

# EFFECTIVENESS OF TRIGGER POINT INJECTIONS

EVIDENCE BASED DENTISTRY
ROUNDS
TMD
7B-2
11/18/2020

#### ROUNDS TEAM

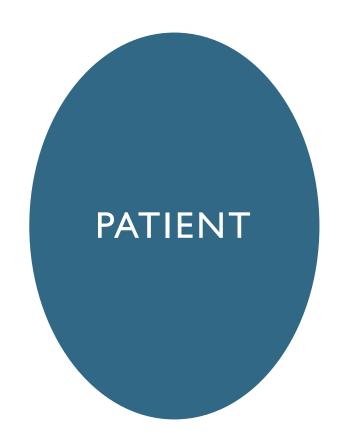
Group Leader: Dr. Rossi

**Specialty Leader: Dr. Abere** 

Project Team Leader: Viktoriia Senych

Project Team
Participants: Tom
Gorski, Daniel Stein,
Alexandra Pentala

Template Revised 9/10/2020



- 16 y. o. Middle Eastern Female
- Presented for LOE in March of 2020
- CC: "I have pain that radiates to my ears and it's worse at night"

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### MEDICAL HISTORY

- -OTC Multivitamins
- NKDA

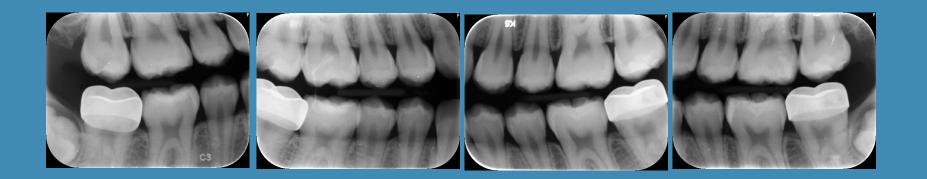


#### **DENTAL HISTORY**

- #2 OB amalgam
- #15,#30 occlusal resin
- #18,#31 SSCs
- #3,#14 & #19 sealants



### RADIOGRAPHS



### **RADIOGRAPHS**

#### RADIOGRAPHIC FINDINGS

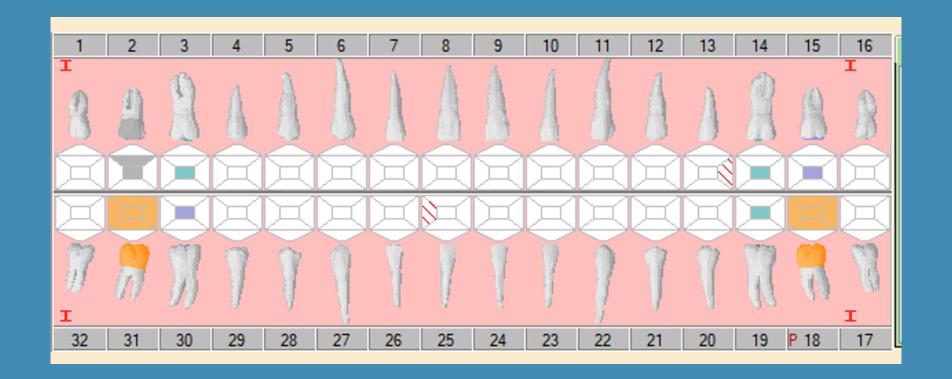
Impacted third molars

#### CLINICAL FINDINGS

- Myofascial and TMJ pain
- Anterior open bite
- Wear facets due to bruxism

#### SPECIFIC FINDINGS

- Pain on opening and closing with slight jaw deviation to the right upon opening
- Pain 5/10 noted on the upper left cervical palpation
- Sharp pain beneath zygoma and across masseter upon palpating



### **ODONTOGRAM**



- Bilateral moderate capsulitis
- Parafunctional habits (bruxism)
- Mild to moderate myofascial pain related to the masseter, SCM and trapezius bilaterally.

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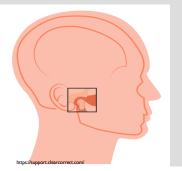
- Bruxism
- Myofascial and TMJ pain
- Anterior open bite

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#### DI BASIC SCIENCE

## Temporomandibular Disorder

Pain and dysfunction involving temporomandibular joints (TMJ) and surrounding muscles of mastication Signs and symptoms: limitations to jaw movement and function, noise from TMJ during chewing, chronic pain in muscles and joints





Internal derangement of TMI



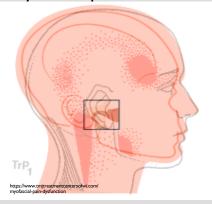
- structural displacement of articular disc
- disc positioning maintains normal joint movement

Degenerative joint disease



- degeneration and inflammation of disc and joint
- result of osteoarthritis or overloading of the joint

Myofascial pain disorder



- pain and discomfort of surrounding jaw muscles
- abnormal muscular and skeletal function, clenching, and grinding

Chang, C., Wang, D., Yang, M., Hsu, W., & Hsu, M. (2018). Functional disorders of the temporomandibular joints: Internal derangement of the temporomandibular joint. The Kaohsiung Journal of Medical Sciences, List, T., & Jensen, R. H. (2017). Temporomandibular disorders: Old ideas and new concepts. Cephalalgia, 37(7), 692-704.

Liu, F., & Steinkeler, A. (2013). Epidemiology, Diagnosis, and Treatment of Temporomandibular Disorders. Dental Clinics of North America, 57(3), 465-479.

Tanaka, E., Detamore, M., & Mercuri, L. (2008). Degenerative Disorders of the Temporomandibular Joint: Etiology, Diagnosis, and Treatment. Journal of Dental Research, 87(4), 296-307.

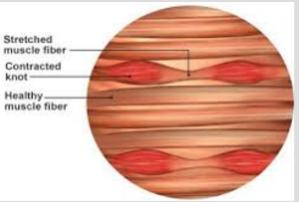
#### **D2 PATHOLOGY**

D2 Question: What is trigger point injection?

**Trigger Points:** Sites within muscle and surrounding connective tissue that are under chronic tension and respond by forming tight nodules known as muscle knots.

- Frequent finding in pts with TMD
- Stimulation can cause radiating pain in muscles around the TMJ
  - Headaches/face pain
  - Jaw dysfunction
  - Clicking



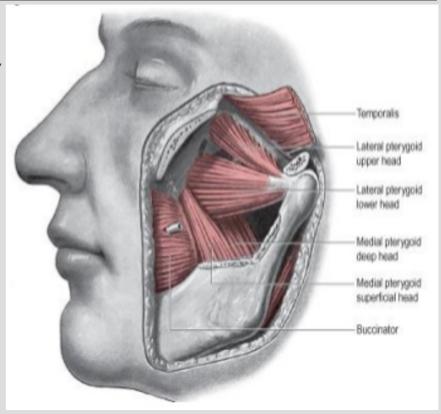


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#### **D2 PATHOLOGY**

<u>Trigger Point Injections</u>: Form of therapy designed to relieve tension at trigger points by administering a drug and increasing circulation directly at the site.

- Injection types:
  - Local anesthetic
  - Corticosteroid
  - Botulinum toxin
  - Dry needle (no drug)
- TMD associated sites:
  - Masseter
  - Lateral pterygoid
  - Temporalis



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#### **REFERENCES**

- 1. Aksu Ö, Pekin Doğan Y, Sayıner Çağlar N, Şener BM. Comparison of the efficacy of dry needling and trigger point injections with exercise in temporomandibular myofascial pain treatment. *Turk J Phys Med Rehabil*. 2019;65(3):228-235. Published 2019 Aug 20. doi:10.5606/tftrd.2019.1802
- 2. Wong CS, Wong SH. A new look at trigger point injections. *Anesthesiol Res Pract.* 2012;2012:492452. doi:10.1155/2012/492452



Clinical Question:
 Do trigger point injections prove effectiveness in the management of TMD?

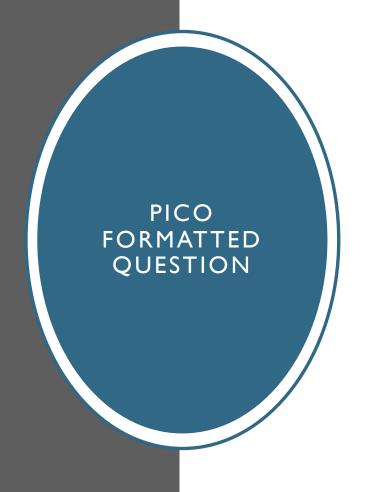
#### PICO FORMAT

P: management of TMD

I: treatment using trigger point injections with Lidocaine

C: trigger point injections with Botox and dry needling

O: effectiveness



 For patients with TMD, is treatment with trigger point injections using Lidocaine superior to using Botox and dry needling?

#### CLINICAL BOTTOM LINE

#### SEARCH BACKGROUND

- Date(s) of Search:
- Database(s) Used:
- Search Strategy/Keywords:

#### SEARCH BACKGROUND

MESH terms used:

## ARTICLE I CITATION, INTRODUCTION

- Citation: Authors, Title, Journal, Date, Volume, Page Numbers.
- Study Design:
- Study Need / Purpose:

#### ARTICLE I SYNOPSIS

- I-2 slides
- Method
- Results
- Conclusions
- Limitations

#### ARTICLE I SELECTION

- I slide
- Reason for selection
- Applicability to your patient
- Implications

## ARTICLE 2 CITATION, INTRODUCTION

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#### **ARTICLE 2 SYNOPSIS**

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#### LEVELS OF EVIDENCE

☐ 1a — Clinical Practice Guideline, Meta-Analysis, Systematic Review of Randomized Control
Trials (RCTs)
□ <b>1b</b> – Individual RCT
□ 2a – Systematic Review of Cohort Studies
□ <b>2b</b> – Individual Cohort Study
□ 3 – Cross-sectional Studies, Ecologic Studies, "Outcomes" Research
☐ 4a — Systematic Review of Case Control Studies
□ <b>4b</b> – Individual Case Control Study
□ <b>5</b> – Case Series, Case Reports
☐ <b>6</b> – Expert Opinion without explicit critical appraisal, Narrative Review
□ <b>7</b> – Animal Research
□ 8 – In Vitro Research

## STRENGTH OF RECOMMENDATION TAXONOMY (SORT)

A – Consistent, good quality patient oriented evidence **B** – Inconsistent or limited quality patient oriented evidence **C** – Consensus, disease oriented evidence, usual practice, expert opinion, or case series for studies of diagnosis, treatment, prevention, or screening

#### **CONCLUSIONS: D3**

How does the evidence apply to this patient?

- Consider/weigh:
  - Literature
  - Group Leader & Specialist experience
  - Patient circumstances & preferences

Based on the above considerations, how will you advise your D4?

#### **CONCLUSIONS: D4**

I would recommend my patient to do trigger point injections with Lidocaine since it's proven by research and safer to use.

#### DISCUSSION QUESTIONS

- How often would the patient need to receive trigger point injections using lidocaine compared to botulinum toxin?
- Are there any contraindications associated with trigger point injections for treating TMD?
- How long does Botulinum toxin last for the treatment of TMD?

## THANK YOU!!!

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