



HISTORY & EXAMINATION INCLUDING DC/TMD

Ramesh Balasubramaniam OAM

DENT5310

**Orofacial Pain and Dental Sleep Medicine Module
16th April 2026**



Ramesh Balasubramaniam OAM
Associate Professor
Discipline Lead in Oral Medicine
UWA Dental School
The University of Western Australia



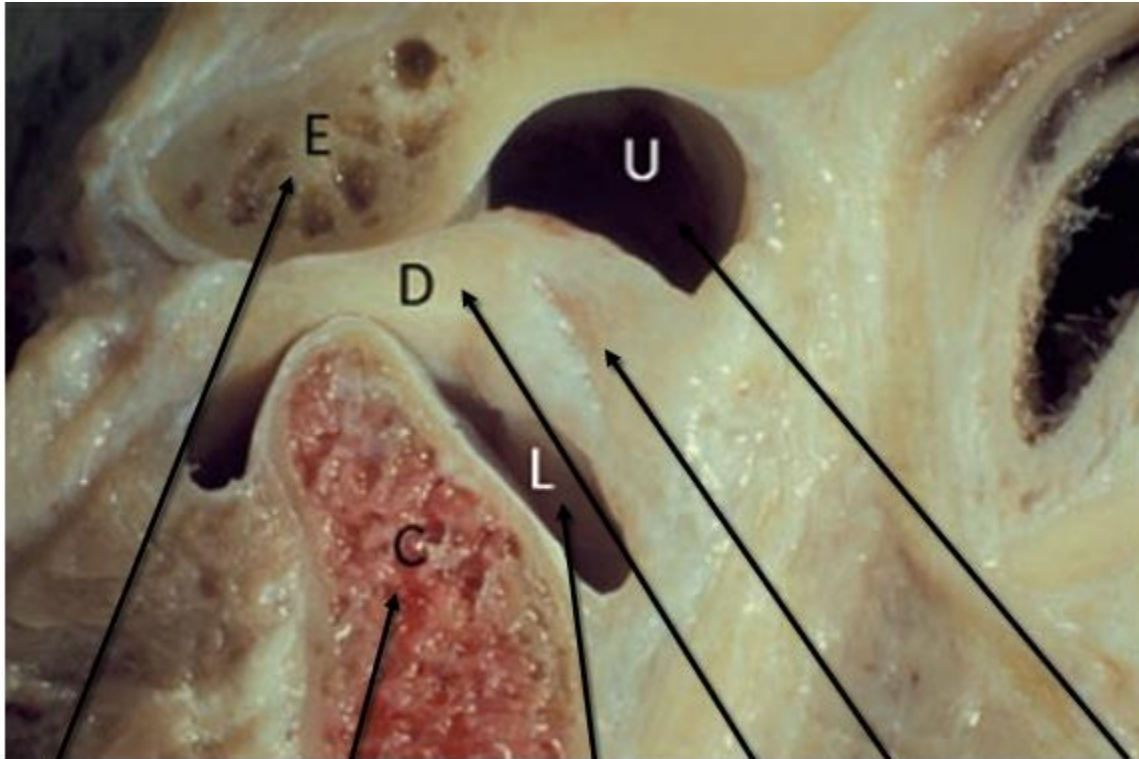
Neither I nor my immediate family have any financial interests that would create a conflict of interest or restrict my independent judgment with regard to the content of this presentation.

TEMPOROMANDIBULAR DISORDERS



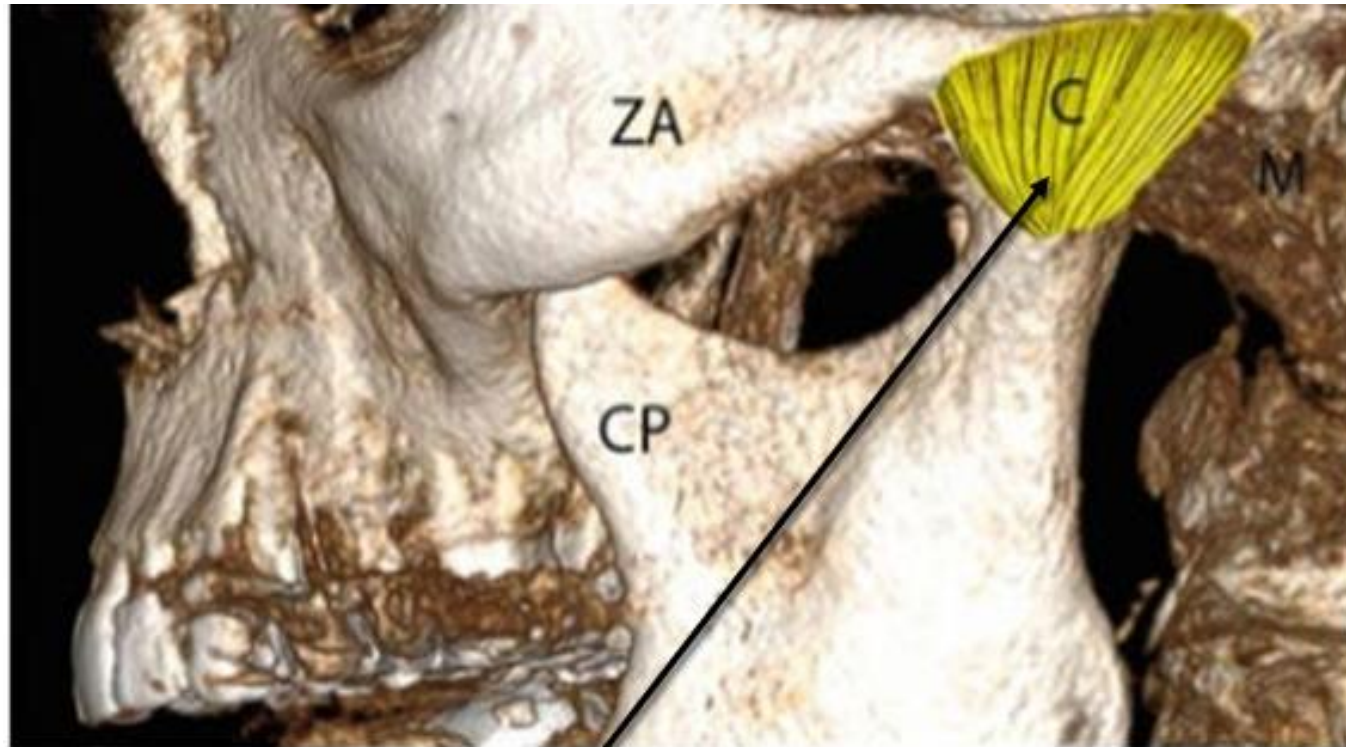
“Temporomandibular Disorders (TMD) is a collective term for a group of musculoskeletal and neuromuscular conditions which includes several clinical signs and symptoms involving the muscles of mastication, the temporomandibular joint and associated structures” – DC/TMD

TEMPOROMANDIBULAR JOINT



- Two incongruent parts: mandibular condyle + glenoid fossa
- Articular disc positioned between the condyle and fossa
- Disc divides the joint cavity into upper and lower compartments
- Central part of the disc: avascular, not innervated
- Retrodiscal tissue: highly innervated and vascularised

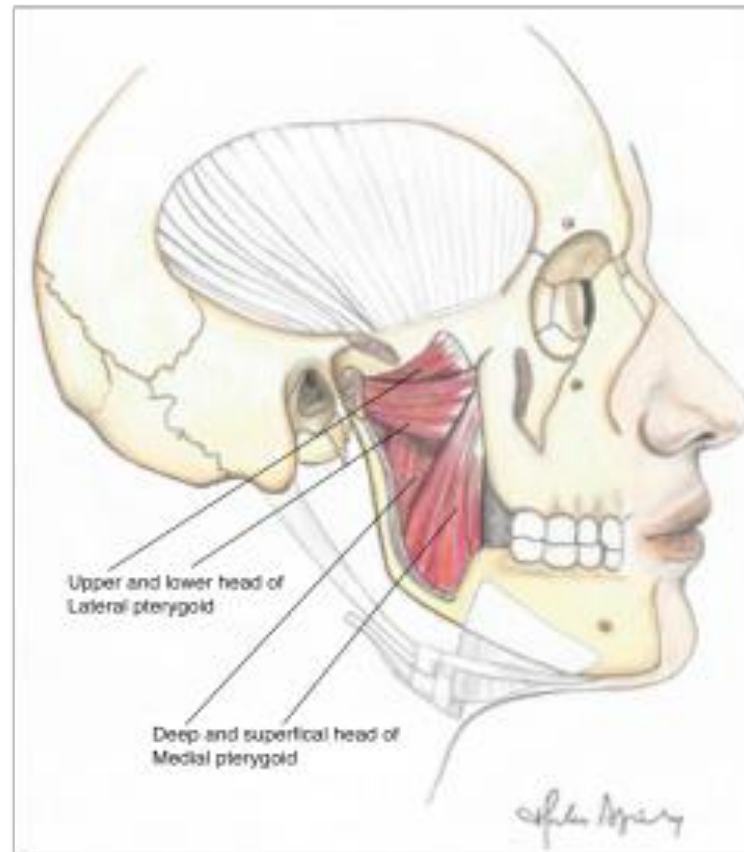
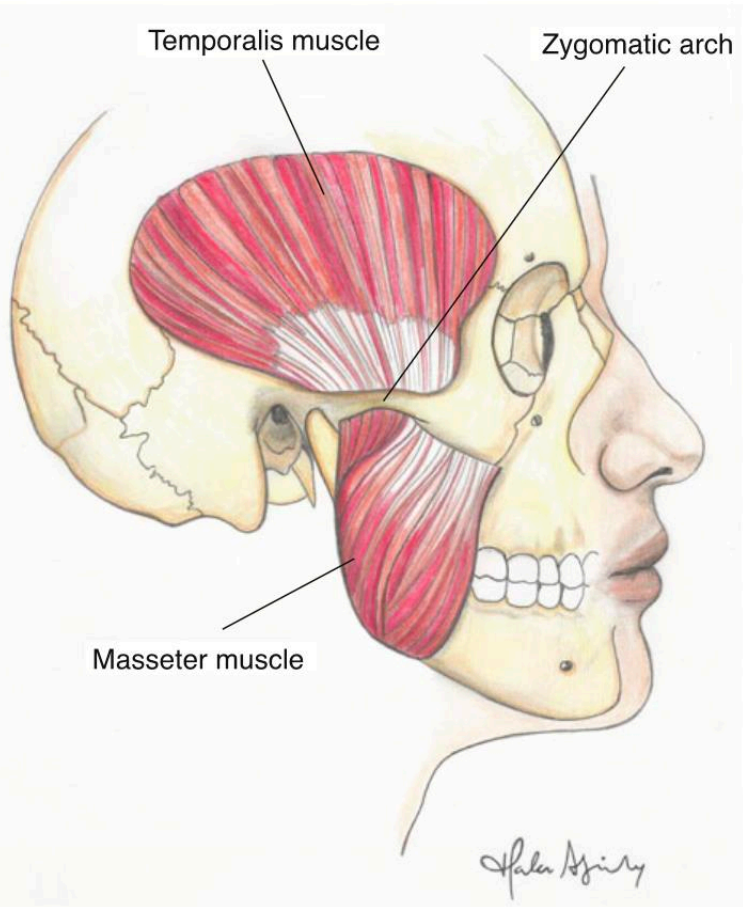
TEMPOROMANDIBULAR JOINT



Capsule

- Joint is encapsulated by a fibrous capsule
- Attached to temporal bone along fossa and condyle
- Loose arrangement of connective tissue

MASTICATORY MUSCLES



- Temporalis – elevation, retraction
- Masseter – elevation
- Lateral Pterygoid – protrusion, lateral movements
- Medial Pterygoid – elevation

Historically

Thought that TMD caused by occlusal factors

Resulted in therapies involving changing the patient's occlusion



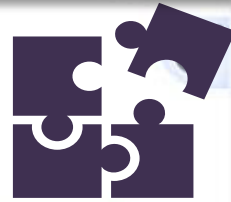
Review

Temporomandibular disorders and dental occlusion. A systematic review of association studies: end of an era?

D. MANFREDINI , L. LOMBARDO & G. SICILIANI *Post-graduate School in Orthodontics, University of Ferrara, Ferrara, Italy*

TMD). Findings support the absence of a disease-specific association. Based on that, there seems to lack ground to further hypothesise a role for dental occlusion in the pathophysiology of TMD. Clinicians are encouraged to abandon the old gnathological paradigm in TMD practice.

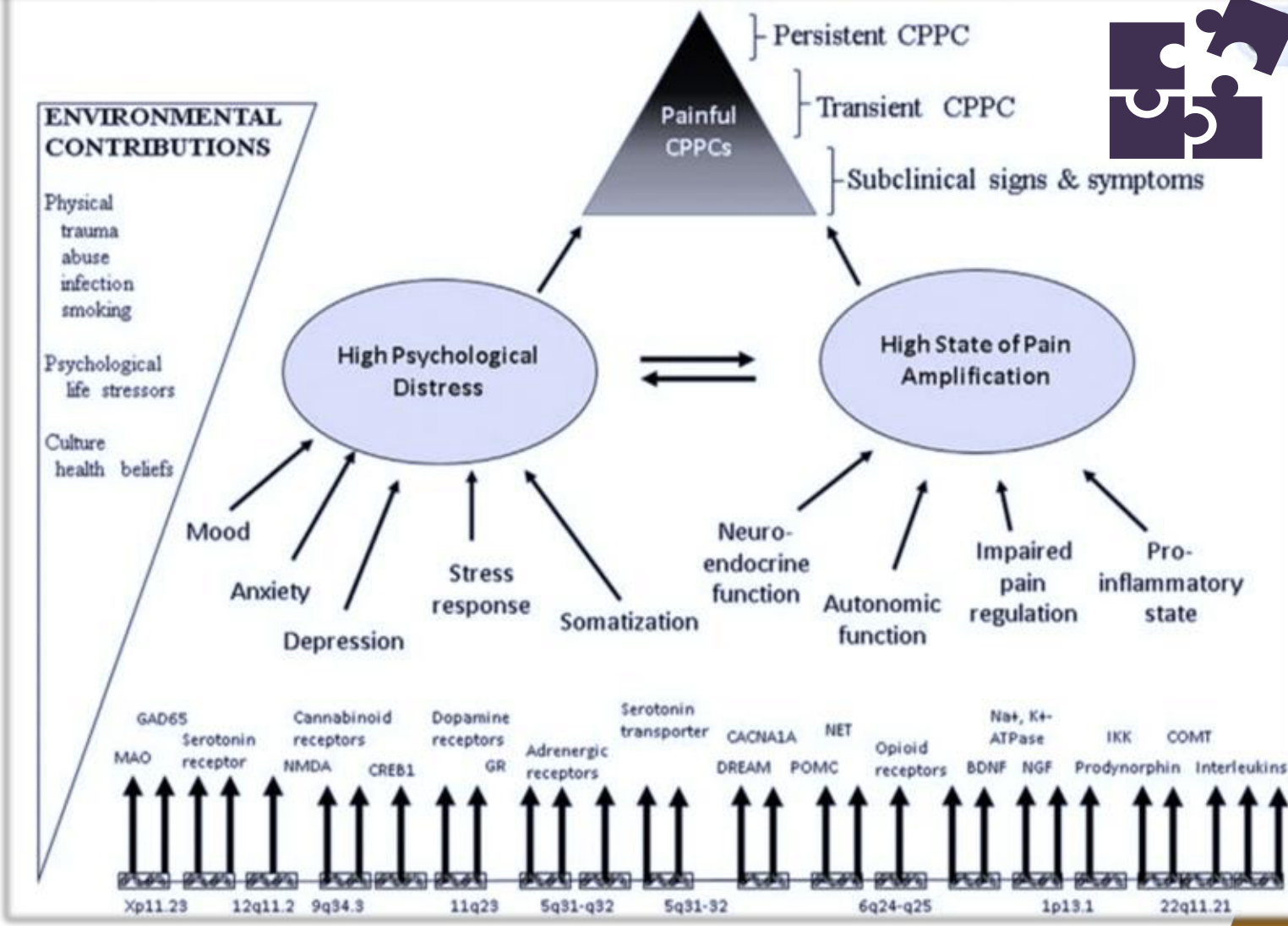
AETIOLOGY AND RISK FACTORS OF TMD



THE BIG PICTURE

occlusion can't contribute to TMD

- 2 Principal Intermediate Phenotypes contribute to onset and persistent (constellation of risk factors).
- Genetic regulation
- Environmental contributions interact with Intermediate Phenotypes to contribute to onset and persistent.
- TIME

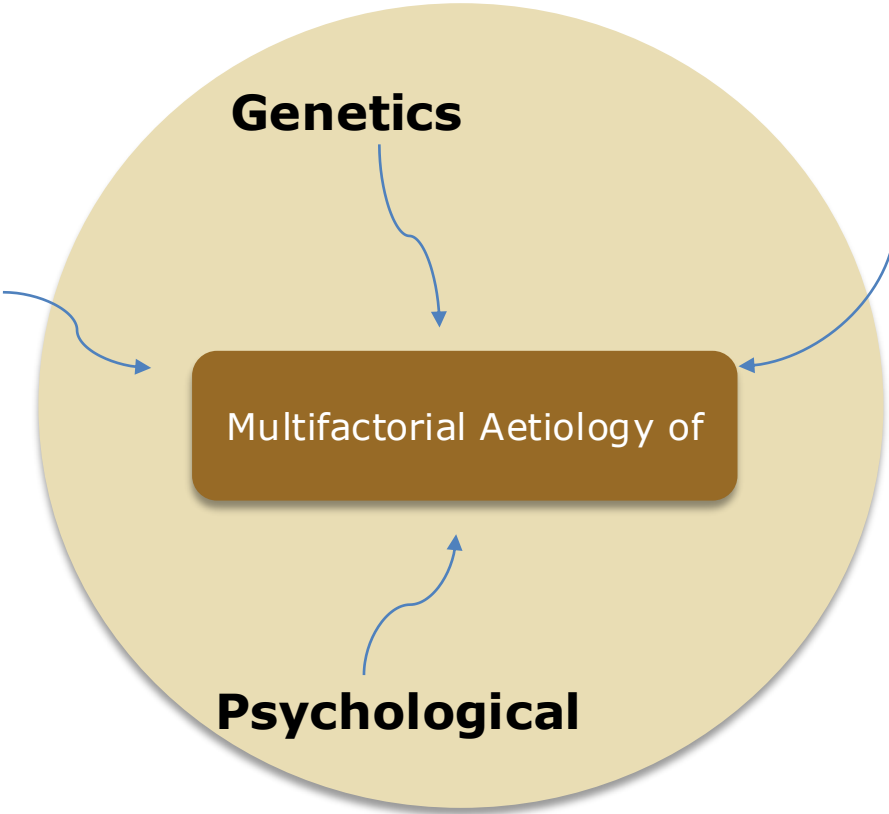


Contemporary evidence:

- 5 main gene polymorphisms
 - Nociceptive pathways
 - Inflammation
 - Affective distress
- Associated with predicting TMD onset*

Behavioral

- Depression
 - Anxiety
 - Somatization
 - Catastrophising
 - PTSD
- Associated with risk of TMD onset & chronicity of TMD*

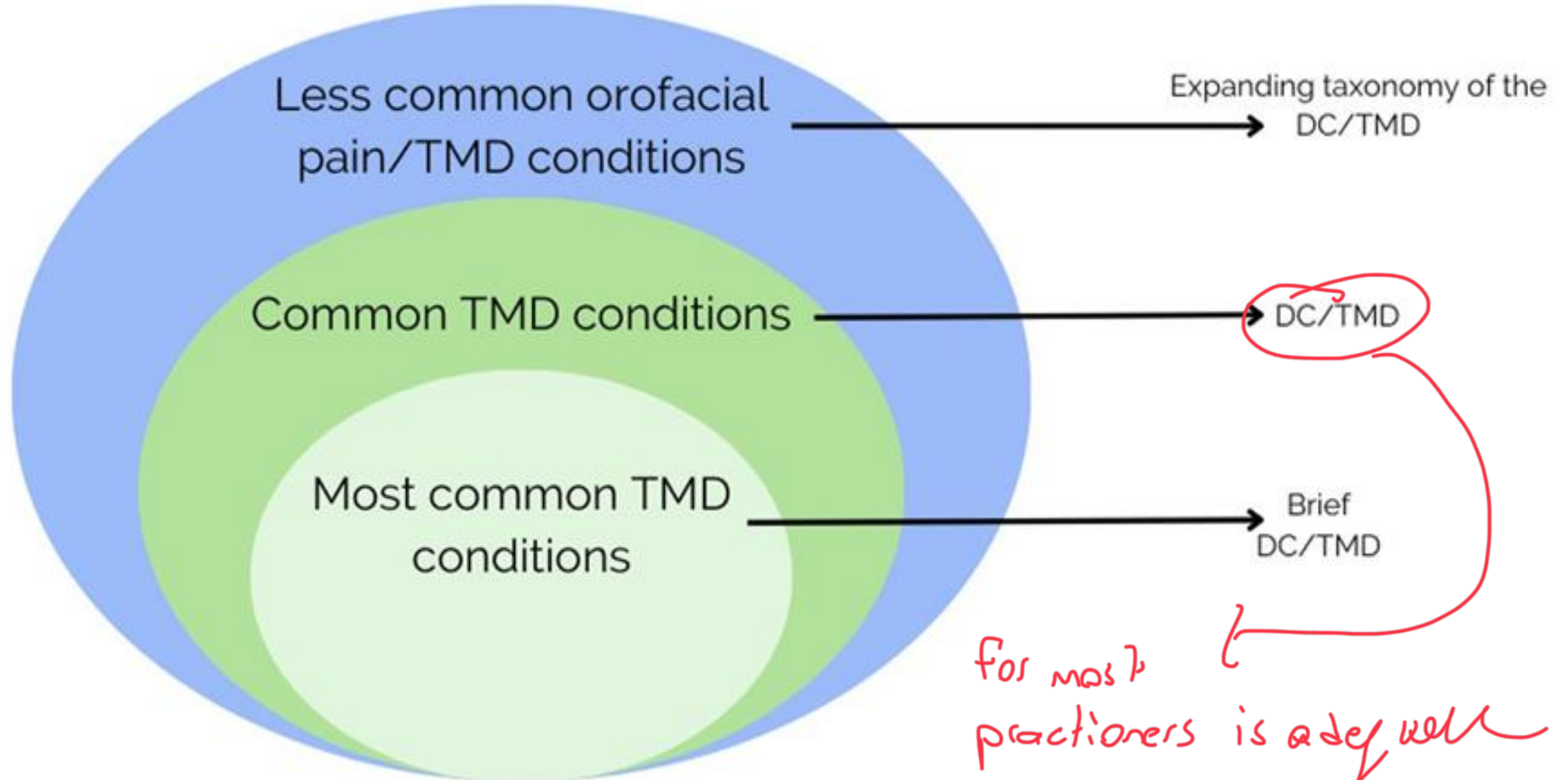


Sensory Processing

- State of pain amplification
- Alterations in peripheral and central nervous system processes
- Net effect of amplifying response to nociceptive stimuli
- Consistent predictor of developing chronic TMD was presence of another chronic pain condition at baseline

Associated with risk of TMD onset and chronicity of TMD

WHICH CLASSIFICATION AND DIAGNOSTIC CRITERIA WE USE?



DIAGNOSTIC CRITERIA FOR TEMPOROMANDIBULAR DISORDERS

J Oral Facial Pain Headache. 2014 ; 28(1): 6–27.

Diagnostic Criteria for Temporomandibular Disorders (DC/TMD) for Clinical and Research Applications: Recommendations of the International RDC/TMD Consortium Network* and Orofacial Pain Special Interest Group†

- Dual axis diagnostic criteria
 - Axis I: Physical diagnoses for most common pain & non-pain related TMDs
 - Axis II: Biobehavioural assessments of patient's pain disorder
 - Graded chronic pain scale: measures pain related intensity and disability
 - Standardized, reliable protocol – achieving Sn 80% – 90%
 - Low specificity for disc displacements as it relies solely on clinical examination – CT/MRI
 - Expanded taxonomy for less common disorders act only as preliminary diagnosis

| | History | | Examination | |
|---|--|-------------|--|--|
| <i>Disorder</i> | <i>Criteria</i> | <i>SQ</i> | <i>Criteria</i> | <i>Examination Form</i> |
| Pain Disorders | | | | |
| Myalgia (ICD-9 729.1) • Sens 0.90 • Spec 0.95 | Pain in a masticatory structure | SQ3 | Confirmation of pain in masticatory muscle(s) | E1a |
| | Pain modified by jaw movement, function, or parafunction | SQ4 | Familiar pain in masticatory muscle(s) with either muscle palpation or maximum opening | E4b, E4c, or E9: familiar pain in temporalis or masseter, or in other masticatory muscles if also relevant; or E10: familiar pain in supplemental muscles, if E10 included |
| Myalgia Subtypes | | | | |
| <u>Local Myalgia</u> (ICD-9 729.1) Sens and Spec not established | [same as for Myalgia] | [SQ3 & SQ4] | Confirmation of pain in masticatory muscle(s) | E1a |
| | | | Familiar pain with muscle palpation | E9: familiar pain in masseter or temporalis; or E10: familiar pain in supplemental muscles, if E10 included |
| | | | Pain remains local to the area of stimulation | E9: negative referred and spreading pain; and E10: negative referred and spreading pain, if E10 included |
| <u>Myofascial Pain with Spreading</u> (ICD-9 729.1) Sens and Spec not established | [same as for Myalgia] | [SQ3 & SQ4] | Confirmation of pain in masticatory muscle(s) | E1a |
| | | | Familiar pain with muscle palpation | E9: familiar pain in masseter or temporalis; or E10: familiar pain in supplemental muscles, if E10 included |
| | | | Spreading (but not referred) pain with muscle palpation | E9: spreading pain; or E10: spreading pain, if E10 included; AND E9: negative referred pain; and E10: negative referred pain, if E10 included |

| | History | | Examination | |
|---|--|-------------|---|---|
| <i>Disorder</i> | <i>Criteria</i> | <i>SQ</i> | <i>Criteria</i> | <i>Examination Form</i> |
| <u>Myofascial Pain with Referral</u> (ICD-9 729.1) <ul style="list-style-type: none"> • Sens 0.86 • Spec 0.98 | [same as for Myalgia] | [SQ3 & SQ4] | Confirmation of pain in masticatory muscle(s) | E1a |
| | | | Familiar pain with muscle palpation | E9: familiar pain in masseter or temporalis; or E10: familiar pain in supplemental muscles, if E10 included |
| | | | Referred pain with muscle palpation | E9: positive referred pain; or E10: positive referred pain, if E10 included |
| Arthralgia (ICD-9 524.62) <ul style="list-style-type: none"> • Sens 0.89 • Spec 0.98 | Pain in a masticatory structure | SQ3 | Confirmation of pain in TMJ(s) | E1a |
| | Pain modified by jaw movement, function, or parafunction | SQ4 | Familiar pain with TMJ palpation or range of motion | E4b, E4c, E5a-c, or E9: familiar pain in TMJ |
| Headache Attributed to TMD (ICD-9 339.89 [other specified headache syndrome], or ICD-9 784.0 [headache]) <ul style="list-style-type: none"> • Sens 0.89 • Spec 0.87 Note that for a secondary headache diagnosis, a primary diagnosis of either myalgia or arthralgia is required. | Headache of any type in temporal region | SQ5 | Confirmation of headache in temporalis muscle | E1b |
| | Headache affected by jaw movement, function, or parafunction | SQ7 | Report of familiar headache in temporalis area from either: a. Palpation of the temporalis muscle or b. Range of motion of jaw | E4b, E4c, E5a-c, or E9: familiar headache pain in the temporalis muscle |

| | History | | Examination | |
|---|---|-------------------------------------|--|--|
| <i>Disorder</i> | <i>Criteria</i> | <i>SQ</i> | <i>Criteria</i> | <i>Examination Form</i> |
| Joint Disorders | | | | |
| Disc Displacement with Reduction (ICD-9 524.63) • Sens 0.34 • Spec 0.92 | Current TMJ noises by history, OR | SQ8 | Click(s) with opening <u>and</u> closing, OR | E6: (open & close) click, OR |
| | Patient reports noise during the examination | E6 or E7: noise reported by patient | Both (a) click with opening or closing, and (b) click with lateral or protrusive movements | E6: (open or close) click, and E7: (protrusive or lateral) click |
| Disc Displacement with Reduction, with Intermittent Locking (ICD-9 524.63) • Sens 0.38 • Spec 0.98 | [same as disc displacement with reduction] | [same as DD with red] | [same as disc displacement with reduction] | [same as DD with red] |
| | Current intermittent locking with limited opening | SQ11=yes SQ12=no | When disorder present in clinic: maneuver required to open mouth | E8 (optional) |
| Disc Displacement without Reduction, with Limited Opening (ICD-9 524.63) • Sens 0.80 • Spec 0.97 | Current* TMJ lock with limited opening | SQ9 | Passive stretch (maximum assisted opening) < 40mm | E4c < 40mm including vertical incisal overlap |
| | Limitation severe enough to interfere with ability to eat | SQ10 | | |
| Disc Displacement without Reduction, without Limited Opening (ICD-9 524.63) • Sens 0.54 • Spec 0.79 | Prior* TMJ lock with limited opening | SQ9 | Passive stretch (maximum assisted opening) ≥ 40mm | E4c ≥ 40mm including vertical incisal overlap |
| | Limitation severe enough to interfere with ability to eat | SQ10 | | |
| Degenerative Joint Disease (ICD-9 715.18) • Sens 0.55 • Spec 0.61 | Current TMJ noises by history, OR | SQ8 | Crepitus during jaw movement | E6 or E7: crepitus detected by examiner |
| | Patient reports noise during the examination | E6 or E7: noise reported by patient | | |
| Subluxation (ICD-9 830.0) • Sens 0.98 • Spec 1.00 | TMJ locking or catching in wide open jaw position | SQ13 | When disorder present in clinic: maneuver required to close mouth | E8 (optional) |
| | Unable to close mouth without specific maneuver | SQ14 | | |

* "Current" and "Prior" (as based on S9) for distinguishing, respectively, the "with limitation" vs "without limitation" variants of Disc Displacement without Reduction are interpreted based on change over time as determined by history and as confirmed by the clinical examination for jaw range of motion.

EXPANDED TAXONOMY FOR TEMPOROMANDIBULAR DISORDERS

I. TEMPOROMANDIBULAR JOINT DISORDERS

1 Joint pain

- A Arthralgia
- B Arthritis

2 Joint disorders

- A Disc disorders
 - 1 Disc displacement with reduction
 - 2 Disc displacement with reduction with intermittent locking
 - 3 Disc displacement without reduction with limited opening
 - 4 Disc displacement without reduction without limited opening
- B Hypomobility disorders other than disc disorders
 - 1 Adhesions/Adherence
 - 2 Ankylosis
 - a Fibrous
 - b Osseous
- C Hypermobility disorders
 - 1 Dislocations
 - a Subluxation
 - b Luxation

3 Joint diseases

- A Degenerative joint disease
 - 1 Osteoarthrosis
 - 2 Osteoarthritis
- B Systemic arthritides
- C Condylitis/Idiopathic condylar resorption
- D Osteochondritis dissecans
- E Osteonecrosis
- F Neoplasm
- G Synovial Chondromatosis

4 Fractures

5 Congenital/developmental disorders

- A Aplasia
- B Hypoplasia
- C Hyperplasia

EXPANDED TAXONOMY FOR TEMPOROMANDIBULAR DISORDERS

II. MASTICATORY MUSCLE DISORDERS

1 Muscle pain

- A Myalgia
 - 1 Local myalgia
 - 2 Myofascial pain
 - 3 Myofascial pain with referral
- B Tendonitis
- C Myositis
- D Spasm *— extremely rare*

2 Contracture

3 Hypertrophy

4 Neoplasm

5 Movement Disorders

- A Orofacial dyskinesia
- B Oromandibular dystonia

6 Masticatory muscle pain attributed to systemic/central pain disorders

- A Fibromyalgia/widespread pain

III. HEADACHE

1 Headache attributed to TMD

IV. ASSOCIATED STRUCTURES

1 Coronoid hyperplasia

HISTORY

“Nothing is more critical to success than beginning with all the necessary data”



The chief complaint

- What brings you in today?
- Can you describe *in your own words* what you're experiencing?

Pain location

Pain onset

- Was there a trigger associated?



Pain Quality

- Bright or dull; Pricking; Itching; Stinging; Burning; Aching; Pulsating; Throbbing

Pain behaviour

- Temporal behaviour: frequency of pain; intermittent, continuous or persistent, recurrent
- Pain duration: momentary, longer lasting, protracted
- Localisation: localised, diffuse, radiating, spreading, enlarging, migrating

Pain intensity

- Visual analogue scale or Numerical rating scale

No pain



Most severe pain

Concomitant Symptoms

- Sensory: hyperaesthesia, hypoaesthesia, anaesthesia, dysaesthesia, paraesthesia
- Motor: muscular weakness, muscular contractions, spasms
- Autonomic: lacrimation, pupillary changes, oedema of the lids, nasal secretions

Flow of Pain

- Steady
- Paroxysmal

Effects of functional activities

- Pain when eating
- Restriction in opening
- Pain when yawning
- Jaw joint noises: Have you had any jaw joint noises when you moved or used your jaw?
- Closed locking of the jaw: Have you ever had your jaw lock or catch, even for a moment, so that it would not open all the way? Was it severe enough to limit your ability to eat?
- Open locking of the jaw: When you opened your mouth, did your jaw catch, even for a moment so that you could not close it from this wide position? Did you have to do something to get it to close?
- Headaches?



Effects of parafunctional activities

- Awareness of day-time clenching
- Grinding or clenching while asleep
- Chin resting
- Biting nails
- Sleeping on stomach
- Biting on back of pens/pencils
- Chewing lips, cheeks, tongue



* In ochwa they still use the old index, rather do the DC/TMD

HISTORY PROTOCOL IN DC/TMD

3Q/TMD SCREENING QUESTIONS

1. Do you have pain in your temple, face, jaw or jaw joint once a week or more?
2. Do you have pain once a week or more when you open your mouth or chew?
3. Does your jaw lock or become stuck once a week or more?

**yes's in any of these indicate a high probability*

Diagnostic Criteria for Temporomandibular Disorders Symptom Questionnaire

Patient name _____ Date _____

PAIN

1. Have you ever had pain in your jaw, temple, in the ear, or in front of the ear on either side? No Yes

If you answered NO, then skip to Question 5.

2. How many years or months ago did your pain in the jaw, temple, in the ear, or in front of the ear first begin? _____ years _____ months

3. In the last 30 days, which of the following best describes any pain in your jaw, temple, in the ear, or in front of the ear on either side?
- Select ONE response.
- No pain
- Pain comes and goes
- Pain is always present

If you answered NO to Question 3, then skip to Question 5.

4. In the last 30 days, did the following activities change any pain (that is, make it better or make it worse) in your jaw, temple, in the ear, or in front of the ear on either side?
- | | No | Yes |
|--|--------------------------|--------------------------|
| A. Chewing hard or tough food | <input type="checkbox"/> | <input type="checkbox"/> |
| B. Opening your mouth, or moving your jaw forward or to the side | <input type="checkbox"/> | <input type="checkbox"/> |
| C. Jaw habits such as holding teeth together, clenching/grinding teeth, or chewing gum | <input type="checkbox"/> | <input type="checkbox"/> |
| D. Other jaw activities such as talking, kissing, or yawning | <input type="checkbox"/> | <input type="checkbox"/> |

HEADACHE

5. In the last 30 days, have you had any headaches that included the temple areas of your head? **No**
 Yes

If you answered NO to Question 5, then skip to Question 8.

6. How many years or months ago did your temple headache first begin? _____ years _____ months
-

7. In the last 30 days, did the following activities change any headache (that is, make it better or make it worse) in your temple area on either side?

- | | No | Yes |
|--|--------------------------|--------------------------|
| A. Chewing hard or tough food | <input type="checkbox"/> | <input type="checkbox"/> |
| B. Opening your mouth, or moving your jaw forward or to the side | <input type="checkbox"/> | <input type="checkbox"/> |
| C. Jaw habits such as holding teeth together, clenching/grinding, or chewing gum | <input type="checkbox"/> | <input type="checkbox"/> |
| D. Other jaw activities such as talking, kissing, or yawning | <input type="checkbox"/> | <input type="checkbox"/> |
-

JAW JOINT NOISES

| | | | Office use | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | No | Yes | R | L | DNK |
| 8. In the last 30 days, have you had any jaw joint noise(s) when you moved or used your jaw? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

CLOSED LOCKING OF THE JAW

| | | | | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 9. Have you <u>ever</u> had your jaw lock or catch, even for a moment, so that it would <u>not open ALL THE WAY</u> ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| If you answered NO to Question 9 then skip to Question 13. | | | | | |
| 10. Was your jaw lock or catch severe enough to limit your jaw opening and interfere with your ability to eat? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. In the last 30 days, did your jaw lock so you could <u>not open ALL THE WAY</u> , even for a moment, and then unlock so you could open ALL THE WAY? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| If you answered NO to Question 11 then skip to Question 13. | | | | | |
| 12. Is your jaw currently locked or limited so that your jaw will <u>not open ALL THE WAY</u> ? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

OPEN LOCKING OF THE JAW

13. In the last 30 days, when you opened your mouth wide, did your jaw lock or catch even for a moment such that you could not close it from this wide open position?

If you answered NO to Question 13 then you are finished.

14. In the last 30 days, when you jaw locked or caught wide open, did you have to do something to get it to close including resting, moving, pushing, or maneuvering it?

Past Medical History

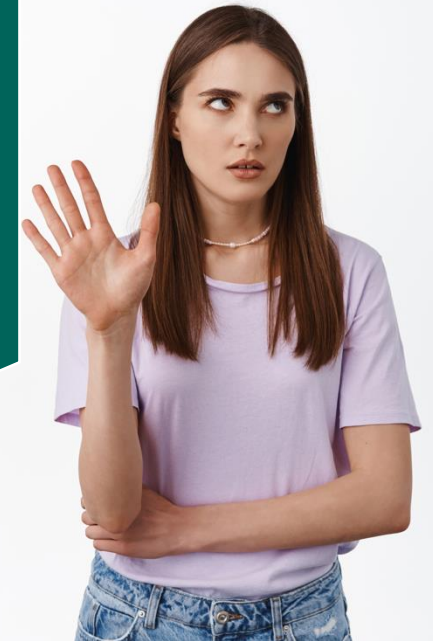
Review of Systems

Psychosocial History

- Emotional stressors
- Impact on quality of life
- Impact on sleep quality

Axis 2

- Pain manikin (1 item)
- Graded Chronic Pain Scale
- PHQ4 (4 items)



GRADED CHRONIC PAIN SCALE - 30 DAYS, PAIN MANIKAN, PATIENT HEALTH QUESTIONNAIRE

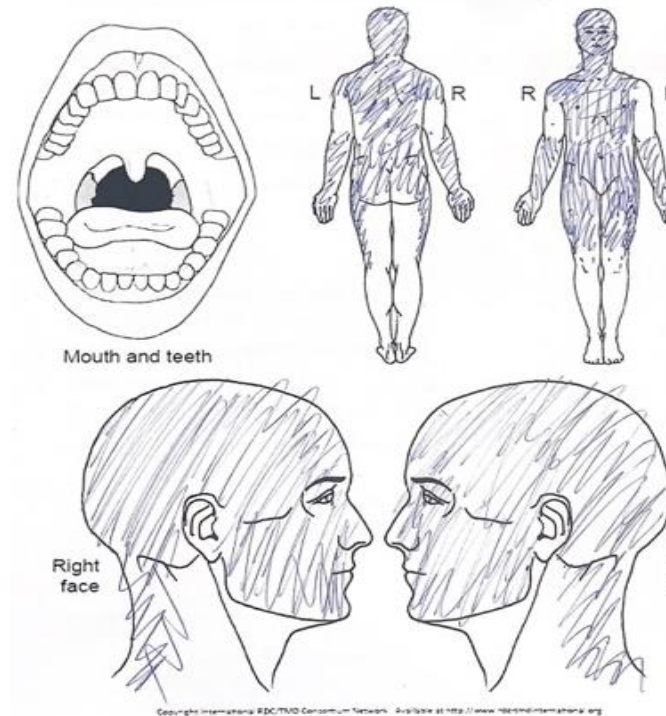
Self-report Section B – Graded Chronic Pain Scale – 30 days

| | | | | | | | | | | |
|---|---|---|---|---|--|---|---|---|---|----|
| 1. How would you rate your facial pain RIGHT NOW? | | | | | | | | | | |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| No pain | | | | | Pain as bad as could be | | | | | |
| 2. In the LAST 30 DAYS, how would you rate your WORST facial pain? | | | | | | | | | | |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| No pain | | | | | Pain as bad as could be | | | | | |
| 3. In the LAST 30 DAYS, ON AVERAGE, how would you rate your facial pain? | | | | | | | | | | |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| No pain | | | | | Pain as bad as could be | | | | | |
| $[(Q1+Q2+Q3)/3] \times 10 = \text{CPI} =$ | | | | | | | | | | |
| 4. In the LAST 30 DAYS, how much has facial pain interfered with your DAILY ACTIVITIES? | | | | | | | | | | |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| No interference | | | | | Unable to <u>carry</u> on any activities | | | | | |
| 5. In the LAST 30 DAYS, how much has facial pain interfered with your RECREATIONAL, SOCIAL AND FAMILY ACTIVITIES? | | | | | | | | | | |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| No interference | | | | | Unable to <u>carry</u> on any activities | | | | | |
| 6. In the LAST 30 DAYS, how much has facial pain interfered with your ABILITY TO WORK, including housework? | | | | | | | | | | |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| No interference | | | | | Unable to <u>carry</u> on any activities | | | | | |
| $[(Q4+Q5+Q6)/3] \times 10 = \text{Disability} =$ | | | | | | | | | | |

| | | | | | | | | | | | |
|---|------|------|----|----|----|----|----------|----|--------|----|-----|
| Scoring | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| Interpretation of pain intensity (CPI) and interference | None | Mild | | | | | Moderate | | Severe | | |

PAIN DRAWING

Indicate the location of ALL of your different pains by shading in the area, using the diagrams that are most relevant. If there is an exact spot where the pain is located, indicate with a solid dot (•). If your pain moves from one location to another, use arrows to show the path.



Patient Health Questionnaire - 4

Over the last 2 weeks, how often have you been bothered by the following problems? Please place a check mark in the box to indicate your answer.

| | Not at all | Several days | More than half the days | Nearly every day |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| | 0 | 1 | 2 | 3 |
| 1. Feeling nervous, anxious or on edge | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Not being able to stop or control worrying | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Little interest or pleasure in doing things | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Feeling down, depressed, or hopeless | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

TOTAL SCORE =

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

| Not difficult at all | Somewhat difficult | Very difficult | Extremely difficult |
|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

3 Axis II Screening Tools:

- Pain Drawing (pain location)
- GCPS (pain intensity and disability)
- PHQ-4 (psychological distress)

EXAMINATION PROTOCOL

IN DC/TMD

- The default time frame for assessing pain in the expanded taxonomy is in “the last 30 days”; the examiner must identify with the patient all anatomical locations that they have experienced pain in the last 30 days. However, the examiner may choose a different time frame as dictated by clinical circumstances.
- For a given diagnosis, the location of pain induced by the specified provocation test(s) must be in an anatomical structure consistent with that diagnosis.
- “Familiar pain” or “familiar headache” is based on patient report that the pain induced by the specified provocation test(s) has replicated the patient’s pain, as identified by respective location and within the specified time frame (see note 1).
- The phrase “pain modified” is used in the diagnostic criteria for arthralgia and myofascial pain to emphasize that the pain may be made better or worse by jaw function, movement or parafunction, by history. The phrase is more inclusive than either phrase “pain made worse” or “pain made better” and is used to differentiate a musculoskeletal pain from other pain conditions of the trigeminal system.
- Whilst jaw muscle pain is diagnosed based on examination of the masseter and temporalis muscles, other masticatory muscles may be examined as required.
- Diagnostic imaging should only be considered after a history and physical examination indicates that information from imaging will influence patient care. Whilst guidelines have been provided for TMJ imaging (29 ;33), further research is needed.
- Magnetic resonance imaging (MRI) and computerized tomography (CT) are often the preferred imaging modalities. CT includes either conventional CT or cone beam computerized tomography (CBCT).
- Where intramuscular electromyography monitoring is indicated, this would be performed with fine wire or needle electrodes.
- For all pain-related diagnoses, the pain/headache is not better accounted for by another pain/headache diagnosis.

DC/TMD EXAMINATION

DC/TMD Examination Form

Date filled out (mm-dd-yyyy)

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|

Patient _____ Examiner _____

1a. Location of Pain: Last 30 days (Select all that apply)

RIGHT PAIN

- None
 Temporalis
 Other m muscles
 Non-mast structures
 Masseter
 TMJ

LEFT PAIN

- None
 Temporalis
 Other m muscles
 Non-mast structures
 Masseter
 TMJ

1b. Location of Headache: Last 30 days (Select all that apply)

- None
 Temporal
 Other
 None
 Temporal
 Other

2. Incisal Relationships Reference tooth FDI #11 FDI #21 Other

Horizontal Incisal Overjet

If negative

| | |
|--|--|
| | |
|--|--|

mm

Vertical Incisal Overlap

If negative

| | |
|--|--|
| | |
|--|--|

mm

Midline Deviation

Right Left N/A

| | |
|--|--|
| | |
|--|--|

mm



3. Opening Pattern (Supplemental; Select all that apply)

Straight

Corrected deviation

Uncorrected Deviation

Right

Left

STRAIGHT



DEVIATION

Mandible returns to centre position on opening

DD w/R



DEFLECTION

Continuous displacement of mandibular
midline

DD w/o R



4. Opening Movements

A. Pain Free Opening

| | RIGHT SIDE | | | LEFT SIDE | | |
|--|------------|---------------|-------------------|-----------|---------------|-------------------|
| | Pain | Familiar Pain | Familiar Headache | Pain | Familiar Pain | Familiar Headache |

B. Maximum Unassisted Opening

| | | | | | | | |
|--------------|---|---|---|--------------|---|---|---|
| Temporalis | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | Temporalis | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y |
| Masseter | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Masseter | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | |
| TMJ | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | TMJ | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | |
| Other M Musc | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Other M Musc | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | |
| Non-mast | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Non-mast | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | |

C. Maximum Assisted Opening

| | | | | | | | |
|--------------|---|---|---|--------------|---|---|---|
| Temporalis | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | Temporalis | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y |
| Masseter | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Masseter | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | |
| TMJ | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | TMJ | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | |
| Other M Musc | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Other M Musc | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | |
| Non-mast | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Non-mast | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | |

D. Terminated? N Y



Pain free opening



Maximum unassisted opening



Maximum assisted opening

5. Lateral and Protrusive Movements

| | RIGHT SIDE | | | LEFT SIDE | | | | |
|-------------------------------|--------------|---|---|---|---------------|---|---|---|
| | Pain | Familiar Pain | Familiar Headache | Pain | Familiar Pain | Familiar Headache | | |
| A. Right Lateral mm | Temporalis | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | Temporalis | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y |
| | Masseter | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Masseter | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | |
| | TMJ | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | TMJ | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | |
| | Other M Musc | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Other M Musc | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | |
| | Non-mast | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Non-mast | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | |
| B. Left Lateral mm | Temporalis | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | Temporalis | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y |
| | Masseter | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Masseter | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | |
| | TMJ | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | TMJ | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | |
| | Other M Musc | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Other M Musc | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | |
| | Non-mast | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Non-mast | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | |
| C. Protrusion mm | Temporalis | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | Temporalis | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y |
| | Masseter | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Masseter | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | |
| | TMJ | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | TMJ | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | |
| | Other M Musc | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Other M Musc | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | |
| | Non-mast | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Non-mast | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | |

O If negative



Right lateral movement



Left lateral movement



Protrusive movement

6. TMJ Noises During Open & Close Movements

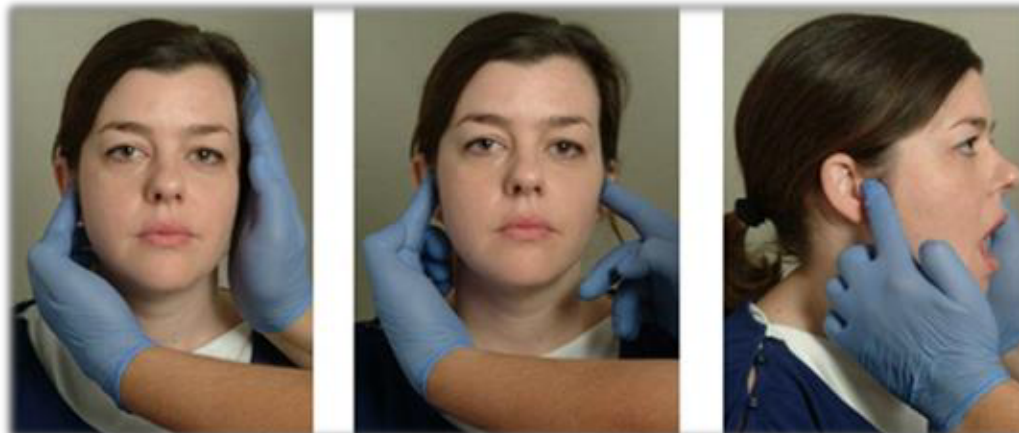
| RIGHT TMJ | | | | | | |
|-----------|----------|---------|---------|------------------|------------------|--|
| | Examiner | | Patient | Pain w/ Click | Familiar Pain | |
| | Open | Close | | | | |
| Click | (N) (Y) | (N) (Y) | (N) (Y) | (N) (Y) | (N) (Y) | |
| Crepitus | (N) (Y) | (N) (Y) | (N) (Y) | (N) (Y) | (N) (Y) | |

| LEFT TMJ | | | | | | |
|----------|----------|---------|---------|------------------|------------------|--|
| | Examiner | | Patient | Pain w/ Click | Familiar Pain | |
| | Open | Close | | | | |
| Click | (N) (Y) | (N) (Y) | (N) (Y) | (N) (Y) | (N) (Y) | |
| Crepitus | (N) (Y) | (N) (Y) | (N) (Y) | (N) (Y) | (N) (Y) | |

7. TMJ Noises During Lateral & Protrusive Movements

| RIGHT TMJ | | | | |
|-----------|----------|---------|------------------|------------------|
| | Examiner | Patient | Pain w/ Click | Familiar Pain |
| Click | (N) (Y) | (N) (Y) | (N) (Y) | (N) (Y) |
| Crepitus | (N) (Y) | (N) (Y) | (N) (Y) | (N) (Y) |

| LEFT TMJ | | | | |
|----------|----------|---------|------------------|------------------|
| | Examiner | Patient | Pain w/ Click | Familiar Pain |
| Click | (N) (Y) | (N) (Y) | (N) (Y) | (N) (Y) |
| Crepitus | (N) (Y) | (N) (Y) | (N) (Y) | (N) (Y) |



8. Joint Locking

RIGHT TMJ

| | Locking | | Reduction | | | |
|--------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| | | | Patient | | Examiner | |
| While Opening | <input type="radio"/> N | <input type="radio"/> Y | <input type="radio"/> N | <input type="radio"/> Y | <input type="radio"/> N | <input type="radio"/> Y |
| Wide Open Position | <input type="radio"/> N | <input type="radio"/> Y | <input type="radio"/> N | <input type="radio"/> Y | <input type="radio"/> N | <input type="radio"/> Y |

LEFT TMJ

| | Locking | | Reduction | | | |
|--------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| | | | Patient | | Examiner | |
| While Opening | <input type="radio"/> N | <input type="radio"/> Y | <input type="radio"/> N | <input type="radio"/> Y | <input type="radio"/> N | <input type="radio"/> Y |
| Wide Open Position | <input type="radio"/> N | <input type="radio"/> Y | <input type="radio"/> N | <input type="radio"/> Y | <input type="radio"/> N | <input type="radio"/> Y |

9. Muscle & TMJ Pain with Palpation

| RIGHT SIDE | | | | | | | | |
|----------------------------|------|---|---------------|---|-------------------|---|---------------|---|
| (1 kg) | Pain | | Familiar Pain | | Familiar Headache | | Referred Pain | |
| | N | Y | N | Y | N | Y | N | Y |
| Temporalis (posterior) | N | Y | N | Y | N | Y | N | Y |
| Temporalis (middle) | N | Y | N | Y | N | Y | N | Y |
| Temporalis (anterior) | N | Y | N | Y | N | Y | N | Y |
| Masseter (origin) | N | Y | N | Y | | | N | Y |
| Masseter (body) | N | Y | N | Y | | | N | Y |
| Masseter (insertion) | N | Y | N | Y | | | N | Y |
| TMJ | Pain | | Familiar Pain | | Referred Pain | | | |
| Lateral pole (0.5 kg) | N | Y | N | Y | N | Y | N | Y |
| Around lateral pole (1 kg) | N | Y | N | Y | N | Y | N | Y |

| LEFT SIDE | | | | | | | | |
|----------------------------|------|---|---------------|---|-------------------|---|---------------|---|
| (1 kg) | Pain | | Familiar Pain | | Familiar Headache | | Referred Pain | |
| | N | Y | N | Y | N | Y | N | Y |
| Temporalis (posterior) | N | Y | N | Y | N | Y | N | Y |
| Temporalis (middle) | N | Y | N | Y | N | Y | N | Y |
| Temporalis (anterior) | N | Y | N | Y | N | Y | N | Y |
| Masseter (origin) | N | Y | N | Y | | | N | Y |
| Masseter (body) | N | Y | N | Y | | | N | Y |
| Masseter (insertion) | N | Y | N | Y | | | N | Y |
| TMJ | Pain | | Familiar Pain | | Referred Pain | | | |
| Lateral pole (0.5 kg) | N | Y | N | Y | N | Y | N | Y |
| Around lateral pole (1 kg) | N | Y | N | Y | N | Y | N | Y |



10. Supplemental Muscle Pain with Palpation

| RIGHT SIDE | | | | LEFT SIDE | | | |
|-----------------------------|---|---|---|-----------------------------|---|---|---|
| (0.5 kg) | Pain | Familiar Pain | Referred Pain | (0.5 kg) | Pain | Familiar Pain | Referred Pain |
| Posterior mandibular region | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | Posterior mandibular region | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y |
| Submandibular region | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | Submandibular region | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y |
| Lateral pterygoid area | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | Lateral pterygoid area | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y |
| Temporalis tendon | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | Temporalis tendon | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y |



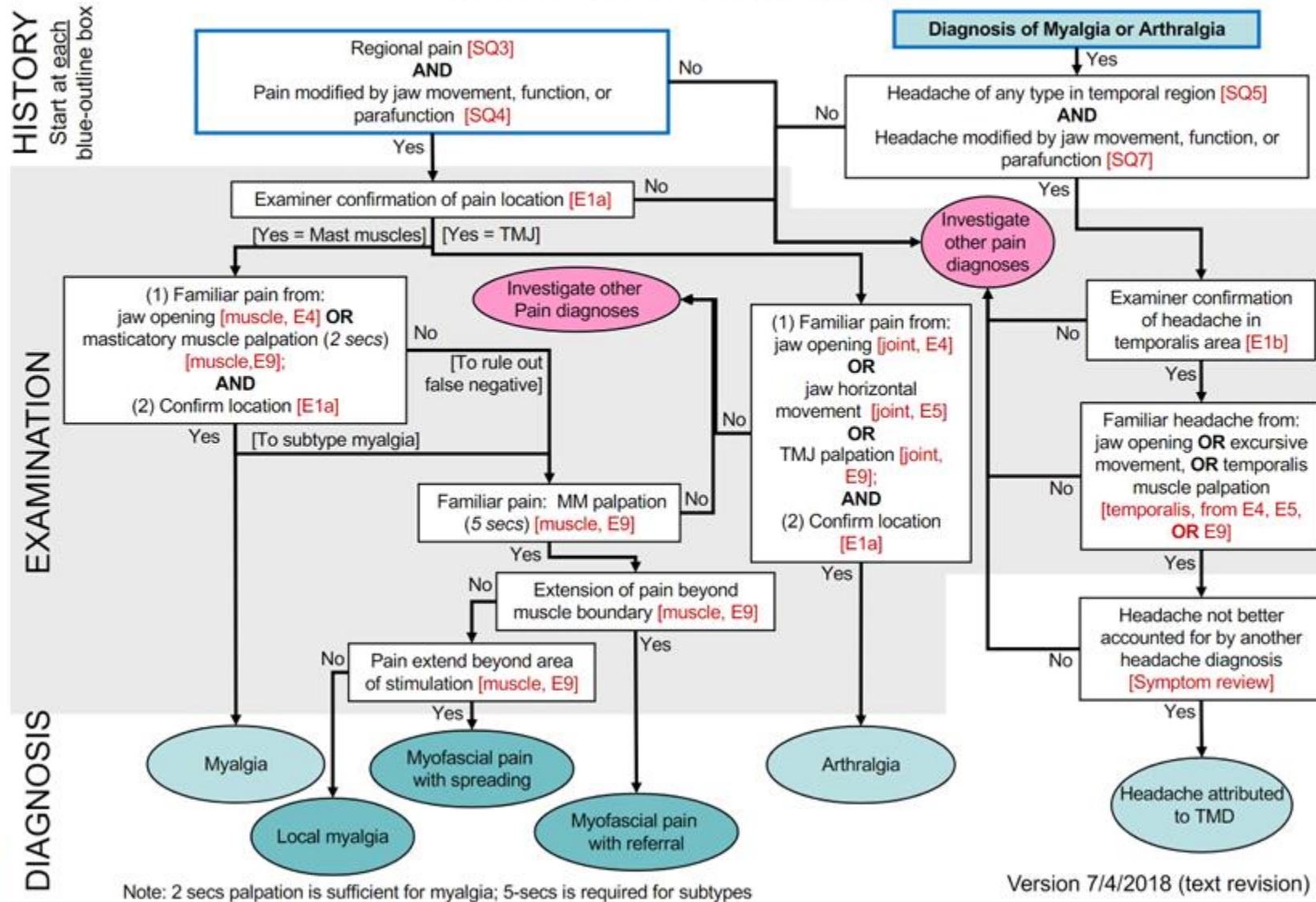
Lateral pterygoid area



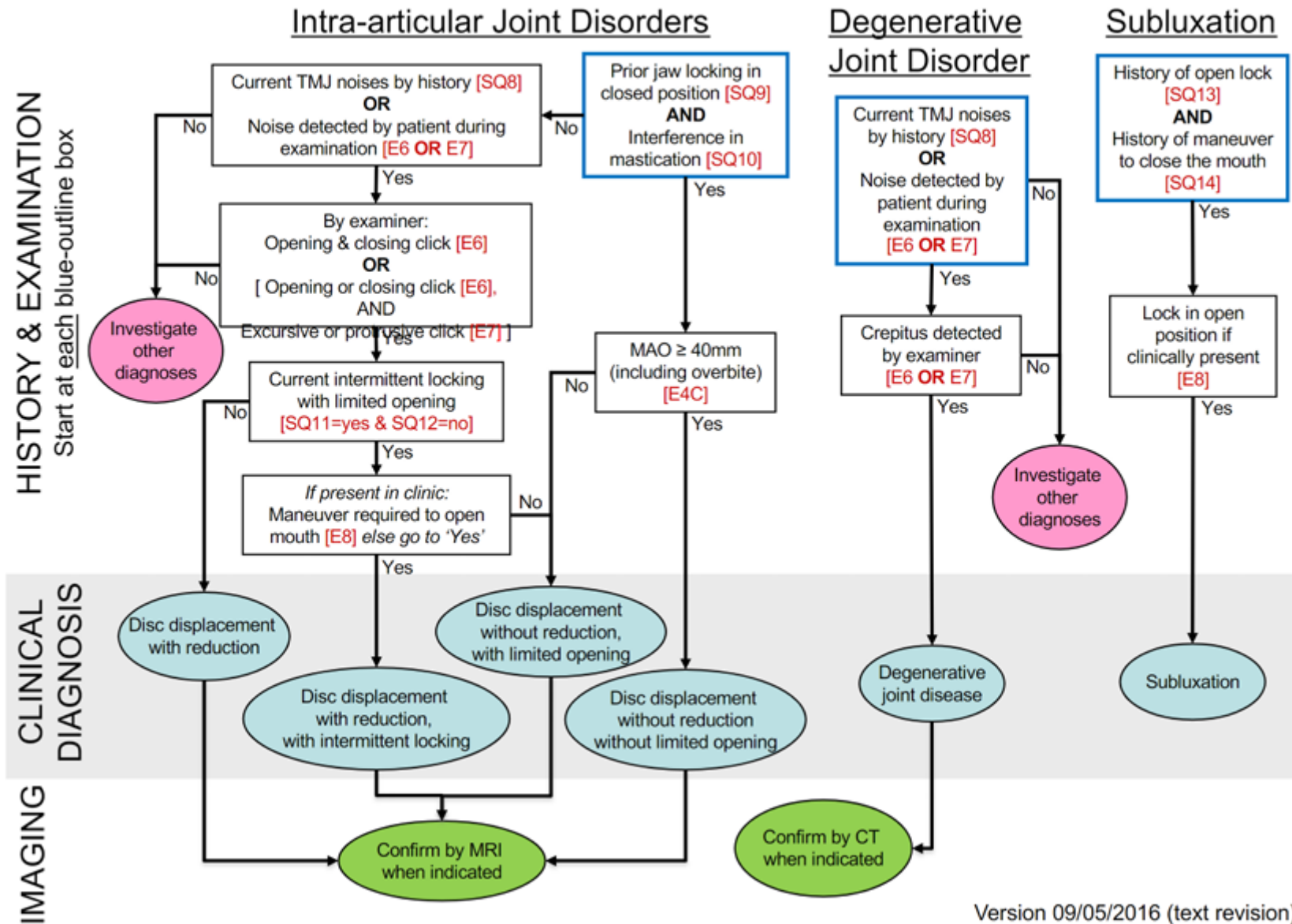
Temporalis tendon

Diagnostic Criteria for Temporomandibular Disorders (DC/TMD): Diagnostic Decision Tree

Pain-Related TMD and Headache



Diagnostic Criteria for Temporomandibular Disorders (DC/TMD): Diagnostic Decision Tree



University at Buffalo School of Dental Medicine

DC/TMD Examination Protocol

Yoly Gonzalez, DDS, MS, MPH

Jason Chwirut, MS

Thomas List, DDS, PhD

Richard Orhbach, DDS, PhD

BRIEF DC/TMD

BRIEF DC/TMD

1. The bDC/TMD Axis 1 and Axis 2 should take no more than 10 minutes of provider time to complete in its entirety in clinic, and the structure of the bDC/TMD should optimise and maximise the patient's use of self-report instrumentation;
2. The bDC/TMD should produce Axis 1 grouping diagnoses or combinations thereof with clinical utility rather than down to the level of all 12 of the most frequently presenting sub-types of TMDs. These groupings are painful TMDs (inclusive of myalgia, arthralgia and headache attributed to TMD) or other common joint-related TMDs with implications for function (inclusive of degenerative joint disease, subluxation, acute closed lock and a collapsed category of other disc based TMDs). Axis 2 should focus on an ultra-brief screen to demonstrate yellow or red flags in psychosocial status;
3. Training for clinicians in the use of the bDC/TMD will be provided via distance learning such as through video training material. The training component will require additional resources to effectively implement across languages and settings, but it is deemed an immediately achievable goal that can be empirically tested later.

BRIEF DC/TMD

Durham J, Ohrbach R, Baad-Hansen L, et al. Constructing the brief diagnostic criteria for temporomandibular disorders (bDC/TMD) for field testing. J Oral Rehabil. 2023; 00:1-10.

TABLE 3 Original DC/TMD Axis 1 examination items and agreed reduction of these items by Delphi panel.

| DC/TMD examination item number ^a | Summary of examination item | Delphi consensus | Notes |
|---|---|-------------------|--|
| E1a | Patient's identification of areas of pain. Areas of interest are demonstrated by light touch by examiner as: Temporalis, Masseter, TMJ, other masticatory muscles, non-masticatory structures | Retain and revise | Remove other masticatory muscles and non-masticatory structures as not incorporated within new bDC/TMD diagnostic decision tree producing broad grouping diagnoses |
| E1b | Anatomical area affected by headache | Remove | Not required for new bDC/TMD diagnostic decision tree |
| E2 | Incisal relationship | Remove | Remove as additional detail unrequired for broad grouping diagnoses in new bDC/TMD diagnostic decision tree |
| E3 | Opening pattern | Remove | Already considered 'supplemental' in DC/TMD largely due to poor reliability of this assessment; not used by its diagnostic decision tree |
| E4 | Opening movements | Retain and revise | Simplify to only pain-free and maximum unassisted opening given (a) this differentiates between painful and non-painful TMDs and (b) helps with defining acute closed lock (disc displacement without reduction with limited opening). Reduce to 3 examination steps for a combined examination of E4, E6, E8 with 1 out of 3 movements being a positive finding with no further movement required once positive identified |
| E5 | Lateral movements | Remove | Have low reliability, contribute little to diagnosis, and difficult for patients to reproduce. |
| E6 | Joint noises on opening and closing | Retain and revise | Adjusted and shortened examination steps, as stated under E4 |
| E7 | Joint noises on lateral and protrusive movements | Remove | Low yield of positive results from these movements. |
| E8 | Joint locking | Retain and revise | Adjusted and shortened examination steps, as stated under E4 |
| E9 | Muscle and TMJ pain with palpation | Retain and revise | Remove reporting of palpation results from specified anatomical sub-sections of muscles (e.g. origin, body and insertion of masseter) as unnecessary level of detail for bDC/TMD diagnostic decision tree. The protocol will specify to focus examination on anterior temporalis and body of masseter as initial sites to examine with palpation, and to extend beyond those areas as needed, but form only requires findings at the muscle level. Remove supplemental muscles from examination as non-contributory to diagnostic decision tree currently in DC/TMD and therefore unnecessary for bDC/TMD |

^aReference period whenever given in a question is in the last 30 days. It is however important to note that whilst the 30 days period is useful and appropriate for most patients, sometimes a complaint may require that the reference frame be modified.

BRIEF DC/TMD EXAMINATION

1a. Location of Pain: Last 30 days (Select all that apply)

RIGHT PAIN

- None Temporalis Other m muscles Non-mast structures
 Masseter TMJ

LEFT PAIN

- None Temporalis Other m muscles Non-mast structures
 Masseter TMJ



4. Opening Movements

A. Pain Free Opening

B. Maximum Unassisted Opening

C. Maximum Assisted Opening

D. Terminated? N Y

| | RIGHT SIDE | | | LEFT SIDE | | |
|--------------|---|---|---|--------------|---|---|
| | Pain | Familiar Pain | Familiar Headache | Pain | Familiar Pain | Familiar Headache |
| Temporalis | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | Temporalis | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> Y |
| Masseter | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Masseter | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y |
| TMJ | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | TMJ | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y |
| Other M Musc | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Other M Musc | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y |
| Non-mast | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Non-mast | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y |
| Temporalis | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | Temporalis | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> Y |
| Masseter | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Masseter | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y |
| TMJ | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | TMJ | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y |
| Other M Musc | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Other M Musc | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y |
| Non-mast | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y | | Non-mast | <input type="radio"/> N <input type="radio"/> Y | <input type="radio"/> N <input type="radio"/> Y |

6. TMJ Noises During Open & Close Movements

| | RIGHT TMJ | | | | | | | | | | |
|----------|-----------|-----|-------|-----|---------|------------------|------------------|-----|--|--|--|
| | Examiner | | | | Patient | Pain w/ Click | Familiar Pain | | | | |
| | Open | | Close | | | | | | | | |
| Click | (N) | (Y) | (N) | (Y) | (N) | (Y) | (N) | (Y) | | | |
| Crepitus | (N) | (Y) | (N) | (Y) | (N) | (Y) | | | | | |

| | LEFT TMJ | | | | | | | | | | |
|----------|----------|-----|-------|-----|---------|------------------|------------------|-----|--|--|--|
| | Examiner | | | | Patient | Pain w/ Click | Familiar Pain | | | | |
| | Open | | Close | | | | | | | | |
| Click | (N) | (Y) | (N) | (Y) | (N) | (Y) | (N) | (Y) | | | |
| Crepitus | (N) | (Y) | (N) | (Y) | (N) | (Y) | | | | | |

8. Joint Locking

| | RIGHT TMJ | | | | | | | |
|--------------------|-----------|-----------|-----|----------|-----|-----|--|--|
| | Locking | Reduction | | | | | | |
| | | Patient | | Examiner | | | | |
| While Opening | (N) | (Y) | (N) | (Y) | (N) | (Y) | | |
| Wide Open Position | (N) | (Y) | (N) | (Y) | (N) | (Y) | | |

| | LEFT TMJ | | | | | | | |
|--------------------|----------|-----------|-----|----------|-----|-----|--|--|
| | Locking | Reduction | | | | | | |
| | | Patient | | Examiner | | | | |
| While Opening | (N) | (Y) | (N) | (Y) | (N) | (Y) | | |
| Wide Open Position | (N) | (Y) | (N) | (Y) | (N) | (Y) | | |

Reduce to 3 examination steps for a combined examination of E4, E6, E8 with **1 out of 3 movements being a positive finding with no further movement required once positive identified**

9. Muscle & TMJ Pain with Palpation

| RIGHT SIDE | | | | | | | LEFT SIDE | | | | | | | | | | |
|----------------------------|------|---|---------------|---|-------------------|---|---------------|---|----------------------------|------|---------------|---------------|---------------|-------------------|---|---------------|---|
| (1 kg) | Pain | | Familiar Pain | | Familiar Headache | | Referred Pain | | (1 kg) | Pain | | Familiar Pain | | Familiar Headache | | Referred Pain | |
| | N | Y | N | Y | N | Y | N | Y | | N | Y | N | Y | N | Y | N | Y |
| Temporalis (posterior) | N | Y | N | Y | N | Y | N | Y | Temporalis (posterior) | N | Y | N | Y | N | Y | N | Y |
| Temporalis (middle) | N | Y | N | Y | N | Y | N | Y | Temporalis (middle) | N | Y | N | Y | N | Y | N | Y |
| Temporalis (anterior) | N | Y | N | Y | N | Y | N | Y | Temporalis (anterior) | N | Y | N | Y | N | Y | N | Y |
| Masseter (origin) | N | Y | N | Y | | | N | Y | Masseter (origin) | N | Y | N | Y | | | N | Y |
| Masseter (body) | N | Y | N | Y | | | N | Y | Masseter (body) | N | Y | N | Y | | | N | Y |
| Masseter (insertion) | N | Y | N | Y | | | N | Y | Masseter (insertion) | N | Y | N | Y | | | N | Y |
| TMJ | | | Familiar Pain | | Referred Pain | | | | | | Familiar Pain | | Referred Pain | | | | |
| Lateral pole (0.5 kg) | N | Y | N | Y | N | Y | N | Y | Lateral pole (0.5 kg) | N | Y | N | Y | N | Y | N | Y |
| Around lateral pole (1 kg) | N | Y | N | Y | N | Y | N | Y | Around lateral pole (1 kg) | N | Y | N | Y | N | Y | N | Y |

Remove reporting of palpation results from specified anatomical sub-sections of muscles (e.g. origin, body and insertion of masseter) as unnecessary level of detail for bDC/TMD diagnostic decision tree. **The protocol will specify to focus examination on anterior temporalis and body of masseter as initial sites to examine with palpation, and to extend beyond those areas as needed, but form only requires findings at the muscle level.** Remove supplemental muscles from examination as non-contributory to diagnostic decision tree currently in DC/TMD and therefore unnecessary for bDC/TMD

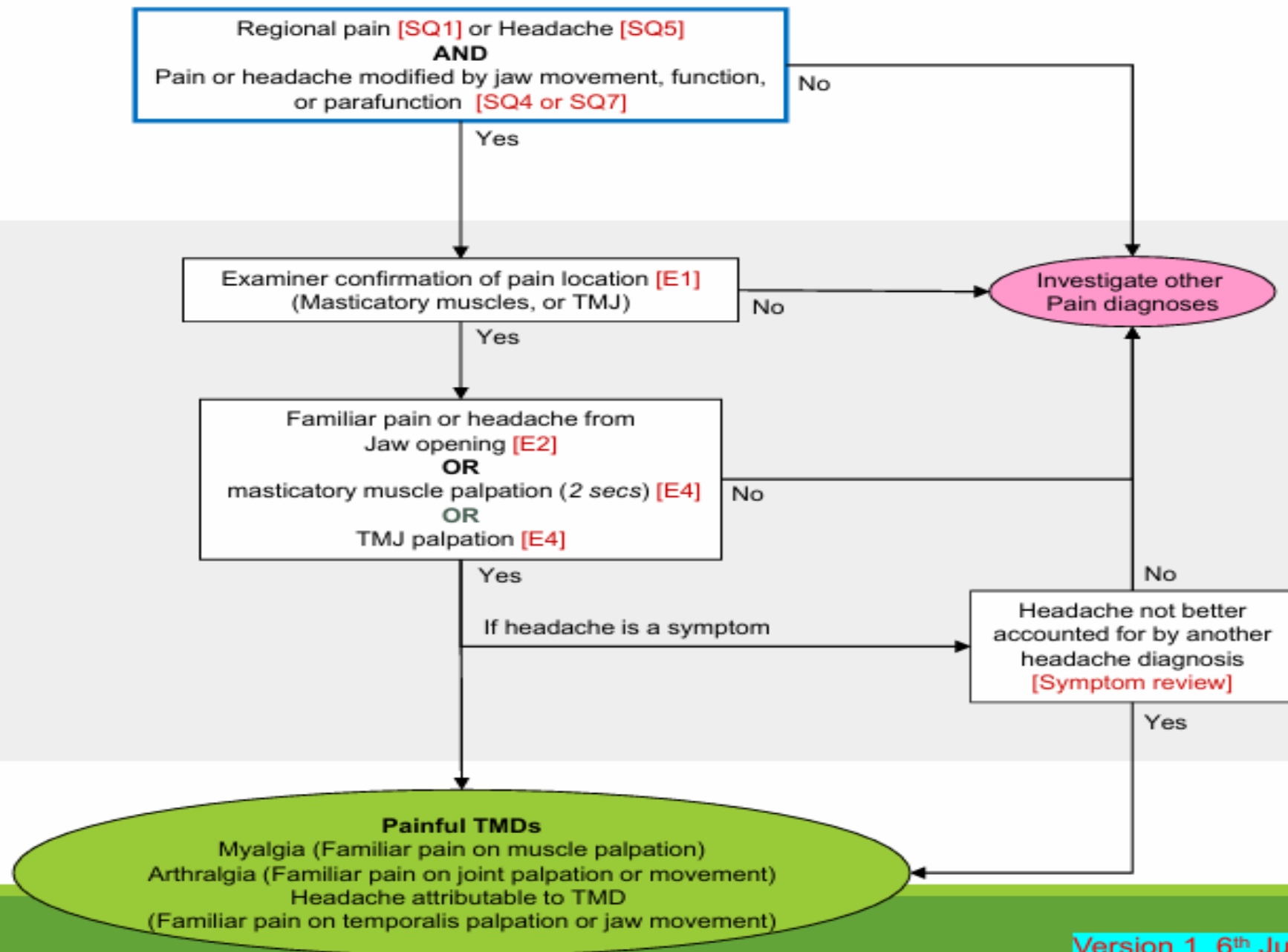
Painful TMDs: Myalgia, arthralgia and headache attributed to TMD

HISTORY

Start at each
blue-outline box

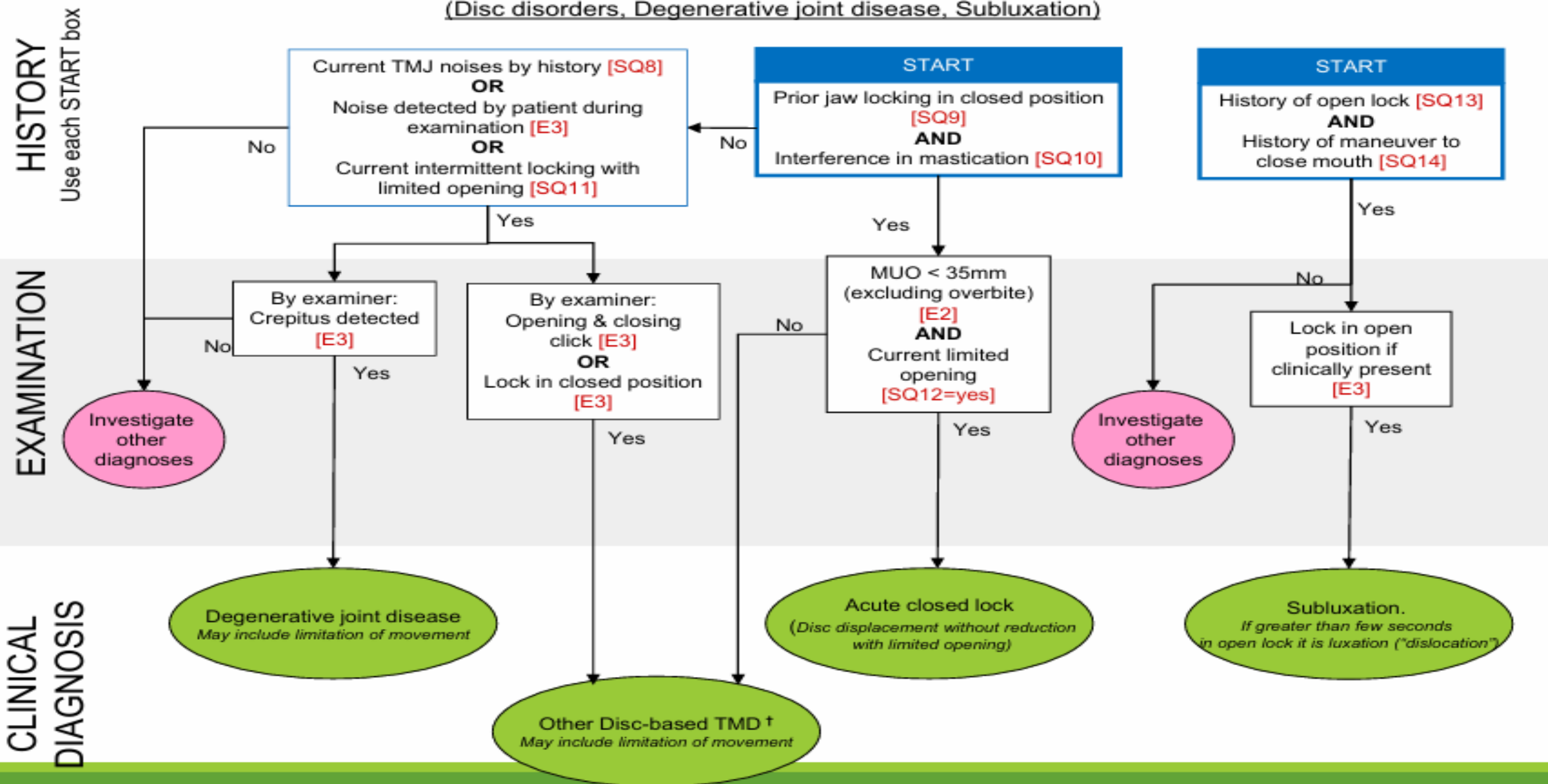
EXAMINATION

DIAGNOSIS



Common joint-related TMDs with implications for function

(Disc disorders, Degenerative joint disease, Subluxation)



†Imaging is not considered at this stage of evaluation, diagnosis, and initial treatment

REMEMBER YOUR AXIS-II

GRADED CHRONIC PAIN SCALE - 30 DAYS, PAIN MANIKAN, PATIENT HEALTH QUESTIONNAIRE

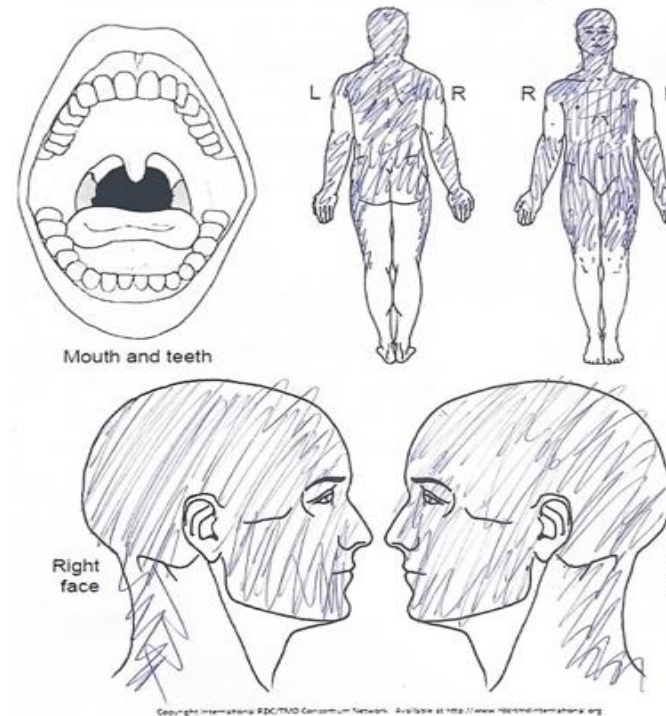
Self-report Section B – Graded Chronic Pain Scale – 30 days

| | | | | | | | | | | |
|---|---|---|---|---|--|---|---|---|---|----|
| 1. How would you rate your facial pain RIGHT NOW? | | | | | | | | | | |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| No pain | | | | | Pain as bad as could be | | | | | |
| 2. In the LAST 30 DAYS, how would you rate your WORST facial pain? | | | | | | | | | | |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| No pain | | | | | Pain as bad as could be | | | | | |
| 3. In the LAST 30 DAYS, ON AVERAGE, how would you rate your facial pain? | | | | | | | | | | |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| No pain | | | | | Pain as bad as could be | | | | | |
| $[(Q1+Q2+Q3)/3] \times 10 = \text{CPI} =$ | | | | | | | | | | |
| 4. In the LAST 30 DAYS, how much has facial pain interfered with your DAILY ACTIVITIES? | | | | | | | | | | |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| No interference | | | | | Unable to <u>carry</u> on any activities | | | | | |
| 5. In the LAST 30 DAYS, how much has facial pain interfered with your RECREATIONAL, SOCIAL AND FAMILY ACTIVITIES? | | | | | | | | | | |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| No interference | | | | | Unable to <u>carry</u> on any activities | | | | | |
| 6. In the LAST 30 DAYS, how much has facial pain interfered with your ABILITY TO WORK, including housework? | | | | | | | | | | |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| No interference | | | | | Unable to <u>carry</u> on any activities | | | | | |
| $[(Q4+Q5+Q6)/3] \times 10 = \text{Disability} =$ | | | | | | | | | | |

| Scoring | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|---|------|------|----|----|----|----|----------|----|----|----|--------|
| Interpretation of pain intensity (CPI) and interference | None | Mild | | | | | Moderate | | | | Severe |

PAIN DRAWING

Indicate the location of ALL of your different pains by shading in the area, using the diagrams that are most relevant. If there is an exact spot where the pain is located, indicate with a solid dot (•). If your pain moves from one location to another, use arrows to show the path.



Patient Health Questionnaire - 4

Over the last 2 weeks, how often have you been bothered by the following problems? Please place a check mark in the box to indicate your answer.

| | Not at all | Several days | More than half the days | Nearly every day |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| | 0 | 1 | 2 | 3 |
| 1. Feeling nervous, anxious or on edge | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Not being able to stop or control worrying | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Little interest or pleasure in doing things | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Feeling down, depressed, or hopeless | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

TOTAL SCORE =

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

| Not difficult at all | Somewhat difficult | Very difficult | Extremely difficult |
|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

3 Axis II Screening Tools:

- Pain Drawing (pain location)
- GCPS (pain intensity and disability)
- PHQ-4 (psychological distress)

TAKE HOME MESSAGE

- Temporomandibular Disorders (TMD) is a collective term
- TMD is caused by the combination of genetics, sensory processing, psychological and behavioural factors
- History of the pain patient develops 80% of the diagnosis
- DC/TMD is a reliable and standardized protocol for diagnosing TMD in specialist settings
- Brief DC/TMD has been developed to increase utility and expedite diagnosis in TMDs in non specialist general dental practice



THANK YOU!!

Ramesh Balasubramaniam OAM

DENT5310

Orofacial Pain and Dental Sleep Medicine Module

16th April 2026

