities for myofascial pain. It should be remembered that trigger point injections are considered an adjunct, not a primary treatment.

SUPPORTING DOCUMENTATION

ODG Pain (updated 04/27/17) - Online Version

Trigger point injections (TPIs)

Recommended for myofascial pain syndrome as indicated below, with limited lasting value.

See also the Low Back Chapter.

Criteria for the use of TPIs (Trigger point injections):

TPIs with a local anesthetic may be recommended for the treatment of myofascial pain syndrome when all of the following criteria are met: (1) Documentation of circumscribed trigger points with evidence upon palpation of a twitch response as well as referred pain; (2) Symptoms have persisted for more than three months; (3) Medical management therapies such as ongoing stretching exercises, physical therapy, NSAIDs and muscle relaxants have failed to control pain; (4) Radiculopathy is not present (by exam, imaging, or neuro-testing); (5) No more than 3-4 injections per session; (6) No repeat injections unless a greater than 50% pain relief with reduced medication use is obtained for six weeks after an injection and there is documented evidence of functional improvement; (7) Frequency should not be at an interval less than two months; (8) TPIs with any substance (e.g., saline or glucose) other than local anesthetic with or without steroid are not recommended; (9) There should be evidence of continued ongoing conservative treatment including home exercise and stretching. Use as a sole treatment is not recommended; (10) If pain persists after 2 to 3 injections the treatment plan should be reexamined as this may indicate a lack of appropriate diagnosis, a lack of success with this procedure, or a lack of incorporation of other more conservative treatment modalities for myofascial pain.

It should be remembered that trigger point injections are considered an adjunct, not a primary treatment. When indicated, the use of ultrasound guidance for trigger point localization has not been effectively demonstrated to improve outcomes over simple palpation techniques, and is not recommended.

The advantage appears to be in enabling patients to undergo remedial exercise therapy more quickly. The primary goal of trigger point therapy is the short-term relief of pain and tightness of the involved muscles in order to facilitate participation in an active rehabilitation program and restoration of functional capacity. TPIs are generally considered an adjunct rather than a primary form of treatment and should not be offered as either a primary or a sole treatment modality. (Scott, 2005) See Myofascial pain. A recent systematic review came to the conclusion that the efficacy of TPIs was no more certain than it was a decade ago, and that there continued to be no clear cut evidence of either benefit or ineffectiveness. There is no evidence-based or consensus research to suggest an optimal technique. The mechanism of inactivation of the trigger point remains unknown. Many consider dry needling as effective as a TPI. It has been suggested that the main effect is placebo. (Cummings, 2001) There are no studies that compare "stretching" treatment alone or "no treatment" to TPIs. Most current studies have evaluated the use of a TPI as a stand-alone treatment. (Scott, 2008) (Staal, 2008)

Indications: The main indication is to inactivate the trigger point to reduce pain and restore function. This may enable physical therapy. The injection is also used as a diagnostic tool. (Scott, 2008) Whiplash and chronic head, neck, shoulder and back pain: The evidence for TPIs when used as a sole treatment for patients with whiplash syndrome or chronic head, neck, shoulder or back pain (regardless of injectate) is inconclusive and the treatment does not appear to be more effective than treatments such as laser or ultrasound. These injections are not recommended for typical chronic low back or neck pain, nor are they recommended for radicular pain.

Fibromyalgia: There is no evidence to support trigger point injections for this condition using randomized controlled trials. Uncontrolled trials suggest that dry needling or soft-tissue injections with lidocaine are equally effective.

(Goldenberg, 2004) Cervicogenic headaches: The effectiveness is unknown. (Scott, 2005) Osteoarthritis: There is one randomized controlled trial that indicates that the addition of TPIs to intra-articular injections improves pain and function over and above the latter injection alone. (Yentur, 2003)

Needling procedures: The standard definition of TPIs (also called direct wet needling) involves injecting fluid directly into the trigger point. (Cummings, 2001) Other needling techniques include injection of fluid over the trigger point into the skin or subcutaneous tissue, direct dry needling, or indirect dry needling (the needle is placed superficially or deep into classic acupuncture points or over a tender spot, but not into the trigger point). See Acupuncture. Although there have been several descriptions and pilot studies regarding ultrasound guided trigger point injections, no quality clinical trials have been completed to demonstrate any superiority over conventional injection. Therefore, ultrasound guidance is not recommended.

Injection fluids: The injection of a local anesthetic can reduce the pain of a trigger point. TPIs with an anesthetic such as bupivacaine are recommended for non-resolving trigger points. In addition, the addition of a local anesthetic can reduce the pain of injection. The addition of a corticosteroid is not generally recommended and there is moderate evidence that TPIs with corticosteroids do not produce significantly different results from placebo injections using short-term self-reports. Current evidence does not support the use of Botulinum toxin in trigger point injections for myofascial pain. (Ho, 2007) (Peloso, 2007)

Adverse effects: The following have been published in case reports: cervical epidural abscess; accidental intrathecal injection; muscle atrophy at the injection site; pneumothorax; development of asystole. There is also a concern that when used as a primary therapy, patients may become dependent on this treatment, diverting from the underlying factors causing and maintaining pain. (Borg-Stein, 2002) Vasovagal responses are the most frequent complication. Other complications include bleeding, cuts or tears to the muscle, injury to nerve fibers, damage to blood vessels, infection, and allergic reactions (including anaphylaxis). Contraindications: Acute cases of muscle trauma; Allergies to anesthetic agents; Bleeding disorders; Local or systemic infection; Anticoagulant use.

Trigger point definitions: A trigger point is a hyperirritable foci located in a palpable taut band of skeletal muscle, which produces a local twitch in response to stimulus to the band. Pain is generally reported on compression, with common evidence of characteristic referred pain. This may or may not be accompanied by an autonomic response. Trigger points may be present in up to 33-50% of the adult population. There is currently no satisfactory objective, biochemical, electromyographic, or diagnostic imaging test to diagnosis trigger points. (Scott, 2008) Active trigger point: Continuous pain is generated in the zone of reference with or without palpitation. Latent trigger point: No evidence of spontaneous pain but evidence of restricted movement and muscle weakness. Primary trigger point: develop independently of other trigger points. Satellite trigger points: result from stress and muscle spasm caused by neighboring trigger points. (Scott, 2005) Myofascial pain syndrome is a regional painful muscle condition with a direct relationship between a specific trigger point and its associated pain region. A cluster of symptoms is noted including pain, autonomic phenomena and muscle dysfunction. Examples of primary myofascial pain syndrome include tennis elbow, frozen shoulder and chronic tension type headache. Secondary myofascial pain is found in the presence of conditions such as whiplash, TMJ dysfunction, and osteoarthritis. Psychosocial factors may contribute to muscle tension and an increase in pain, in particular, anxiety. (Esenyel, 2000) (Nifosi, 2007) (Altindag, 2008) (Graff-Radford, 2004) (BlueCross BlueShield, 2004) (Nelemans-Cochrane, 2002)

ACOEM Practice Guidelines: Shoulder Disorders.

<https://new.mdguidelines.com/Resources/ACOEM-Practice-Guidelines/Disorders/Shoulder-Disorders>. (Effective August 1, 2016)

Shoulder Disorders

Treatment Recommendations

Trigger Points/Myofascial Pain

Injection Therapies

Trigger Point Injections Using Local Anesthetic

Recommended. Trigger point injections consisting solely of a topical anesthetic such as bupivacaine are recommended as a second or tertiary option for subacute or chronic trigger points that are not resolving. (Adjunctive use of a glucocorticosteroid is not recommended. (Porta 00))

Injection Therapy

Strength of Evidence - Recommended, Evidence (C)

Indications: Persistent moderate to severe trigger points not resolving with more conservative means (e.g., NSAID, progressive aerobic exercises, and other exercises).

Frequency/Dose/Duration: Up to 4 injections a session with a follow-up appointment to assess subjective and objective measures of efficacy. Injections should not be repeated more than every 3 to 4 weeks. (Ojala 06) If results are not satisfactory after the first injection, a second may be attempted. If there are not subjective and objective improvements at that point, further injections are not recommended. (Ojala 06) In general, up to 3 injections are recommended to allow sufficient time to (re)establish a program of active therapy or identify modalities for successful self-application. Repeated injections should be linked to subjective and objective functional improvements. The use of therapeutic injections without participation in an active exercise or rehabilitation program is not recommended. (Kamanli 05, Wheeler 01)

Indications for Discontinuation: Resolution, intolerance, completion of 2 set(s) of injections without materially affecting the condition.

ACOEM Practice Guidelines: Shoulder Disorders.

<https://new.mdguidelines.com/Resources/ACOEM-Practice-Guidelines/Disorders/Shoulder-Disorders>. (Effective August 1, 2016)

Shoulder Disorders

Treatment Recommendations

Trigger Points/Myofascial Pain

Injection Therapies

Trigger Point Injections Using Glucocorticosteroids

Not Recommended. Glucocorticosteroids are not recommended for use in trigger point injections. (Porta 00)

Injection Therapy

Strength of Evidence - Not Recommended, Evidence (C)

Rationale: The literature on this subject is heterogeneous. Study designs, health outcomes assessed, interventions performed all differ widely across these studies. (Byrn 93; Sonne 85) The highest quality study that addressed a typical patient with periscapular or cervical tender points or trigger points found no difference between bupivacaine and botulinum other than much lower cost for bupivacaine. (Graboski 05) The next highest quality study of typical patients suggests anesthetic injections were superior to saline. (Hameroff 81) There are no long-term studies or follow-up to suggest enduring benefits of these injections. There is no evidence that a steroid is required for efficacy of these injections, particularly those that are tender point injections. (Porta 00) Considering glucocorticosteroids also have adverse effects, use of glucocorticosteroids in these injections is not recommended. A study evaluated injection with 1% lidocaine versus lidocaine/water mixture and suggested that the lidocaine/water mixture had less injection site pain and better pain outcomes at 14 days after injection, (Iwama 00) however, another report by the same author found no differences among 4 injection mixtures. (Iwama 01) These injections are invasive, have rare adverse effects, (Garvey 89) and are moderately costly depending on number. An injectable anesthetic, typically either lidocaine or bupivacaine are recommended. (Iwama 00, Kamanli 05) There are no studies evaluating them on a longer term basis, though there are studies suggesting benefits lasting up to 14 days. (Collee 91) Acupuncture is an alternative to these injections.

Evidence: There is 1 high- and 7 moderate-quality RCTs or crossover trials incorporated into this analysis.

REFERENCE(S)

1. [ODG Pain](#) (updated 04/27/17) - Online Version
2. [ACOEM Practice Guidelines: Shoulder Disorders](#).
3. <https://new.mdguidelines.com/Resources/ACOEM-Practice-Guidelines/Disorders/Shoulder-Disorders>. (Effective August 1, 2016)
4. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3182370/>
5. <https://www.ncbi.nlm.nih.gov/pubmed/19057634>
6. <https://www.anatomy-physiotherapy.com/articles/musculoskeletal/915-msk-ultrasound-guided-myofascial-trigger-point-injection>