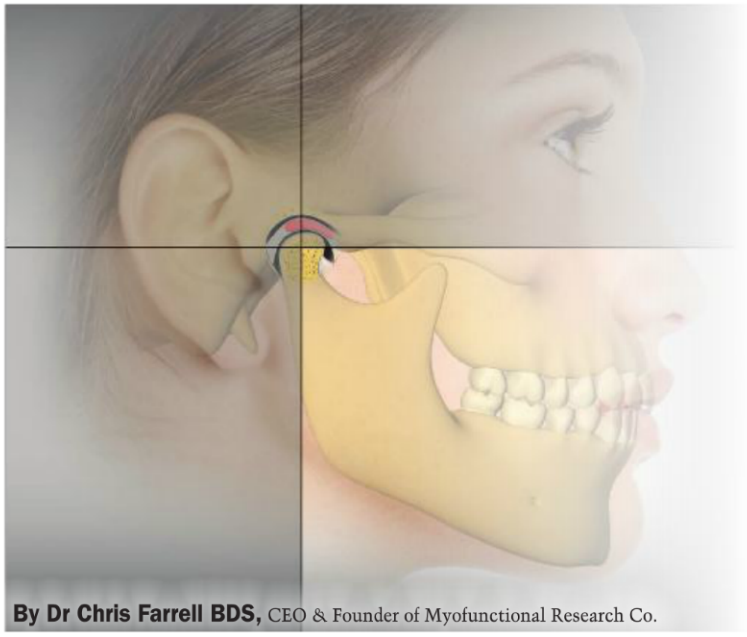
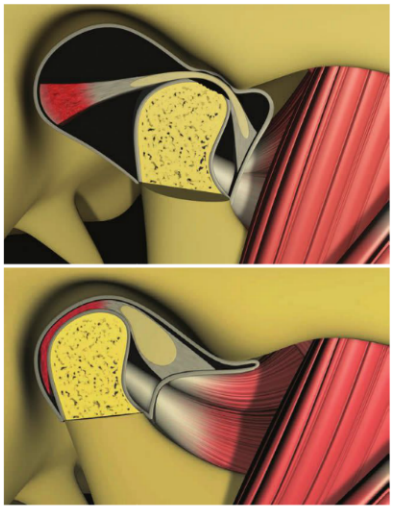
TMJ DIAGNOSIS AND TREATMENT
Is there a black hole in our education?



By Dr Chris Farrell BDS, CEO & Founder of Myofunctional Research Co.

A certain means of sparking lively exchange between dental practitioners is to raise the topic of Temporomandibular Joint Disorder (TMJ/D). Opinions regarding the causes of TMJ/D are varied, but aside from offering a nightguard to prevent bruxing or a referral to a prosthodontist, treating the multifactorial causes of the widespread disorder remains a grey area for the profession. While the dental profession identified the syndrome more than eight decades ago, graduates finished their education with a greater understanding of TMJ/D 50 years ago when compared to today's new dental practitioners, who are taught very little on the topic. Fortunately for the estimated 35% of the population who experience painful symptoms caused by TMJ/D, in much the same way dental professionals are beginning to play a role in their patient's overall health and wellbeing via a new focus in sleep dentistry, the dental profession is well-equipped to begin diagnosing and treating TMJ/D.

One hurdle for the profession to overcome is a better understanding of the multiple factors, rather than single condition, causing the TMJ/D symptom complex. Because these factors are poorly understood and there is disagreement regarding their relative importance as well as a general lack of evidence for any particular treatment, there is no widely accepted treatment protocol. In fact, often dentists who have treated the condition in any comprehensive way, taking in the widespread medical symptoms and successfully treating them, have been viewed by other professionals as practicing on the fringe of the profession. However, treating ear pain, burning tongue sensation as well as head and neck pain are well within the scope of practice. Therefore, in the same way sleep dentistry is opening avenues for dental practitioners to collaborate with others in the medical profession and provide wide-ranging health benefits for their patients, treating TMJ/D offers similar opportunities.



Sleep Dentistry (MADs) and retraction Orthodontics (Class II elastics) causing TMJ damage.

Costen's Syndrome

Collaboration between dental practitioners and other medical professionals is not without precedent. Based on the work of ENT specialist Dr J. B. Costen, in the early part of last century, dental students did receive education regarding the widespread symptoms and treatment of TMJ disorder. In 1959, well-known University of Sydney lecturer Prof. George Wing (MDS) penned an article titled The status of Costen's Syndrome published in the Australian Dental Journal. Dr Wing wrote:

"As is well known, Costen's Syndrome is a set of symptoms associated with disturbed function of the temporomandibular joint.

This syndrome which received formal status in 1934, following observations made by Costen, has as its basis a disturbed function of the temporomandibular joint, following loss of molar support with an associated increased overbite and decreased vertical dimension, producing abnormal ear and head conditions.

Whether or not there is a specific syndrome as described by Costen is being debated. Nevertheless, it is inarguable that derangements in the oral cavity, especially in the occlusion, may lead to mechanical and neurologic symptoms and signs. It is the recognition of the relationship, rather than the specific terminology which is of cardinal importance." (1)

98 Australian Dental Journal

The status of Costen's Syndrome

George Wing, M.D.S. (Syd.).

Lecturer in Dentistry, The University of Sydney

Introduction

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The symptoms as laid down by Costen[1] are:

(i) Impaired hearing.
(ii) A "stuffy" sensation in the ears.
(iii) Tinnitus (low basal and a snapping noise when chewing.
(iv) Dull pain in and about the ears.
(v) Mild dizziness.
(vi) Alleged sinus symptoms consisting of a severe and constant headache, localized to the vertex, occiput and behind the ears. This increases towards the end of the day.
(vii) A burning sensation in the throat, tongue and the side of the nose.

Costen originally based his observations on eleven cases of overclosure of the vertical dimension in which there was a vast improvement following the restoration of the correct vertical dimension and the patency of the eustachian tubes.

Costen illustrated causes of the condition as the following observations:

(i) Lack of molar teeth permitting an increased overbite.
(ii) Mild catarrhal deafness, improved at once by inflation of the eustachian tubes.
(iii) Dizzy spells relieved by inflation of the eustachian tubes.
(iv) Tenderness of the temporomandibular joints to palpation.
(v) Marked comfort to the patient on the insertion of a flat object between the teeth to prevent complete closure of the teeth.
(vi) The presence of a typical headache when sinus or eye involvement has been ruled out, or corrected.

Costen regarded the symptoms found in the syndrome as being caused by overclosure of the vertical dimension, and he regarded the production of these symptoms as having a sound anatomical basis.

Many recent workers, and in particular Sicher,[2][3] Zimmerman,[4] Christensen[5] do not agree that the production of the symptoms is as visualized by Costen.

Chavasikis and Langley[6] say, "Whether or not there is a specific syndrome as described by Costen is being debated. Nevertheless it is inarguable that derangements in the oral cavity, especially in the occlusion, may lead to mechanical and neurologic symptoms and signs. It is the recognition of the relationship, rather than a specific terminology which is of cardinal importance."

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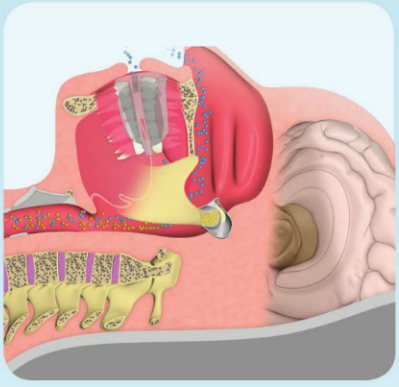

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Therefore, while an interest in or focus on treating TMJ/D is considered outside of the mainstream in today's professional climate, it was certainly a well-taught topic at established universities during the last century and students received sound basics in TMJ diagnosis and treatment. This raises the question of how it came to be all but ignored in contemporary undergraduate training, to the point that for today's dental trainees, TMJ diagnosis and treatment has become steeped in mystery and complexities.

Virtually every dental procedure from restorative, to prosthetics and orthodontics as well as nowadays sleep dentistry, can negatively affect the function of the temporomandibular joints. The use of headgear and class II elastics for correction of Class I malocclusion is still a common practice and retraction orthodontics, which retract the TMJ into a pathological position, remains the norm for class II correction. The mandibular advancement devices used to treat sleep disordered breathing by many dentists rushing to take advantage of the opportunities emerging in the 'sleep dentistry' field also place the TMJs into a pathological position. While potentially increasing practice revenue, these appliances retract the maxilla and in time exacerbate SDB and TMJ problems.

With the co-morbidity of malocclusion, SDB and TMJ disorder it would seem mandatory to ensure orthodontic practitioners and sleep dentists have certifiable knowledge regarding TMJ disorder. When considering the estimated 35% of the population suffering from TMJ disorder with a wide range of symptoms that can be easily screened and treated by the dental professional, it makes sense that the muscles of the cranio-mandibular complex and jaw joints, which allow the masticatory system to function, be given as much attention as the teeth.

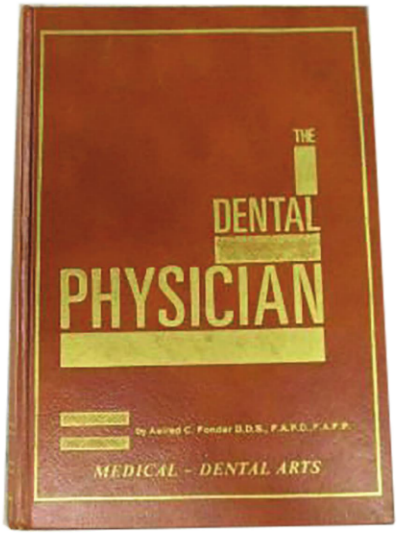
In the preface to his 1977 book The Dental Physician, Aelred C. Fonder wrote:

"The present work grows out of a conviction that the dentist is far more than a dental technician or dental surgeon. He (she) is, in fact, a member of the medical profession whose particular specialty is the oral cavity and the structures related to it. His work has implications for the entire biological unit, and, indeed, for the totality of the patient, psyche as well as soma. It is a definite conclusion that excessive stress of dental origin produces a pattern of far reaching effects. The dental distress resulting from malocclusion, neuromuscular imbalance, and craniomandibular disorders greatly differs from almost all other stressors affecting the human body, in that it is a constant, unrelenting stress, always operable until the dentist intervenes." (2)

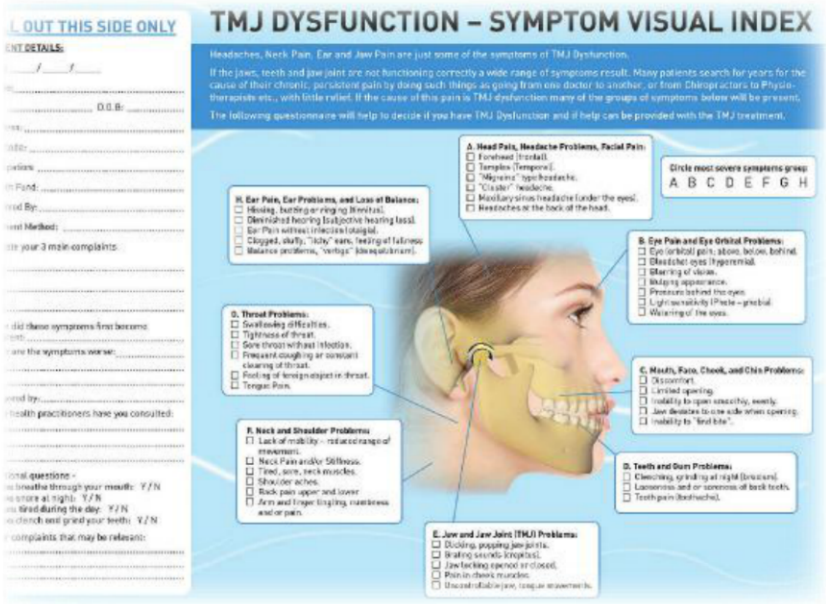
And in the introduction to Fonder's book, legendry orthodontist Robert M. Ricketts DDS wrote:

"How far should the dentist (or orthodontist) go? The goal is not just satisfactory occlusion from a mechanical relationship, but health and freedom from disease. His goal is not just pleasing aesthetics but comfort and freedom from aggravation and subtle disturbances, which prey on the nervous system." (3)

To advance beyond solely offering mechanical treatments for the teeth and begin providing far-reaching health benefits for their future patients, graduating orthodontists of today should be provided with a grasp on health-oriented approaches to treating the entire masticatory system, including the muscles of the cranio-mandibular complex and jaw joints. For modern dental graduates to become more complete specialists of the oral cavity and its related structures, the mystique shrouding TMJ disorder must be removed and a better understanding of the aetiology, diagnosis and treatment, including immediate symptom relief as well as restoration of correct function, gained.



I intend to write more in-depth regarding the aetiology, diagnosis and treatment (immediate symptom relief and restoration of correct function) in further articles and I also recommend the reader to seek out a comprehensive TMJ course such as those offered by Dr Steve Olmos. However, asking questions of your existing patients, particularly those who have experienced extraction orthodontics, provides a means to begin providing more complete health benefits to these patients. ◆



TMJ Dysfunction – symptom visual index. Screening for SDB or TMJ/D.

Reference

1: Wing, G. (1959), The status of Costen's Syndrome. Australian Dental Journal, 4: 98–103.
2. Fonder, Aelred C. (1977), The Dental Physician. University Publications, Preface.
3. Fonder, Aelred C. (1977), The Dental Physician. University Publications, Introduction (written by: Ricketts, Robert M.).

About Dr Chris Farrell (BDS)

Dr Farrell has been involved in treating TMJ disorders since completing comprehensive study in the 1980s under Dr Gelb and Dr Fonder as well as attending many courses, including those offered by the University of Medicine and Dentistry in New Jersey. Well known for his development of Myofunctional Orthodontics, Dr Farrell is a strong advocate for better, more biologically focused dental education and has limited courses regarding TMJ disorder in Australia and worldwide. For more information visit myoresearch.com/courses.