

Abstract 1 - July 2016

Schiffman E, Ohrbach R. Executive summary of the Diagnostic Criteria for Temporomandibular Disorders for clinical and research applications. J Am Dent Assoc. 2016 Jun;147(6):438-45.

BACKGROUND:

In this executive summary, the authors describe a protocol for assessing patients with temporomandibular disorder (TMD). It is based on the Diagnostic Criteria for Temporomandibular Disorders (DC/TMD) for clinical and research applications.

METHODS:

The DC/TMD was developed using published Axis I physical diagnoses for the most common TMDs. Axis I diagnostic criteria were derived from pertinent clinical TMD signs and symptoms. Axis II consists of psychosocial and behavioral questionnaires already in the public domain. A panel of experts vetted and modified the Axis I and Axis II diagnostic protocols. Recommended changes were assessed for diagnostic accuracy by using the Validation Project's data set, which formed the basis for the development of the DC/TMD.

RESULTS:

Axis I diagnostic criteria for TMD pain-related disorders have acceptable validity and provide definitive diagnoses for pain involving the temporomandibular joint (TMJ) and masticatory muscles. Axis I diagnostic criteria for the most common TMJ intra-articular disorders are appropriate for screening purposes only. A definitive diagnosis for TMJ intra-articular disorders requires computed tomography or magnetic resonance imaging. Axis II questionnaires provide valid assessment of psychosocial and behavioral factors that can affect management of TMD.

CONCLUSIONS:

The DC/TMD provides a questionnaire for the pain history in conjunction with validated clinical examination criteria for diagnosing the most common TMDs. In addition, it provides Axis II questionnaires for assessing psychosocial and behavioral factors that may contribute to the onset and perpetuation of the patient's TMD.

PRACTICAL IMPLICATIONS:

The DC/TMD is appropriate for use in clinical and research settings to allow for a comprehensive assessment of patients with TMD.

Abstract 2 – July 2016

Gozal D, Farré R, Nieto FJ. Obstructive sleep apnea and cancer: Epidemiologic links and theoretical biological constructs. *Sleep Med Rev.* 2016 Jun;27:43-55.

Sleep disorders have emerged as highly prevalent conditions in the last 50-75 y. Along with improved understanding of such disorders, the realization that perturbations in sleep architecture and continuity may initiate, exacerbate or modulate the phenotypic expression of multiple diseases including cancer has gained increased attention. Furthermore, the intermittent hypoxia that is attendant to sleep disordered breathing, has recently been implicated in increased incidence and more adverse prognosis of cancer. The unifying conceptual framework linking these associations proposes that increased sympathetic activity and/or alterations in immune function, particularly affecting innate immune cellular populations, underlie the deleterious effects of sleep disorders on tumor biology. In this review, the epidemiological evidence linking disrupted sleep and intermittent hypoxia to oncological outcomes, and the potential biological underpinnings of such associations as illustrated by experimental murine models will be critically appraised. The overarching conclusion appears supportive in the formulation of an hypothetical framework, in which fragmented sleep and intermittent hypoxia may promote changes in multiple signalosomes and transcription factors that can not only initiate malignant transformation, but will also alter the tumor microenvironment, disrupt immunosurveillance, and thus hasten tumor proliferation and increase local and metastatic invasion. Future bench-based experimental studies as well as carefully conducted and controlled clinical epidemiological studies appear justified for further exploration of these hypotheses.

Abstract 3 – July 2016

Raphael KG, Santiago V, Lobbezoo F. Is bruxism a disorder or a behaviour? Rethinking the international consensus on defining and grading of bruxism. *J Oral Rehabil.* 2016 Jun 10.

Inspired by the international consensus on defining and grading of bruxism (Lobbezoo F, Ahlberg J, Glaros AG, Kato T, Koyano K, Lavigne GJ et al. *J Oral Rehabil.* 2013;40:2), this commentary examines its contribution and underlying assumptions for defining sleep bruxism (SB). The consensus' parsimonious redefinition of bruxism as a behaviour is an advance, but we explore an implied question: might SB be more than behaviour? Behaviours do not inherently require clinical treatment, making the consensus-proposed 'diagnostic grading system' inappropriate. However, diagnostic grading might be useful, if SB were considered a disorder. Therefore, to fully appreciate the contribution of the consensus statement, we first consider standards and evidence for determining whether SB is a disorder characterised by harmful dysfunction or a risk factor increasing probability of a disorder. Second, the strengths and weaknesses of the consensus statement's proposed 'diagnostic grading system' are examined. The strongest evidence-to-date does not support SB as disorder as implied by 'diagnosis'. Behaviour alone is not diagnosed; disorders are. Considered even as a grading system of behaviour, the proposed system is weakened by poor sensitivity of self-report for direct polysomnographic (PSG)-classified SB and poor associations between clinical judgments of SB and portable PSG; reliance on dichotomised reports; and failure to consider SB behaviour on a continuum, measurable and definable through valid behavioural observation. To date, evidence for validity of self-report or clinician report in placing SB behaviour on a continuum is lacking, raising concerns about their potential utility in any bruxism behavioural grading system, and handicapping future study of whether SB may be a useful risk factor for, or itself a disorder requiring treatment.

Abstract 4 – July 2016

Cioffi I, Landino D, Donnarumma V, Castroflorio T, Lobbezoo F, Michelotti A. Frequency of daytime tooth clenching episodes in individuals affected by masticatory muscle pain and pain-free controls during standardized ability tasks. Clin Oral Investig. 2016 Jun 9.

OBJECTIVES:

Tooth clenching has been suggested to be related to temporomandibular pain. However, the electromyographic characteristics of daytime clenching episodes have been minimally investigated. This study aimed to analyze the frequency, amplitude, and duration of daytime clenching episodes in patients with masticatory muscle pain and pain-free individuals.

METHODS:

Fifteen women with masticatory muscles myalgia (MP group, mean \pm SD age = 26.4 ± 7.6 years) matched for age to 18 pain-free women (CTR group, mean \pm SD age = 25.3 ± 2.8 years) were submitted to three different ability tasks (filling out questionnaires for 40 min, reading for 20 min, and playing a videogame for 20 min). The electromyographic activity periods (AP) of the right masseter greater than 10 % (AP10), 20 % (AP20), and 30 % (AP30) of the maximum voluntary contraction were analyzed.

RESULTS:

The mean frequencies of AP10, AP20, and AP30 were greater in MP than in CTR individuals (all $p < 0.05$). The mean duration of AP10 was higher in MP group than CTR group only while filling out the questionnaires ($p = 0.0033$). CTR group had an increased frequency and duration of AP10 while playing the videogame than while reading a magazine. The ability tasks did not affect the muscle activity in the MP group.

CONCLUSIONS:

Individuals with masticatory muscle pain have an increased frequency of both high and low-intense daytime clenching episodes. The type of ability task affects the frequency and the duration of clenching episodes only in pain-free individuals.

CLINICAL RELEVANCE:

Clinicians should recognize that the frequency and intensity of daytime clenching are noticeably increased in individuals with masticatory muscle pain in order to better tailor treatment.