# Management of temporomandibular disorders **(TMDs)**

## Bulletin

INTRODUCTION

Temporomandibular disorders (TMDs) are the most common cause of facial pain. They are the third most common cause of chronic pain after headache and lower back pain[1]. The majority of TMDs can be managed with early non-invasive therapy and advice (68-95% success rate)[2]. Many patients will improve over a period of months with little or no treatment[3]. It is the recommendation of the guidance produced by the Royal College of Surgeons' of England with respect to TMD that initial management in primary care is appropriate for a significant number of cases[2]. This recommendation is also reflected in the NICE Clinical Knowledge Summary (CKS) for TMDs[4]. In general, TMDs, like other chronic pain conditions, are fluctuating conditions that can improve and then recur.

COMMON SYMPTOMS

- Temporomandibular joint (TMJ) noises
- Pain arising from the TMJ and/or muscles of mastication
- Pain on opening wide
- Limited mandibular movement
- Jaw locking

COMMON SIGNS

- TMJ crepitus/clicking on examination
- Tenderness over the TMJ
- Tenderness in the muscles of mastication
- Pain on opening wide
- Reduced mouth opening

DIAGNOSIS

TMDs are a group of musculoskeletal disorders that affect the jaw joint, muscles of mastication and other supporting tissues. Examination and diagnosis of the specific temporomandibular disorder in question should ideally be based on the **"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"** [5].

If required, simpler diagnostic information can be found in "Temporomandibular Disorders (TMDs): an update and management guidance for primary care from the UK Specialist Interest Group in Orofacial Pain and TMDs (USOT)"[2] and the NICE Clinical Knowledge Summary (CKS) for TMDs[4].

DIFFERENTIAL DIAGNOSES TO CONSIDER

- TMD
- Other causes of headaches
- Other causes of facial pain (e.g. trigeminal neuralgia)
- Widespread pain conditions
- Giant cell arteritis (GCA)
- ENT Pathology
- Serious intracranial pathology
- Malignancy

Management of temporomandibular disorders (TMDs). NHS Tayside Bulletin.
Version 1, May 2020, M.Dobson, E.Theaker, G.Ghaly
Oral Medicine and Oral & Maxillofacial Surgery Departments.

Red Flag signs and symptoms → Urgent referral to secondary care

| **Red Flag signs and symptoms** |
|---|
| Headache symptoms suggesting **secondary headache** |
| **Painless trismus** |
| Suspicious **intra oral lesion** |
| **Opening less than 30mm** with one of the following[6]:<br><br>- Opening less than 15mm<br>- Progressively worsening trismus<br>- Absence of history of clicking<br>- Pain of non – myofascial origin<br>- Enlarged lymph nodes<br>- Suspicious intra oral lesion |
| **Cranial nerve dysfunction** |
| History of **head and neck cancer** |
| **Mass** in head and neck region |
| **Lymphadenopathy** |
| **ENT** symptoms including;<br><br>- Nose bleeds<br>- Loss of smell<br>- Nasal obstruction/purulent discharge<br>- Loss of hearing |
| Signs of **giant cell arteritis**<br><br>- Jaw claudication<br>- Headache<br>- Scalp tenderness (particularly enlarged, tender temporal arteries)<br>- Raised erythrocyte sedimentation rate (ESR) / plasma viscosity (PV)<br>- Ocular symptoms |

The above table has been based on tables found in the TMD guidance produced by the Royal College of Surgeons' of England[2] and a paper written by Pemberton et al., on the topic of trismus and malignanc

**OTHER REFERRALS**

Note: the following should be referred and discussed with ORAL & MAXILLOFACIAL SURGERY immediately;

- Suspected mandibular/condylar fractures
- Luxation: an "open lock" where the disc-condyle complex is positioned anterior to the articular eminence and needs the assistance of a clinician to reduce the dislocation

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**Flow chart for General Dental Practitioners (GDPs)**

**Signs and symptoms suggestive of TMD**
**e.g. Jaw pain, joint sounds, trismus and locking**

**Look for Red flag signs and symptoms**

YES → Urgent referral to appropriate secondary care specialty:
- Suspected OMF pathology, refer urgently to OMFS.
- Suspected ENT pathology, liaise with GMP to arrange urgent ENT referral.

If giant cell arteritis suspected liaise with general medical practitioner (GMP) immediately.

NO

Diagnosis/Differential diagnosis made using **International RDC/TMD Consortium Network and Orofacial Pain Special Interest Group** Diagnostic criteria[5].

**Acute TMD**
E.g. Disc displacement without reduction

**Initial Management**

- Consider 5-day course of diazepam (if not otherwise contraindicated) as per SDCEP Guidance[2]
- Patient education Re diagnosis
- Jaw rest
- Soft diet
- Cold pack application to TMJ
- Postural jaw exercises (if patient can tolerate this)

**Review in 2 weeks, and if no improvement then refer to secondary care**

**See later for OMFS/Oral Medicine referral criteria**

**Non Acute TMD**
Three common groups:
1. Muscle disorder e.g. Myofascial pain
2. Internal derangement of disc
3. Degenerative joint disease

(see above diagnostic criteria for further details).

**Initial Management**

-Patient education on diagnosis

**Stage 1 - Initial self-management and home physiotherapy**

-Jaw rest
-Soft diet
-Heat pack application
-Postural jaw exercises
-Relaxation, stress management and mindfulness

**Stage 2**

- NSAIDs (topical or short course of systemic) +/- paracetamol (if not otherwise contraindicated). May require liaising with GMP.
-Consider soft lower bite raising appliance, particularly if evidence of parafunction.
- Physiotherapy referral, if available, by liaising with GMP (direct manipulation of jaw should be avoided).

**Review in 2-3 months and if no improvement (chronic TMD) then refer to secondary care.**

**See later for OMFS/Oral Medicine referral criteria**

**Complicating Factors**

- Unclear diagnosis
- Multiple unsuccessful treatments
- Psychological distress
- Hyperawareness of occlusion
- Chronic widespread pain
- Persistent disc displacement without reduction

**Consider referral to secondary care**

**See later for OMFS/Oral Medicine referral criteria**

# TMD Referral Criteria

ORAL MEDICINE

- Unclear facial pain diagnosis
- Myalgia/myofascial pain/headache attributed to TMD not responding to conservative measures.
- Disc displacement with reduction +/- intermittent locking, giving rise to significant symptoms* and not responding to conservative measures.

ORAL & MAXILLOFACIAL SURGERY

- Suspected/confirmed disc displacement without reduction
- Pain from suspected/confirmed degenerative changes that is not responding to conservative measures

*"Joint noises may be sporadic, and may occur in up to 50% of asymptomatic people who do not have a TMD"[2].

## Patient Resources

https://www.baoms.org.uk/patients/conditions/4/jaw_joint_problems

Initial self-management and home physiotherapy advice patient information leaflet – see below (direct extract from TMD guidance produced by the Royal College of Surgeons' of England[2]).

# Initial self-management and home physiotherapy advice

Direct extract from TMD guidance produced by the Royal College of Surgeons' of England[2].

## Figure 2 - Self care programme and home physiotherapy

Adapted and taken from Clark 2008, Micehlotti et al 2005, Nicolakis et al 2002, Wright 1995, Wright 2009 [46, 47, 117-119].

### Changes to daily living and habits:

- Avoid caffeine as this is a stimulant and likely to increase stress and cause muscle tension
- Give yourself time to perform self-care exercises and relaxation techniques throughout every day
- When experiencing pain in the muscles or around the joint adapt your diet and take a softer diet with the consistency of foods such as pasta, omelettes etc
- Do not chew gum, pen tops, pencils, nails etc as these habits will all stress your chewing system.
- Apart from when you are eating your teeth should be apart.
- Examine your posture and try and maintain your head up and shoulders back. Examine your usual positions during the day for instance working at a desk and ensure that they are ergonomic.

### Practice diaphragmatic breathing to aid relaxation.

When first starting to learn how to perform this type of breathing it is easiest to practice it whilst lying down in a dimly lit room without distractions. Concentrate on taking deep slow breaths in through your nose and feeling your chest inflate with your hands on your stomach. Your hands will move inwards and slightly upwards if you are doing it correctly. Once you master the breathing there is no absolute need to lie down or be in a dimly lit room, you can just use the technique for five minutes every two hours to aid relaxation and whenever you start to feel tension or stress develop through the working day.

### Simple self-physiotherapeutic techniques

### Apply moist heat or ice to affected muscles.

Usually applied to Temporalis and masseter.

A warm moist flannel wrapped around a proprietary heat pack or warm hot water bottle will provide moist heat. Apply for 15-20minutes twice daily to the affected muscles. You can then go onto performing the prescribed exercises; if you have limited opening it will be beneficial to apply moist heat prior to your stretching exercises.

Ice can be applied to affected muscles using an ice pack wrapped in a tea towel placed onto the skin overlying the affected muscle until the muscle feels frozen and numb (usually within 5-10 minutes of application of covered ice pack).

### Isometric tension exercises.

Place the back of your hand under your lower jaw and provide gentle resistance upwards as you try to open. Try and open against this resistance and hold your opening against this resistance for five-six seconds (one set). Complete five-six sets up to four times a day

### Coordination training

- Practice opening straight in the mirror and use a hand lightly on either side of your face to gently guide you to straight opening if you are moving off to one side. Do this in a slow, controlled manner over five-six seconds (one set). Complete five-six sets up to four times a day
- Practice the retrusive position of your jaw. Open normally and then curl your tongue to the top and back of your mouth. You should feel your jaw move backwards slightly. Keeping your tongue in this position close in a slow controlled manner over five-six seconds (one set). Complete five-six sets up to four times a day.

## References


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2. Durham J, Aggarwal V, Davies S, Harrison SD, Jagger RG, Lesson R, Lloyd R, Thayer T, Underhill H, Wassell RW, Zakrzewska JM, Begley A, Loescher AR, Murhpy E, McMillan R, Renton R. Temporomandibular Disorders (TMDs): an update and management guidance for primary care from the UK Specialist Interest Group in Orofacial Pain and TMDs (USOT). The Royal College of Surgeons of England, Faculty of Dental Surgery. 2013.
3. Commissioning guide: Temporomandibular joint disorders. The Royal College of Surgeons of England, Professional Clinical Standards. 2014.
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5. Schiffman E, Ohrbach R, Truelove E, Look J, Anderson G, Goulet JP, List T, Svensson P, Gonzalez Y, Lobbezoo F, Michelotti A, Brooks SL, Ceusters W, Drangsholt M, Ettlin D, Gaul C, Goldberg LJ, Haythornthwaite JA, Hollender L, Jensen R, John MT, De Laat A, de Leeuw R, Maixner W, van der Meulen M, Murray GM, Nixdorf DR, Palla S, Petersson A, Pionchon P, Smith B, Visscher CM, Zakrzewska J, Dworkin SF; International RDC/TMD Consortium Network, International association for Dental Research; Orofacial Pain Special Interest Group, International Association for the Study of Pain. 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 Groupdagger. J Oral Facial Pain Headache. 2014; *28*, 6-27.
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## Other resources for healthcare professionals

BMJ Learning Module "Temporomandibular disorders". https://learning.bmj.com/learning/module-intro/.html?locale=en_GB&moduleId=10052850&searchTerm=%E2%80%9Ccommunicating%E2%80%9D&page=6