Management of painful Temporomandibular disorder in adults

NHS England Getting It Right First Time (GIRFT) and Royal College of Surgeons' Faculty of Dental Surgery.

Clinician Summary document

This summary document is aimed at practitioners as a reference aid to be used alongside the comprehensive guideline to support the care of individuals living with TMD.

Overview

- TMD are common, they affect up to 1 in 15 of the UK population.
- TMD consists of those of muscular origin (myogenous), joint or disc origin (arthrogenous), or a combination of myogenous and arthrogenous.
- TMD treated early with simple reversible management the majority will improve.
- Improvement may be resolution or more commonly by becoming intermittent and manageable.
- Myogenous TMD have a propensity to become persistent, lasting greater than 3 months.
- Arthrogenous TMD have a good prognosis and generally remain stable rather than progress.

Signs/symptoms [All of which should be explored thoroughly in history and examination]

Physical

- Pain (mild to moderate intensity) affecting TMJ, muscles of mastication (MOM) and supporting structures.
- Pain can radiate widely in the head, face and neck region.
- Joint noises (click, pop, crepitus)
- Ear pain (otalgia)
- Headache

Psychological and social

The multifactorial aetiology of TMD means that several biological, psychological and social factors are expected to interplay in individuals living with TMD. It is important to assess psychological and social factors that can increase the risk of symptomatic TMD becoming persistent. Signs and symptoms include stressful home or work life, impact of pain on mood, sleep, social activities and eating. Formative assessment of symptoms and impact of anxiety and depression is supported by PHQ4 assessment.

Comorbid conditions

There are several comorbidities consistently associated with persistent painful TMD that can be associated with a poorer prognostic outcome. Dentally trained clinicians are not expected to manage comorbidities but should be able to:

1. Identify and discuss comorbidities in an individual presenting with TMD through an appropriate history taking and consultation process
2. Initiate access to management for comorbidity through referral to appropriate service which patients' GPs may gate-keep.

Common comorbidities include: Fibromyalgia, myalgic encephalitis (ME) /chronic fatigue syndrome, depression, anxiety, post traumatic stress disorder, migraine, chronic tension type headache, irritable bowel syndrome, vulvodynia, interstitial cystitis/painful bladder syndrome, endometriosis, chronic lower back pain.

Red flags

TMD-like symptoms can have occult, mimicking neoplastic pathology, though this is rare (~1% cases). Red flags in history or examination however need prompt appropriate identification and management:

- History of previous malignant tumour with facial pain or headache
- Lymphadenopathy, face or neck mass/swelling
- Jaw claudication (Cramp like pain in tongue or jaw). Commonly presents with: Unilateral headache, flu-like symptoms, vision disturbances, inflammation of temporal artery, trismus.
- Unplanned weight loss
- Pyrexia (+/-) swelling and trismus
- Neurological signs/symptoms including acute onset: loss of smell or hearing, visual problems, motor or sensory change
- Nasal symptoms including: persistent and profuse bleeding or (purulent) discharge
- Acute onset of profound, or worsening, trismus
- Persistent hoarseness of the voice (≥3 weeks)
- Persistent mouth ulcer(s) (≥3 weeks)
- Occlusal changes
- New onset jaw pain in those taking bisphosphonates or related medication

Box 1: Template history for TMD

Complaint

[Can give suggestions for character of pain if patient struggling e.g. achey, throbby]

History of complaint (SOCRATEESS)

Site:

Onset:

Character:

Radiation/referral:

Associations with other symptoms:

- Joint noise Yes / No (provide detail if yes)
- Jaw lock – Open / Closed / None
- Headache associated: Yes / No (provide detail if yes)
- Ear symptoms: Yes / No (provide detail if yes)
- Other:

Time course:

[e.g. constant, intermittent]

Exacerbators/relievers:

Effects on everyday life?

Severity of pain out of 10 (10 worst imaginable):

Sleep – affected?

[e.g. woken from sleep or difficult to get to sleep with pain]

Psychological or social presenting factors?

[e.g., stressful work of home life, impact on mood or sleep?]

Any red flag signs or symptoms? Yes / No (Provide detail if yes)

Presence of comorbid conditions? Yes / No (Provide detail if yes)

Advised screening tools [Completed prior to entry into surgery for maximal efficiency]

1. 3Q/TMD: At baseline appointment to support diagnosis

Do you have pain in your temple, face, jaw, or jaw joint once a week or more?	**Score**
a. No b. Yes	**0** **1**
Do you have pain once a week or more when you open your mouth or chew?	
a. No b. Yes	**0** **1**
Does your jaw lock or become stuck once a week or more?	
a. No b. Yes	**0** **1**
Total Score = *≥1 point = positive screen for TMD,*	

2. PHQ-4: at baseline appointment to formally assess symptoms and impact of anxiety and depression

Over the past 2 weeks have you been bothered by these problems? Please tick **ONLY one box** for of the below questions	**Not at all** **0**	**Several days** **1**	**More than half of the days** **2**	**Nearly every day** **3**
1. Feeling nervous, anxious or on edge				
2. Not being able to stop or control worrying				
3. Feeling down, depressed, or hopeless				
4. Little interest or pleasure in doing things				
Total Score =	*Total score is determined by adding together the scored of each of the 4 items.* *Scores are rated as: Normal (0-2), Mild (3-5), Moderate (6-8), and severe (9-12)* *Total score ≥3 for first 2 questions suggests anxiety. Total score ≥3 for last 2 questions suggests depression*			

3. CPI: At baseline and subsequent follow up appointments to quantitatively assess pain intensity over time

1. How would you rate your mouth and or face pain on a 0 to 10 scale <u>AT THE PRESENT TIME</u>, that is right now, where 0 is "no pain" and 10 is "pain as bad as could be". *(Circle number)*

0	1	2	3	4	5	6	7	8	9	10
No pain										Pain as bad as it could be

2. In the <u>PAST MONTH</u>, how intense was your <u>WORST</u> mouth and or face pain? *(Circle number)*

0	1	2	3	4	5	6	7	8	9	10
No pain										Pain as bad as it could be

3. In the <u>PAST MONTH</u>, on AVERAGE, how intense was your mouth and or face pain? (That is, your usual pain at times you were experiencing pain.) *(Circle number)*

	0	1	2	3	4	5	6	7	8	9	10	
No pain												Pain as bad as it could be

Total Score:

CPI is calculated by summing the values from Q1-3 multiplying by 10 and dividing the product by 3

Examination [Must be person centred]

Physical examination should include:

- Visual examination of the extra-oral tissues of the face and neck
- Palpation to rule out lymphadenopathy or salivary gland masses
- Intraoral examination assessing for soft tissue pathology
- Clinical +/- radiological assessment of the dentition to rule out dental or periodontal pathology
- Assessment of cranial nerve function (at least facial and trigeminal nerves)
- Detailed assessment of TMJ
    - Palpation of lateral pole of TMJ
    - Mandibular motion (opening, closing, protrusion and lateral excursions) repeated 3 times
    - Assessment of joint noises (positive if reported by patient in last 30 days
    - Assessment of mandibular deviation on opening
    - Measure of inter-incisal opening, protrusion and lateral excursions (if restricted)
        - Normal values: Maximal inter incisal opening ≥35mm, Protrusion and lateral excursions (7-12mm)
- Detailed assessment of MOM
    - Masseter and temporalis examined from origin to insertion
    - Bimanual palpation where possible
    - Documentation of pain location, trigger points, radiation of pain

Key feature of examination is familiar pain i.e., pain which is representative of the individual's normal pain.

Diagnosis [To be provided at the earliest stage]

Broad group TMD diagnosis (table 1) is appropriate in the primary care setting (Myogenous, arthrogenous or combination)

Table 1: Defines broad group TMD diagnoses and common examination findings which support diagnosis

Myogenous	**Arthrogenous**
Pain at rest, with jaw movement or elicited by palpation	
Familiar pain when palpating MOM	**Familiar pain** when palpating or moving joint
+/- Restricted opening	+/- Restricted opening
	+/- Jaw lock (last 30 days)
	+/- Joint noise (last 30 days)
	+/- Deviation in opening
Pain modified with jaw movement, function, or parafunction	

Early secondary care referral/ Adjunctive medical referral

Early secondary care or adjunctive medical referral is advocated in a small number of clinical situations **Table 3**.

Table 3: Justification for early secondary care referral or adjunctive medical referral

Justification	Action and advised referral location
Any positive red flag sign/symptom in history of clinical examination	2 week-wait[1] (if appropriate) or urgent referral to secondary care
Young (<25 years old) AND Substantial decreased mouth opening (<25mm)	Urgent referral to maxillofacial surgery team for assessment and consideration of early unlocking manoeuvre +/- arthrocentesis.
Severe disc displacement without reduction (closed lock) affecting ability to maintain nutritional requirements.	Urgent referral to maxillofacial surgery team for assessment and consideration of early unlocking manoeuvre +/- arthrocentesis.
Severe arthrogenous TMD with: • CPI pain score >50 • Dietary restriction due to pain • Mouth opening <25mm • +/- skeletal and/or occlusal derangement (*e.g.,* AOB, retrognathia, asymmetry)	Early referral to maxillofacial surgery team for assessment and consideration of surgical management. Patient should be counselled that surgery is not appropriate in all cases and referral does not guarantee surgical management will be recommended.
Positive headache findings which do not appear to be related to TMD with no red flag features.	TMD management initiated in primary dental setting. Patient advised to discuss with GP should headache symptoms persist, information sharing letter to GP could be considered if appropriate. *See comprehensive guideline A**ppendix 2** for template letter*
Positive ear symptoms (pain, tinnitus, fullness) which do not appear to be related to TMD with no red flag features.	Non urgent referral to GP, requesting ear symptoms are explored comprehensively by medical team whilst TMD management initiated in primary dental setting. *See comprehensive guideline A**ppendix 3** for template letter*
Mental distress and suicidal ideation (See *comprehensive guideline* **Appendix 6**)	Urgent (same day) assessment with GP, local CRISIS team or Emergency Department acute mental health team. Primary care clinician should telephone to arrange urgent assessment and information share about disclosure. If concern about immediate risk to life and the patient is not present or leaves abruptly the clinician should contact 999 requesting police for immediate welfare check and should telephone GP (if they are not the GP) to information share about disclosure and ensure urgent follow up.
Positive OSA findings (*comprehensive guideline* **Box 2)**	Urgent written referral to GP to assess, diagnose and manage OSA. *See comprehensive guideline **Appendix 8** for template letter including STOP-BANG questionnaire*. AND The referring clinician in primary care should provide TMD diagnosis and initiate SSM and make arrangements for appropriate review.
PHQ4 score ≥ 9 *i.e.,* Severe anxiety and/or depression symptom score	Urgent written referral to GP to assess, diagnose and manage anxiety and/or depression. *See comprehensive guideline **Appendix 10** for template letter*. AND The referring clinician in primary care should provide TMD diagnosis and initiate SSM and make arrangements for appropriate review.
PHQ4 score 3-8 *i.e.,* mild-moderate anxiety and/or depression symptom score	Discuss score with patient, ask if further support with regards to anxiety or depression would be helpful and explain it isn't the cause of TMD but can make it worse and treatments can be more effective by managing both. If patients indicate that a psychological assessment would be helpful, consider advising them that they can search online and self-refer to their local NHS Talking Therapies for Anxiety and Depression service accessed through this link. With their permission write to inform their GP of this conversation. Alongside this TMD management should be initiated in primary care setting. *See comprehensive guideline **appendix 10** for template letter*

[1] At the time of writing the NHS is changing its cancer care pathways through the 'Faster Diagnosis Framework'. This will remove the 'two-week rule' from Oct 2023. This will include a 28-day diagnosis standard which indicates a patient with suspected cancer should have it ruled out or diagnosed within 28 days. The new pathway for suspected head and neck malignancy will likely therefore demand the same urgency of referral and bespoke pathway but its details are yet to be confirmed and may depend on local trust protocols. Clinicians are advised to check their local protocols but to remain aware that expedition of all parts of the patient's care journey to diagnosis is critical.

Management [Can utilize the entire clinical dental team]

This summary document outlines supported self-management strategies, the essential initial primary care management stage only. For appropriate adjunct management options for TMD see suggested care pathway (**Figure 1**) and consult the comprehensive guide.

As for any condition, clinicians should have an awareness of unconscious bias and its ability to impact on TMD treatment planning and management. Steps should be taken to ensure bias does not influence the opportunity or quality of care provided.

- Management should focus around reversible, non-invasive conservative care
- All individuals diagnosed with painful TMD (any sub diagnosis) should be actively involved in the development of a supported self-management (SSM) plan with their primary care practitioner.
- SSM plans should be regularly reviewed and adapted subject to changing pattern across course of individuals TMD.
- It is important to ensure that the individual understands that without full engagement with supported self-management there will be no foundation for the restoration of control over the signs and symptoms of TMD.

SSM should include the following core components, which will address immediate symptoms and pain exacerbations:

1. Diagnosis alongside education about condition and appropriate analgesic use
2. Self-exercise therapy
3. Thermal modalities
4. Self-massage therapy
5. Diet and nutrition
6. Parafunctional behavior

Recommended links for SSM individuals diagnosed with TMD can be signposted to

Newcastle Upon Tyne NHS Hospitals foundation Trust TMD resources: weblink **here**

QR code for self-physiotherapy, jaw exercise, thermal modalities, facial massage and TMD advice videos:

Temporomandibular joint association: https://tmj.org/

TMD, nutrition and you: http://tmj.org/wp-content/uploads/2020/08/TMJ_nutrition_Guide.pdf or click this link.

Orofacial pain UK: https://orofacialpain.org.uk/

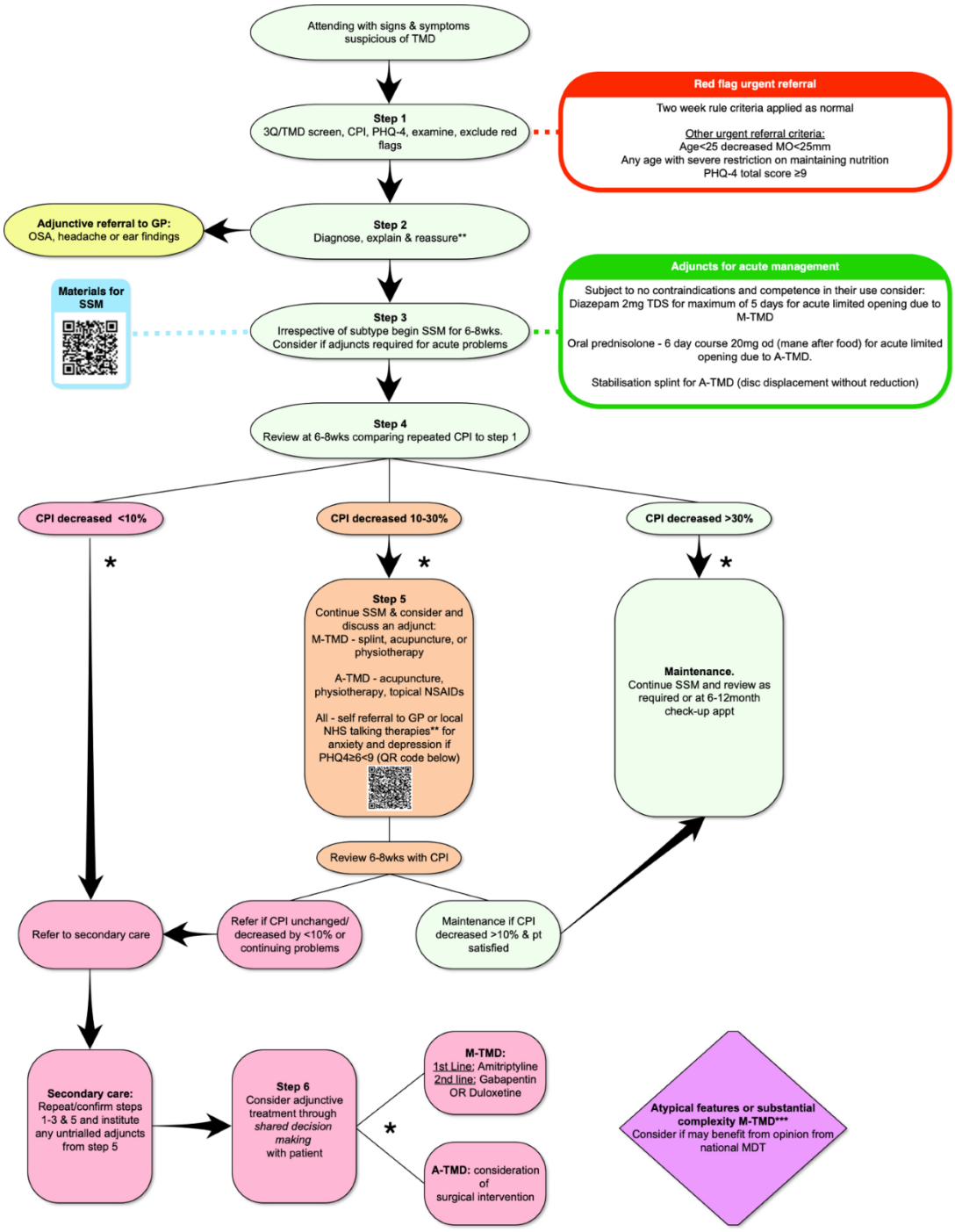
Live well with pain: https://livewellwithpain.co.uk/ Sleep well with pain leaflet available here.

The Leeds Teaching Hospital Trust/Leeds School of Dentistry Patient experience video: here.

Downloadable TMD patient pain manual discussed in patient experience above:
https://licensing.leeds.ac.uk/product/self-management-of-chronic-orofacial-pain-including-tmd

Association of Chartered Physiotherapists in Temporomandibular disorder: **here.**

Figure 1: The evidence-based care pathway for TMD management.



*If at any point the patient is comfortable and happy to move to maintenance there is no objective need to progress with further therapy and maintenance can be initiated

**Self-referral to GP if PHQ ≥6 <9 or to talking services for anxiety and depression which can be identified at: https://www.nhs.uk/mental-health/talking-therapies-medicine-treatments/talking-therapies-and-counselling/nhs-talking-therapies/

***Unfortunately following step 6 management options there is likely to be little further that can be offered. A national virtual MDT opinion may be appropriate when there is substantial complexity or comorbidity between a TMD and other conditions. This national MDT is currently being established and contact details are to follow.

Care pathway acronyms: Three question TMD screener (**3Q/TMD**); Arthrogenous TMD (**A-TMD**); Characteristic pain intensity (**CPI**); Mane (**in the morning**); Mouth opening (**MO**); Myogenous TMD (**M-TMD**); Once daily (**OD**); Obstructive sleep apnea (**OSA**); Patient health questionnaire 4 (**PHQ4**); Supported self-management (**SSM)**