

Chapter 1

About the Book

About temporomandibular disorders: what is a 'TMD'?

The term 'temporomandibular disorders' (TMD) covers a constellation of conditions. There have been many attempts to categorise these conditions but all have shortfalls. Some classify by anatomy, some by aetiology, and some by frequency of presentation. We should be aware, however, that there is considerable overlap in any classification system because these are often not clinically appropriate. No one system, therefore, satisfies all the criteria.

TMD affect the articulatory system, consisting of the temporomandibular joints, mandibular muscles, and the occlusion.

Any factor that has an effect on one part of the system is likely to influence other parts of the system, so it is important to avoid tunnel vision when considering possible signs and symptoms of a TMD.

As a dentist in practice, you will inevitably encounter patients with symptoms of a TMD, who may present with facial pain, earache, toothache, jaw joint sounds, or limited movement.

It is estimated that between 50% and 70% of the population will at some stage in their life exhibit some sign of a TMD. This may be subclinical and the patient might not relate the signs to a jaw problem.

In about 20%, these signs will develop into symptoms, which implies that the patient will take notice of hitherto ignored signs, and about 5% of the population will seek treatment. This will happen if the symptoms become intrusive in day-to-day life. It is important for you, as a dentist, to identify these patients and recognise their particular needs and treatment requirements.

The patient may attend complaining of toothache because their natural assumption would be that a tooth was causing the problem, but your role as a clinician is to diagnose the actual cause of the symptoms.

A patient presenting with a TMD may have symptoms, in any combination, which might include preauricular or facial pain, restriction or alteration of the range of mandibular movement, muscle pain that is worse with function, localised jaw joint pain, jaw joint sounds such as clicking or crepitation, unexplained tooth sensitivity, tooth or restoration fracture, and chronic daily headache. You must be able to diagnose what is and what is not appropriate for you to treat.

All treatment should be evidence-based. Numerous treatments, either on their own or in combination, have been proposed in accordance with various aetiological theories of TMD. A wide range of pharmacological, occlusal alteration, psychotherapeutic, and physiotherapeutic treatments have also been suggested for the management of TMD, mainly aimed at the reduction of pain and improving the range of movement.

This is possibly the area of most contention in TMD management. Several treatments have been proposed which are not evidence- or scientifically based and when the literature is critically evaluated it is obvious they have little rationale. It is not sufficient to argue that if a treatment modality is published in a journal, which may not be subject to peer review, be un-refereed, or is accessible through the Internet, then it is validated. The dentist has a responsibility only to prescribe treatment for patients that has a proven therapeutic value and ignorance of currently accepted views of what a reasonable body of dentists would do is not an excuse.

All TMD managements and treatments discussed in this second edition of the book are based, as much as possible, on scientific evidence and on sound clinical judgment in cases where only partial evidence or contradictory data were found.

About the book

In modern dental schools, there is a shift from traditional teaching to more interactive methods. In classical didactic textbooks, readers are frequently seen as passive recipients of information, without any engagement in the learning process. Problem-based learning increases the effectiveness of delivering information and makes learning a more memorable experience for the reader.



A green flag denotes a positive pathway and suggests that the reader should follow this train of thought.



A red flag signals caution and suggests that the reader should think hard about this aspect of diagnosis, investigation, or treatment.



The 'information' symbol indicates a passage of text that imparts fact(s) that should be remembered.

Assessment of knowledge is by a link to online self-assessment multiple-choice questions, which are marked correct or incorrect, and by short answer questions at the end of the book to which answers are not given because the reader needs to research the topic in the text.



The 'S' symbol (with a number) indicates a link to the flowcharts which can be found at the end of the book in Appendix I.

Chapter 2: Clinical aspects of anatomy, function, pathology, and classification

This chapter deals with the need for a basic understanding of the normal anatomy, physiology, and pathology of the temporomandibular joint and mandibular muscles, which is essential not only for an understanding of the disease processes involved in TMDs but also for an appreciation of treatment objectives.

Chapter 3: Articulatory system examination

This chapter discusses clinical examination and is indispensable! It outlines an easy yet comprehensive examination routine that should be employed for all your patients, not just those with a TMD.

Chapter 4: I've got 'TMJ'

This chapter illustrates a classic history of a common TMD in a patient who thinks that she knows best. This highlights the importance of critical evaluation of the information (baggage) that a patient might bring to the consultation.

Chapter 5: I've got a clicking joint

This represents the most common condition about which you will be asked. Does a click need treatment? This raises your awareness of the need for treatment and the different treatment options for a commonplace complaint.

Chapter 6: I've got a locking joint

Joint locking can be acute or long-standing. Intervention is often necessary, but how and when? The various options are discussed, as is their practical relevance. We explore the range of options from 'doing nothing' to 'surgery'.

Chapter 7: I've got a grating joint

Degenerative joint disease in the temporomandibular joint is very different from disease in the hip. Nature has a part to play, but we can intervene to make life more tolerable for the person with the condition. Learn about the cyclical nature of this condition and its ramifications.

Chapter 8: You've changed my bite

The possibility of introducing iatrogenic changes to a patient's bite is quite real and can have immediate consequences. Avoidance of the problem is the best approach but to do this you must be aware of the potential pitfalls in restorative care.

Chapter 9: I've got pain in my face

Differential diagnosis is often a complex procedure but must not be avoided. You must avoid tunnel vision and keep an open mind about a patient's complaint no matter how badly explained or difficult to follow. Facial pain is a minefield of potential diagnoses and must be approached logically.

Chapter 10: I've got a dislocated jaw

Although true dislocation is rare, immediate action gives your patient (and you) the best chance of resolving the problem. Learn how to differentiate dislocation from other conditions and how to manage the acute case.

Chapter 11: My teeth are worn

Management of tooth surface loss is a complex treatment, but some straightforward rules will help in diagnosis of the cause, monitoring of the situation, and its management.

Chapter 12: I've got a headache

Headache is a very complex condition even to diagnose. The relationship of headache to TMD is explored, as is the role of the dentist in treating patients whose primary complaint is headache.

Chapter 13: I've got whiplash

Nowadays litigation, especially in relation to road traffic accidents, is commonplace. TMD can be caused by a 'whiplash-type' injury. Make sure that your examination of such a patient is comprehensive and that you are able to produce the necessary records on demand. Be aware that a TMD can become apparent immediately after an accident as well as becoming evident some time later.

Chapter 14: What's of use to me in practice?

You must be aware of what is available and useful in general practice. There is little point in a costly treatment plan being developed if the patient cannot afford it. Similarly provision of a splint that you know your patient will not wear is pointless. This gives guidelines towards accessing the best treatment for your patient and when to employ it.

Chapter 15: You and the lawyer

Litigation is never too far away! Although you should not practise 'litigation dentistry' because this is not in your patient's best interests, you should be aware of the common pitfalls. Above all else maintain good records and good communication, and do not over-reach your abilities.

Chapter 16: The referral letter

A good referral letter is of great help to the specialist. A poor referral letter is a waste of everyone's time and can, on occasion, be embarrassing for all.

Chapter 17: How to make a splint

This is a 'how-to-do' chapter. It is important for you to know what the technician does from impression taking to delivering the splint back to you ready for insertion and fitting. The patient will often ask about this and appreciate an explanation.

Chapter 18: Bruxism: Current knowledge of aetiology and management

This chapter deals with the most updated information about the postulated theories of aetiology and management of bruxism. New definitions and outcomes of recent international consensus are always discussed.

Chapter 19: Splint therapy for the management of TMD patients: An evidence-based approach

The effectiveness of splint therapy for the management of TMD and Bruxism have been discussed in this chapter. The results of the most updated randomized controlled trials and systematic review have been discussed.

Chapter 20: Patient information

This chapter contains general patient information, in template form, that you might like to use for imparting patient advice when appropriate.

Appendix I: Flowcharts

This chapter contains 13 flowcharts which summarise some essential concepts in the management of a TMD. A reference for each relevant chart has been indicated in the text.

Appendix II: Glossary of terms

This is more of a dictionary of terms than merely a glossary of terms used in this book. This provides the reader with a 'TMD and occlusion' dictionary.

This chapter identifies the relevant terms from the glossary of prosthodontic terms published regularly in the *Journal of Prosthetic Dentistry*. Additional terms are added from the book *A Clinical Guide to Temporomandibular Disorders*, BDJ Publications, 1997.

Appendix III: Short answer questions

This chapter includes short answer questions for the reader to practise. The knowledge gained from reading this book will enable the reader to answer these questions effectively.

There is a unique link to an online interactive multiple-choice question (MCQ) site at www.wiley.com/go/al-ani/temporomandibular-disorders-2e. This quiz aims to test your knowledge of TMD and to make reading this book more enjoyable, stimulating, and productive.