# RECOMMENDATIONS FOR EXAMINATION, DIAGNOSIS, MANAGEMENT OF PATIENTS WITH TEMPOROMANDIBULAR DISORDERS AND OROFACIAL PAIN BY THE GENERAL DENTAL PRACTITIONER

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The Council of the European Academy of Craniomandibular Disorders charged the Educational Committee with the task to establish Guidelines and Recommendations for the examination, diagnosis and management of patients with temporomandibular disorders and orofacial pain by the general dental practitioner. It was not the purpose to present a thorough and critical review of the vast amount of literature available but to summarize the, at present, generally accepted clinical approach. These recommendations are based as much as possible on scientific evidence and on sound clinical judgment in case of only partial evidence or in case of contradictory data found.

## INTRODUCTION

This document describes recommendations for the general dental practitioner (GDP) taking care of patients suffering from temporomandibular disorders (TMD) and/or orofacial pain (OFP). They should be considered in assessment, diagnosis, management, and prognosis. The GDP has to decide and justify care to be applied according to pathology of each individual patient. The recommendations are based on current published data. Because the etiological factors of TMDs and the relative efficacy of the different therapeutic modalities for TMDs are not well established yet, the practitioner should be careful in the selection of assessment techniques and in the choice of therapeutic

modalities. Irreversible therapeutic methods should not be considered before irreversible measures.
The following recommendations do not act as quality warrant of the care provided by the individual general dental practitioner. In this respect, the competences of the GDP are more directive than these recommendations, which are written as a “patient-centered” rather than “clinician-centered” approach. Assessment, diagnosis and management are discussed respectively in the following sections. The majority of patients consulting the GDP belong to a different population than those referred to specialized clinics. Referred patient populations are mostly characterized by chronicity, comorbidity and complexity. Patients consulting the GDP for TMDs/OFP are in general less complex. Therefore the GDP has a more important role in diagnosis and management than normally assumed. The general dental practitioner has to decide when to treat or when to refer. These recommendations were written to help the GDP working in daily practice. TMDs are one of many orofacial pain conditions. In this publication they are defined as ‘a collective term, embracing a number of clinical conditions that involve the masticatory musculature, the temporomandibular joints (TMJs) and associated structures, or both’ (Okeson, 1995)

## I. SCREENING

In order to detect the presence of a TMD, it is recommended that a routine screening protocol is used. The screening protocol can include the following 4 (mostly validated) questions:
1. Do you have pain when you open your mouth wide or chew once a week or more ?
2. Do you have pain in your temples, face, temporomandibular joint or jaws once a week or more ? (Nilsson et al.2006)
3. Have you lately registered that the jaw is locked or that you cant open wide ?
4. Do you have often headache more than once a week ? A positive answer can be an indication to refer the patient first to a neurologist.

If the patient replies “yes” to one of the 4 questions, a more thorough history taking and assessment may be indicated.

# II. ASSESSMENT

The main goal of the assessment is to gather information in order to be able to establish a **"**working diagnosis". This goal is achieved by a thorough history and examination. This can rule out disorders with signs and symptoms similar to TMDs/OFP, such as dental, periodontal, mucosal disorders, other pain conditions, neoplasms, growth disturbances and systemic disorders. A flowchart (fig 1) can help in this phase of the examination.

The clinician must determine
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- the main reason for consulting and the chief complaints
- the general medical, dental and psycho-social history; this should include questions about general pain patterns and include more specifically questions about cervical pain and dysfunction (de Wijer et al, 1996), medication, as well as complementary and alternative medicine (De Bar et al, 2003)
- detailed history of orofacial pain and dysfunction (location, pattern, type, severity, frequency, aggravation, relief, impact on activity daily life,)
- expectations of the patient and the relatives with regard to the complaints
- therapy lready received for the problem including outcome

**Basic documentation** includes:

- assessment of the contributing factors involved, and their grading
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- extra-oral inspection: asymmetries, posture, scars
- intra-oral inspection and examination including occlusal characteristics,
- radiographs of teeth and jaws (panoramic radiograph complemented with peri-apical radiographs and /or bite wings)
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- physical examination of the masticatory system
- an empathic attitude in history taking, in combination with a validated checklist (Axis II evaluation). Such a checklist can help to assess the role of psychosocial factors and inform the patient as to the role of such factors and to make the patient to decide on a referral to a clinical psychologist or psychotherapist,

knowledgeable in these conditions (team approach) (Dworkin & Leresche, 1992).

To establish an individual working diagnosis the following additional investigations and considerations should be taken into account in specific cases and conditions. This recommendation also applies when the patient is referred to a specialist:

- Additional imaging techniques, such as CT and/or MRI, if fractures, tumors and other hard or soft tissue lesions are suspected (AAORM, 1997). For each case the most reliable method should be chosen; if in rare cases (e.g. claustrophobia) this is not possible, an invasive technique as arthrography can be considered.
- Magnetic resonance imaging to confirm suspected disc displacement is not recommended in the initial assessment phase.
- Arthroscopy if inflammatory and/or adhesions are suspected preferably done by a surgeon or specialist in TMDs.
- A patient with chronic pain should be referred to a multidisciplinary pain clinic, knowing that management strategies in chronic TMDs/OFP conditions are different from acute and subacute TMDs/OFP.
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- Clinical examination of occlusion: some occlusal characteristics are considered as potential risk factors for development of TMD symptoms (De Boever et al, 2000). Attention should be given to: cross bite (Seligman & Pullinger, 2000; class II occlusion and overjet (Henrikson et al, 2002; large CO-CR discrepancy (Pullinger & Seligman 2000). Anterior occlusal wear and its progression in relation to age, is to some extent a potential risk factor and should be documented (Seligman & Pullinger, 2002; Carlsson et al, 2002, Pullinger & Seligman, 2006). However, in these models etiology per se has not been studied. There is at present no evidence for preventive strategies in this respect.
  There are indications that loss of posterior support may be a contributing factor for TMJ pain (Ciancanglini et al, 1999; Ciancanglini et al, 2003; Sarita et al, 2003; Seedorf et al, 2004). Dental status and the location and number of tooth contacts in maximum intercuspation should be noted.

- In planning occlusal treatment and in the fabrication of occlusal splints, the articulator has a practical clinical value in reducing valuable chair time when inserting the splint
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- There is no evidence that occlusal analysis of models mounted on an articulator in combination with registration of mandibular movements has diagnostic value for TMD/OFP diagnosis (Türp,2003).

- Jaw tracking devices have a low diagnostic additional value because of the biological variation in the function of the stomatognathic system, fluctuations in time and because of the inherent mechanical factors involved in the clinical use of the instruments (Morneburg and Pröschel, 1998; Bernard et al, 1999; Naeije et al, 1999; Kordass, 2002); Gallo et al, 2006). Some tracking devices have today a high reliability. However, the clinical usefulness today is doubtful.

- Clinical assessment of
- parafunctions (e.g. bruxism being a risk factor for masticatory muscle pain (Huang et al, 2002; Velly et al, 2003) is based on the history and on assessment of occlusal wear because additional reliable clinical tests are not yet available. Tongue scalloping and cheek ridging can be an indication for oral habits and parafunctions. Another possible indication for bruxism are non-carious cervical lesions called abfractions (Rees & Jagger, 2003). Therefore attrition and abfractions should be included in the dental assessment. Bruxism has to be differentiated from dental erosion, to be tested through a.o. food diaries and saliva analysis.
- in clinical conditions in which sleep disorders influence the patients quality of life, sleep laboratory tests are indicated and to be discussed with the appropriate specialist (snoring, sleep apnea and bruxism).
- If the temporomandibular condition is part of a generalized disease, no additional laboratory tests should be prescribed by the dental practitioner, but the patient should be referred via the general medical practitioner to the appropriate specialist (e.g. ENT-specialist, rheumatologist, neurologist).

- In cases of suspected concomitant neck/shoulder complaints referral to a physiotherapist is advised (de Wijer et al, 1998).

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- If assessment does not establish a working diagnosis, the patient should not be treated but referred.

- The referral should be in writing, preferably using standard referral documents.

## III. DIAGNOSIS

Pain has been defined as “an unpleasant sensory and emotional experience associated with actual or potential damage or described in terms of such damage” (IASP, 1979). Orofacial pain can be characterized as nociceptive or neuropathic. Other important differentiations are acute versus chronic pain and benign versus malignant pain. In this document the pain conditions discussed are nociceptive, rather than neuropathic. Nociceptive pain can be concomitant with neuropathic pain. It can be difficult to distinguish between the two types of pain condition. The use of a validated list may be useful (Bouhassira et al, 2005). Details and implications are not within the scope of this document. Any clinician should be knowledgeable as to these differences regarding diagnosis and management, and regarding the difference between site and source of the pain (Okeson 1995, 2006).

History taking, physical examination and, where appropriate, imaging should lead to a working diagnosis differentiating between specific and nonspecific disorders, localized and generalized forms, myogenous pain, arthrogenous pain and a combination of both and concomitant pain as odontalgia, joint and muscle pain outside the head (Türp et al, 1998) . Psycho-social factors and their impact on daily life should be assessed as well. After having excluded specific disorders, the GDP can classify the non-specific conditions based on clinical criteria as indicated in table 1.

A diagnosis has to be established taking into account all individual aspects gathered by the assessment.
Physical complaints such as bodily pains can exist without a definable source. Psychiatric disease may play a role in these cases, necessitating the help of an expert. Beyond these possibilities, pain may exist without any explanation (fig 1). The dentist (within the dental competencies) is the expert in using diagnostic injections to exclude dental sources for orofacial pains, one of the major pitfalls in diagnosis.

## IV. THERAPEUTIC MODALITIES

Therapy must
not start without a (working) diagnosis. If the practitioner cannot arrive at a (working) diagnosis, if the complaints have a mainly neuropathic origin or the pain is chronic, the patient should be referred to a colleague who is knowledgeable in the domain of TMDs/OFP. The clinician needs to find a balance between therapeutic modalities that focus on the active participation of the patient (patient centered) and more passive modalities as wearing a stabilization splint. In general, individualized therapy is not based on the etiology of the TMD condition, since it is not well known (Greene, 2001). Management is directed by the presented symptoms, their course and influencing factors. Patient education existing of explanation of the condition, reassurance and advice on use and abuse of the masticatory system in broad sense are part of the non-active patient-centered approach.
Because of the clinical results of a conservative, non-invasive approach consisting of a combination of different clinical “tools”, this approach is often indicated. Studies show favorable results with a reversible approach for the myogenous TMDs and for the arthrogenous TMDs also in case of disk displacements without reduction (Mongini et al, 1996; Ekberg & Nilner, 2002; Ekberg et al, 2002; Magnusson et al, 2002).
It has been shown that combined therapeutic approaches in general are more successful than single therapeutic approaches. (Kurita et al, 1997).
It is recommended that more complex TMD conditions are managed

using combinations of single therapies (Vallon et al, 1998; Turk 1997; Sherman & Turk, 2001; Gardea et al, 2001, Schiffman & Gross, 2001). Cost-effectiveness studies may direct the use of different therapeutic strategies, because the differences in outcome between therapies are small.

IV a. Patient education

Information, explanation and reassurance at the first visit and in later phases of management is extremely important to increase the compliance of the patient. Counseling is effective in lowering symptom severity and the anxiety of the patients (De Boever et al, 1996). Counseling should be oriented towards the specific complaints and should address the cognition of the patient and the relatives. It should go beyond general statements.
Counseling consists of:

- explaining the pain pathology and dysfunction in the particular patient
- explaining the co-factors involved (psychosocial and behavioral aspects, general diseases)
- indicate and explain the important fluctuation in the symptoms
- explaining the “burn-out” characteristic of the arthrogenous symptoms. Degenerative TM disorders have a favorable long term prognosis (De Leeuw et al. 1994, 1995) with regard to mandibular function.
- making the patient aware of his responsibilities in the therapeutic process (compliance, motivation, coping)
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- evaluation
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- discussing the management goals with the patient
- prognosis

IV b. Pharmacological therapy

The first step in the therapy of patients with pain and dysfunction is pain management, because patients contact when they suffer most. The dental practitioner should be aware of the differences between the pharmacological therapeutic modalities in acute versus chronic pain patients. The patient should receive adequate prescriptions mainly to control pain (around the clock). A follow-up visit is part of this approach.

Contact with the family doctor can be helpful in case of multiple medications. In modern pain control concepts although not yet well documented, it is advised to prevent pain become chronic a.o. by prescribing pain medication in early stages (Axelsson et al, 2005).
Few controlled studies have been published on the efficacy of different types of drugs in TMD management (Sommer, 2002; de Leeuw, 2005).
The more complicated and complex drugs indicated for neuropathic pain conditions should be prescribed by the general physician of the patient and /or the dental specialist, especially if laboratory tests are indicated to check for systemic effects (Dionne, 1997). The use of complementary medicine (herbs, homeopathy etc.) cannot be recommended because of the paucity of data and the possibility of harmful side effects (Ernst 2004, Raphael 2003).
The use of newly developed and recommended pharmacological therapeutic modalities is discouraged until studies prove the efficacy in the management of orofacial pain (e.g. botulinum toxin) (Freud et al, 2000).

## III c. Occlusal appliances

Occlusal appliances (stabilization splint, Michigan splint) may be indicated at the start of therapy in myogenous and arthrogenous TMDs.
Their use should always be accompanied by patient education. The splint should cover the whole arch. The splint should be worn only during the night and have a minimal increase of vertical dimension. Cuspid protection is advocated because it is technically easier. The most important aspect is to provide stability to the jaws. The splint should be checked on stability on a regular basis. Although the lack of evidence as to its efficacy is still subject of ongoing debate and research, many clinical studies show that the occlusal appliance is clinically very successful in pain reduction.
Mandibular repositioning with the goal to recapture the disk is not supported by strong evidence; minor repositioning (< 1 mm, short term maximum 6-8 weeks, weekly evaluation) may be helpful in loud painful clicks (proven to be due to anterior disc displacements with reduction) that do not react to other modalities and are causing major limitation of the activities in daily life. The mandibular repositioning splint may reduce the clicking and pain with disc displacement (Davies & Gray, 1997; Santacatterina A. et al. 1998).
Semi-permanent anterior disc displacement causing intermittent locking of the TMJ, if treated with splints, may need repositioning, based on the

same principle. Pivot-type splints are not recommended because they do not provide better clinical results than full coverage appliances.
The appliance is constructed in hard acrylic. Soft acrylic appliances are sometimes recommended in children (Ingerslev, 1983). If used on a long term basis, the general dental practitioner can do the follow-up of the stabilization appliance at the regular dental checks. The patient should be instructed to visit the GDP in case of any perceived occlusal change, especially if longer periods of wearing a splint are indicated, and to bring the splint along on each dental visit.

IV d. Physiotherapy

The global aims of physiotherapy management are to alleviate patients' pain, reverse the dysfunction and restore optimal muscle and joint function, posture and activities of daily living to prevent recurrent episodes. Within this management, patients are provided with precise and relevant exercise and lifestyle strategies to assist them with effective, preventive self-management, including home exercises, self-massage, habit-reversal techniques, relaxation and oral instruction.
All systems may require active management and physiotherapy embraces the following therapies: i.a. manipulative therapy, exercise therapy, massage therapy, re-education, and ergonomic, and lifestyle advices, the application of electrophysical agents and other physical aids as required. The therapy is focussed on the relevant items regarding the physical examination process like posture, neuromotorcontrol and stress management, muscle and joint system in the orofacial, cervico-thoracic spine and shouldergirdle area. For many conditions, clinical practice guidelines are systematically developed to assist the practitioner. Studies have shown that physiotherapy can be as effective as other therapies (Townsen et al, 2001; Michelotti et al, 2004, 2005; Mc Neely et al 2006; Medlicott et al, 2006).

IV e. Behavioral and psychological management

It is recommended that behavioral, cognitive behavioral and psychological therapy should be part of the total treatment because of the role of psychosocial factors (Axis II) in the multifactorial etiology of TMDs (Dworkin et al, 2002; Turner et al, 2006). It is recommended to refer the patients for psychological evaluation and if indicated for

therapy. The dentist must know the limitations of exploring psychosocial factors.
Habit reversal techniques using biofeedback proved efficient in lowering the general tension of the patient (Crider & Glaros, 1999). In patients with chronic pain, the management strategy must take into account the coping styles and locus of control.

IV f. Arthrocentesis

Inflammatory diseases of the TMJs should be treated with medication, occlusal appliances, and physiotherapy. In case of unsuccessful outcome at 12-16 weeks, arthrocentesis of the joints may be performed (Emshoff et al, 2000) with a high long term success rate in cases of internal derangement (Carvajal & Laskin, 2000). However, the same results may be obtained with less invasive methods as physical therapy (Kropmans et al, 1999).
In case of loud and painful clicking of the TMJ, arthrocentesis may be indicated in the initial therapeutic phase (Projectgroep Musculoskelettale Stoornissen, 2002).

## V Other therapeutic modalities.

The following therapeutic modalities may be indicated in selected patients (see below). The GDP should realize that these modalities lead to irreversible changes in some parts of the stomatognathic system.

V a. Occlusal therapy

After reduction of pain and normalization of the functional movements, gross occlusal interferences (e.g. as a result of migration) may be removed to provide the patient with occlusal stability between the jaws. Very few studies have investigated the therapeutic outcome of occlusal equilibration only. Occlusal adjustment only should not be used as single therapeutic modality and not at the start of therapy (De Boever et al, 2000). Exceptions may be gross interferences preventing proper tooth contact, not the result of inflammation and/or myogenous TMDs. Although therapeutic outcome may be similar to other non-invasive modalities, and cost-effectiveness is superior to other modalities, the risk of introducing occlusal awareness cannot be excluded.

Recent literature reviews do not support the use of systematic occlusal adjustment (Forsell et al, 1999, 2004; Tsukyama et al, 2001; Koh & Robinson, 2003)

V b. Prosthetic reconstructions

Prosthetic reconstruction to replace missing teeth is not useful in the prevention of TMDs. In the management of TMDs it should only be considered in the final phase after remission of the symptoms of pain and dysfunction. In case prosthetic reconstructions are planned from a restorative point of view, the subjective therapeutic need has to be taken into account. Extensive prosthetic rehabilitations are putting stress to the system because of the long treatment sessions, and are not always advisable. If prosthetic treatment is considered and planned in TMD patients, it should be kept as simple and as least invasive as possible (Plesh and Stohler ,1992; Türp and Strub, 1996).
Missing teeth can be replaced in case of pronounced arthrosis the TMJs in generalized or local joint pathology of unknown origin to avoid overload. The scientific basis to substantiate this approach is small (Hagag et al, 2000; De Boever et al, 2002). In case of a developing open bite, a stabilization splint that covers only the non occluding teeth may provide orthopedic stability. The use of composite materials can be taken into considerations as well. Before starting restoration, the origin of the occlusal change, as well as its course, must be established.

V c . Orthodontic therapy

Patients should not be treated orthodontically in order to prevent or treat TMDs (Mohlin & Kurol, 2003). Psychosocial and aesthetic reasons are dominating factors indicating orthodontic treatment. Also, patients who have undergone orthodontic treatment have no higher risk to develop TMD (Kim et al, 2002; Egermark et al, 2003). Adaptation to morphological changes is higher in younger patients.
If pain symptoms occur during orthodontic treatment, therapy should slow down or halt but not be interrupted (Henrikson et al, 1999). Because a clinical decision has to be taken, the structured decision making program as described by Collett & Stohler (1994) can be very useful and recommended for daily practice.

After pain and dysfunction subside, orthodontic therapy might be indicated to stabilize the occlusion. Recent studies do not show a correlation between TMDs and crossbites with or without a forced lateral bite (Farella, et al. 2006).

V d. Joint surgery/ orthognathic surgery

After relief of pain, patients should be informed that orthognathic surgery may be indicated in cases
of pronounced forms of malocclusion. This information should include the effects, benefits and risks. There are studies indicating that orthognatic surgery results in better chewing ability (van den Braber et al, 2005 ) and does not lead to an increase in TMD symptoms (De Boever et al, 1994; Egermark et al, 2000, Farella et. al. 2006). However, in case of pre-existing TMJ dysfunction, orthognathic surgery may also lead to worsening of the symptoms (Wolford et al, 2003). Management of pain and dysfunction before surgery is mandatory. After surgery, there is a risk for a progressive condylar resorption in women with a mandibular angle > 37 degrees and pre-existing dorsally migrated condyle. (Hoppenreijs et al, 1998).
There is no evidence for the use of hyaluronate injections into the TMJs (Shiz et al, 2003). However, a restricted number of intra-articular injections of corticosteroides by an expert in case of TMJ to inflammation is well-documented and recommended in acute phases (Wenneberg et al, 1991). The effect of intramuscular injections is not well-documented in the literature.

Open joint surgery is indicated in very few cases of failure of interocclusal splint therapy combined with medication, counseling, and physiotherapy failed after two years. Continuing pain or limitation are regarded as main indication for a failure of non surgical therapy (consensus report TMJ symposium, March 22nd, 1985 Cologne). Only if the lasting complaints have a major impact in daily functioning, leading to a major handicap and severe disability, open joint surgery can be discussed. The oral surgeon should be convinced that the postoperative results will improve the condition.

V g. Arthroscopic surgery

Arthroscopy is done in very rare cases in the management of TMDs and preferably not carried out by the general practitioner. Because of the complexity and the need for extended clinical skills, this procedure should be performed by an experienced surgeon only. In case of adhesions, it may serve to improve mobility of the TMJs (Schiffman et al, 2007).

## VI. Children and adolescents.

The prevalence of therapy for TMD and OP in children and adolescents (Nilsson et al 2005, List et al 1999) have been found to be around 7 %. From puberty girls more often than boys report these kinds of disturbances but the fluctuations in time (Wänman and Agerberg 1986) make a conservative treatment approach recommendable.

In a prospective study TMD symptoms and signs were registered in three parallel groups one with Class II malocclusion treated orthodontically, one with Class II malocclusion without orthodontics and one group with normal occlusion. TMJ clicking increased over time, although of less frequency in the normal group. The normal group had a lower frequency overall of TMD. TMD fluctuated substantially over time with no predictable pattern. The large fluctuation over time again leads us to suggest a conservative approach for therapy of TMDs in children and adolescents (Henriksson and Nilner 2006).

Therapeutic modalities reported in the literature are information, relaxation therapy, occlusal appliances (Wahlund et al 2003) and they have shown acceptable results. When all teeth except for the the third molar are fully erupted at the age of 13, a stabilisation appliance can be recommended as a part of the management. Other types of therapeutic modalities (e.g. exercises for the lower jaw, biofeedback) have been presented (Sheppar & Nilner, 1993).

## CONCLUSIONS.

In assessment, diagnosis and management of TMDs/OFP, some aspects are not convincingly scientifically proven. In daily practice, this may result in a dilemma between TMD signs and symptoms, and the treatment need and demand (Mohl & Ohrbach, 1992). In general the management should be prudent and well considered (Stohler & Zarb, 1999)

Patients with TMD of myogenous and arthrogenous origin can be successfully managed using conservative non-invasive methods by the general dental practitioner (Sundqvist et al, 2003). However, they should be additionally trained in diagnostics, differential diagnosis and in planning a tailored and patient-centered therapy. Because of the multifactorial aetiology, different from patient to patient, different therapeutic approaches should be used in seemingly similar cases. Studies have convincingly shown that a combined therapeutic approach leads to more favorable results than a single approach. It is important that the general practitioner treats these patients because up to 5% of the population is demanding thearpy for pain and dysfunction of the orofacial region. The general dental practitioner should also be aware of her/his limitations and refer to TMD specialist or other relevant medical specialist in case of psychological components, neuropathic pain or pronounced chronicity.
The guidelines for the general practitioner should urge the practitioner to do additional reading and to keep up with the fast evolution of science.
These recommendations should be reviewed and adapted on a regular basis.

## REFERENCES

This list of references is not exhaustive but serves as a guide for further reading by the general practitioner. The authors have give a great effort to base these recommendations on recent evidence, although through the nature of this text and its accomplishment does not exclude publication bias. Of the cited studies not all do represent the same level of evidence (Nilner, 2004).

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## About the recommendations

The authors are members of the Educational Committee of the EACD. They are in alphabetical order but contributed equally in the discussions and the final draft of the manuscript. The guidelines were submitted to the General Assembly of the EACD and accepted during the meeting September 28th 2007.

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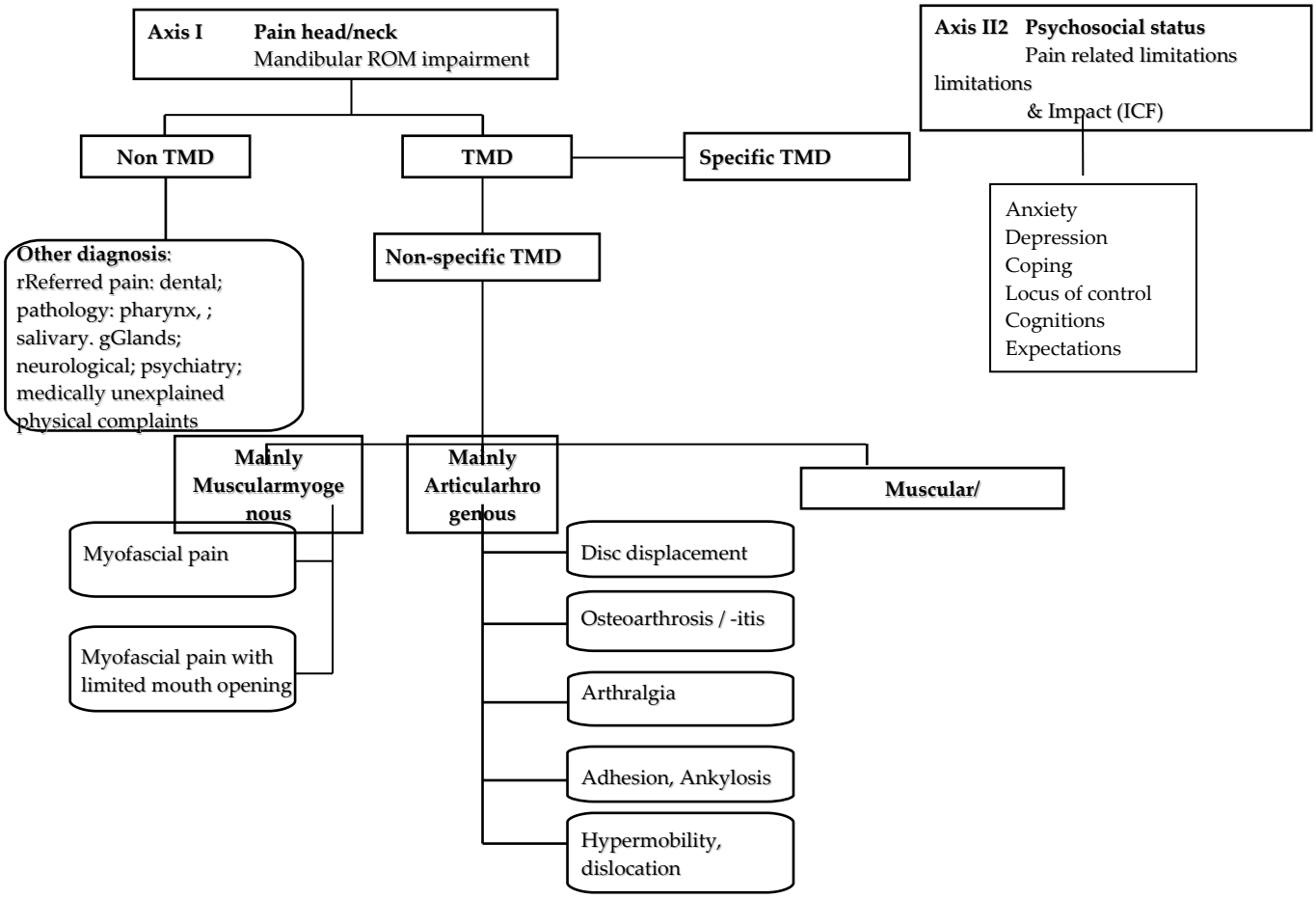
Table 1: common and uncommon diagnoses in the stomatognatic system

| **Common TMD diagnoses** | **Uncommon TMD diagnoses or systemic diseases in TM JOINTS** and in the **MUSCULATURE** | |
|---|---|---|
| Myofascial pain<br>Disk displacements<br>Arthralgia, Arthritis, Arthroses | Congenital disturbances<br>(hyperplasia, hypoplasia, aplasia)<br>Reumatoid arthritis<br>Psoriatric arthritis<br>Pelvospondylitis (Bechterew)<br>Systematic lupus erythematosus<br>Luxation<br>Ankylosis<br>Neoplasm | Fibromyalgia<br>Whiplash |

Fig 1. Flowchart of the diagnostic process in patients with orofacial pain and temporomandibular disorders.
Axis 1 represents the physical conditions. Non TMD: other conditions presenting pain in the head and the neck and mandibular range of motion (ROM) limitations. SpecificTMD: conditions with a known substratum e.g. neoplasms, growth disturbances, systemic disease. Non specific TMD's: conditions related to overloading or trauma, surpassing the capacity for adaptation. Generally divided into muscular and articular subgroups.
Axis II represents psychosocial factors increasingly important when chronicity plays a more prominent role. If appropriate, a comprehensive history, taking into account the role as a doctor interested in the background of patients and the impact of the complaints on the activities of daily life is considered the best first approach. Instruments like SCL 90, MFIQ can be used by those knowledgeable with the interpretation and consequences for management. Referral to a medical psychologist

can be considered on the basis of the resulting finding, knowing the limitations of the dental competencies.


Axis I Pain head/neck
Mandibular ROM impairment
Axis II2 Psychosocial status
Pain related limitations
limitations
& Impact (ICF)
Non TMD
TMD
Specific TMD
Anxiety
Depression
Coping
Locus of control
Cognitions
Expectations
Other diagnosis:
rReferred pain: dental;
pathology: pharynx, ;
salivary. gGlands;
neurological; psychiatry;
medically unexplained
physical complaints
Non-specific TMD
Mainly Muscularmyogenous
Mainly Articularhrogenous
Muscular/
Myofascial pain
Myofascial pain with limited mouth opening
Disc displacement
Osteoarthrosis / -itis
Arthralgia
Adhesion, Ankylosis
Hypermobility, dislocation