

## Prevalence Of Temporomandibular Joint Disorders Among

Introduction: The purpose of this study was to subclassify the types of facial asymmetries present in a pre-surgical dentofacial deformity patient population to determine the prevalence of each subcategory. Associations between the craniofacial characteristics of each asymmetry and pre-surgical Jaw Pain and Function Questionnaire (JPFQ) scores, diagnosis of temporomandibular disorders (TMD), and posterior facial asymmetry (PFA) as determined by nasal septum deviation were analyzed. In addition, the data will aid in the development of a phenomics database to allow for subsequent genotyping and gene expression evaluation from patient saliva and masseter muscle samples that were obtained at the time of corrective orthognathic surgery. Methods: Pre-surgical postero-anterior (PA) cephalograms, submentovertex (SMV) and panoramic (PAN) radiographs from 92 pre-surgical dentofacial deformity patients at the Department of Oral and Maxillofacial Surgery, University of Lille, France were collected to evaluate facial asymmetry. PAs were traced and analyzed according to the Grummons Simplified Frontal analysis and Ramal Height analysis (Dolphin Imaging). SMVs were analyzed by the refined clinical system of the Ritucci and Burstone analysis proposed by Arnold et al along with original angular measurements for maxillary, mandibular, and nasal septum deviations (ImageJ). PFA was determined by a nasal septum deviation greater than 15 degrees. Lastly, PANs were evaluated visually for condylar pathologies. A comprehensive diagnostic decision tree for facial asymmetry was formulated based upon the current literature for normal variation of landmarks and the study design. Patient diagnosis via the decision tree was compared to visual examination of the appropriate x-rays to verify accuracy. Using this decision tree, patients were classified into subtypes and prevalence of each was calculated to form a phenomics database for future research on genotyping and gene expression. Associations between the subclassifications, mean pre-surgical JPFQ scores, temporomandibular joint (TMJ) clinical examination results (TMD+ or TMD-), and the diagnosis of posterior facial asymmetry (PFA+ or PFA-) were completed. Results: Sixty-two patients were able to fulfill all radiographic requirements to arrive at a diagnosis. Eighteen patients demonstrated facial asymmetry that fell within normal biological variation while the other 44 were diagnosed as having a form of facial asymmetry - Cranial Base Asymmetry: 11 female, 6 male; Non-Condylar Mandibular Asymmetry: 5 female, 3 male; Hemimandibular Elongation: 2 female, 3 male; Maxillary Asymmetry: 3 female, 1 male; Idiopathic Condylar Resorption: 3 female, 1 male; Atypical Asymmetry: 3 female, 1 male; Hemimandibular Hyperplasia: 1 female, 0 male; and Maxillary Base & Mandibular Body Asymmetry: 0 female, 1 male. JPFQ scores for symmetric patients (x ) ?= 5.33) and asymmetric patients (x ?= 4.57) were non-significant overall, however, differences between gender were noted (female symmetric (x ) ?= 6.13, male symmetric (x ) ?= 1.33, female asymmetric (x ) ?= 5.36, male asymmetric (x ) ?= 3.19). TMD was diagnosed by pre-surgical TMJ examinations and MRIs. Four symmetric patients (3 female, 1 male) were positively diagnosed with TMD while 14 asymmetric patients (11 female, 1 male) also were diagnosed. PFA was diagnosed when nasal septum deviation was greater than 15 degrees - 25° to ?35°: 9 patients; >35° to ?45°: 3 patients; >45°: 1 patient. Twenty patients with a positive PFA were asymmetric while the other 8 symmetric. Twenty-one patients were female while the other 7 were male. Conclusion: A comprehensive diagnostic decision tree for facial asymmetry classification was formulated and validated. With it, it was found that: Females have increased JPFQ scores and clinical diagnosis of TMD versus males. Asymmetric females have decreased JPFQ scores, but increased prevalence of TMD. Presence of PFA does not appear to be a strong influence on development of facial asymmetry but is significantly linked to the presence of TMD. PFA is present in nearly half of all dentofacial deformity subjects. Mandibular asymmetry is most commonly associated with increased JPFQ scores and presence of TMD. However, Hemimandibular Hyperplasia, a particular and less common form of mandibular asymmetry, never associated with TMD. One form of mandibular and mid-facial asymmetry, Atypical Asymmetry, had a relatively high prevalence of TMD. Future directions for this research include continuation of genotypic description of IGF1 and Nodal biologic pathways to determine how gene expression levels in masseter muscle and patient genotypes differ in the eight subclassifications of craniofacial asymmetry compared to the symmetric population.

When a stimulus is applied to one part of the body, pain sometimes occurs in a distant site. This distant pain is called referred pain. The aims of this project were: To describe the prevalence of referred pain in subjects with temporomandibular disorders (TMD) at baseline and 8-year follow-up and the prevalence of persistence of referred pain at follow-up. Another aim was to identify risk factors for having referred pain at baseline and for predicting its persistence at follow-up. Finally, we wanted to determine whether referred pain affects the prognosis of patients with a TMD diagnosis. For each objective, we explored demographics such as gender, age, income, education level, and race. Other factors investigated included facial pain duration, somatization, somatization without pain, depression, anxiety, characteristic pain intensity (CPI), graded chronic pain scale (GCPS), number of other pains (headache, chest, back or stomach), and TMD diagnosis (myofascial pain, disk displacement, arthralgia or degenerative joint disease DJD). Methods: This secondary analysis included the data sets from the Research Diagnostic Criteria for Temporomandibular Disorders (RDC/TMD) Validation (baseline) and IMPACT (follow-up) studies. It focused on a subclassification pain diagnosis termed "myofascial pain with referral". Subjects included in our analysis were TMD cases at baseline (n = 614) and TMD cases at follow-up (n = 286). Results. 26.4% of TMD cases had pain with referral at baseline and 36.4% at follow-up. The sites most likely to refer pain were extraoral sites (temporalis, masseter and mandible) at both baseline and follow-up. Female gender was associated with a higher prevalence of referred pain at baseline (p=.025). Other factors associated with referred pain included somatization (p

This book covers some biostatistical methods and several case studies useful to interpret and analyze dental research in the areas of orofacial pain and temporomandibular disorders. It will guide practitioners in these fields who would like to interpret research findings or find examples on the design of clinical investigations. After an introduction dealing with the basic issues, the central sections of the textbook are dedicated to the different types of investigations in sight of specific goals researchers may have. The final section contains a recent approach based on nonparametric permutation tests which can be adopted in many practical situations. The field of orofacial pain and temporomandibular disorders is emerging as one of the most critical areas of clinical research in dentistry. Due to the complexity of clinical pictures, the multifactorial etiology, and the importance of psychosocial factors in all aspects of the TMD practice, clinicians often find it hard to appraise their modus operandi, and researchers must constantly increase their knowledge in epidemiology and medical statistics. Indeed, proper methodological designs are fundamental to reaching high levels of internal and external validity of findings in this specific area.

Temporomandibular Disorders and Orofacial Pain

A Practitioner’s Guide

Current Approaches and Understanding

January 1990 Through December 1995 : 917 Citations

The Prevalence of Temporomandibular Joint Dysfunction in a Private Restorative Practice as Determined by the Pantronic PRI

Sex, Gender, and Pain

Edited by internationally recognized pain experts, this book offers 73 clinically relevant cases, accompanied by discussion in a question-and-answer format.

Challenging Concepts in Oral and Maxillofacial Surgery details over 25 challenging and complex scenarios matched to the OMFS syllabus including frontal sinus fractures, reconstructive challenges following blast injuries to the facial soft tissue and skeleton, and reratocystic odontogenic tumours. This case-based learning book is designed to be used by trainees and speciality registrars. Each case is supported by the commentary of a renowned expert in the field, allowing readers to improve their own management of these patients. As the reader works through each case there are 'Clinical Tips', 'Learning Points' and 'Evidence Base' boxes to enhance the learning process along with the 'Expert Commentary', providing an inside track on how the experts approach challenging cases. The range of topics discussed including three complex battlefield cases will be essential reading for trainees in oral and maxillofacial surgery and related specialities, such as otolaryngology, oral surgery, orthodontics, and dentistry.

In this study, a measurable index was developed using cone beam computed tomography (CBCT) images of the temporomandibular joint (TMJ) in patients with unilateral/bilateral anterior disc displacement (ADD) with/without reduction to better understand the etiology of this temporomandibular joint disorder (TMD). The index utilizes an interdependent mathematical strategy to assess the morphology of the articular eminence, glenoid fossa, and mandibular condyle in relationship to each other. Critical components of the TMJ were visualized from CBCT images of the joint and precisely measured using features available in the Dolphin 3D Imaging software. It was hypothesized that the steepness of the posterior slope of the articular eminence in conjunction with flattened-like morphology of the mandibular condyle are anatomical characteristics present in higher prevalence in TMD patients with ADD. The results suggest gender differences based on the different morphological patterns of the TMJ for males and females. The contour of the condylar neck, the dimensions of the condylar head, and the posterior slope of the articular eminence are important morphological considerations in ADD.

From TMJ to Smile Design

Temporomandibular Joint Dysfunction

Orofacial Pain

Cases with Expert Commentary

Internal Derangements of the Temporomandibular Joint

Priorities for Research and Care

**This book provides up-to-date information on all aspects of orofacial pain biomarkers. It opens by presenting background information on clinical phenotypes and the neurobiological substrates underlying chronic orofacial pain and by explaining the potential role of biomarkers in the diagnosis, prognostic evaluation, and treatment of orofacial pain. The main section of the book examines the contribution of human and animal studies to the field of biomarkers for orofacial pain and discusses biomarkers for masticatory muscle pain, temporomandibular joint pain, neuropathic face pain, and autonomic nervous system involvement in trigeminal facial pain. The potential impacts of the immune system on orofacial pain biomarkers and candidate gene phenotypes with possible links to chronic orofacial pain conditions are also addressed, and differences and similarities between saliva and serum biomarkers for pain are explained as well. The final section covers research-related issues in assessment methods and statistical analyses used in evaluating biomarkers, identifies future challenges and suggests new directions in the field.**

**Chapter I: Literature review on the Temporomandibular joint (TMJ) and Temporomandibular disorders (TMD) Chapter II: Systematic review of TMD in orthognathic patients** This review was conducted to investigate the prevalence of temporomandibular joint dysfunction (TMD) in orthognathic patients and to determine the effect of the surgical intervention on the status of the temporomandibular joint (TMJ). A methodological process was applied for study selection, data management and quality assessment and meta-analyses were conducted where appropriate. This review identified 53 papers for inclusion and there was heterogeneity in the diagnosis and classification of TMD between the studies. Patients undergoing orthognathic treatment for the correction of dentofacial deformity and suffering from TMD appeared more likely to see an improvement in their signs and symptoms than deterioration, particularly with respect to pain related symptoms. This information should be given to prospective patients during the consent process, but it should be stressed that no guarantees can be made. **Chapter III: TMD in orthognathic patients and a control group with no skeletal discrepancies** Sixty eight orthognathic patients and 72 control subjects (with no anterior-posterior, vertical or transverse discrepancies) were recruited for this section of the PhD. Self-reported symptoms and clinical signs of TMD were recorded and compared between the two groups. A significant difference in TMD prevalence was observed between the controls (27.8%) and patients (44.1%), with the patients being more susceptible to TMD. However, although orthognathic patients appear more likely to suffer from TMD, whether treatment improves their TMJ condition is highly questionable. This issue should be highlighted in any informed consent process. **Chapter IV: A longitudinal study of TMD in orthognathic patients** Twenty orthognathic patients were followed longitudinally throughout treatment to establish whether TMD signs and symptoms altered during the course of treatment. Although no significant differences were found when comparing the pre-treatment (T1) findings with those prior to surgery (T2), sufficient individual changes in TMD signs and symptoms were observed to question the suitability of the "prior to surgery" time point as a baseline for comparisons in future studies. When comparing pre (T1) and post-treatment (T3) TMD changes, no significant differences were observed. This study supports the theory that TMD is a dynamic condition and signs and symptoms are likely to fluctuate throughout treatment. However, the small sample size in this study was clearly a limiting factor. **Chapter V: TMJ information course: Comparison of the instructional efficacy of an internet-based TMJ tutorial with a traditional face-to-face seminar** A TMJ tutorial was developed on a virtual learning environment (VLE) to enable students to enhance their examination and diagnostic skills and a randomised cross-over trial was then conducted. Thirty postgraduate students were recruited as participants and the success of this mode of teaching was compared with a conventional face-to-face seminar. This study found that both modes of teaching were equally effective in delivering information to students but teaching the topic twice enhanced the retention of knowledge. In addition the students reported positive perceptions of VLE learning and the feedback for this mode of teaching was comparable with traditional methods of teaching.

Temporomandibular disorders (TMDs) have been recognized by the American Association of Dental Research (AADR)as a group of musculoskeletal conditions which involve the temporomandibular joint or joints, the masticatory muscles, or both. It can lead to difficulties in chewing or other oral functions, acute and/or chronic pain, absence from and impairment of work or social interactions, and overall reduction in the quality of life. Cheving ability is considered a patient’s subjective response about chewing and his or her objective capacity to chew so it can be evaluated by questionnaires or personal interviews. Many epidemiological studies have been reported on signs and symptoms of masticatory dysfunction regarding: their prevalence, their frequency and severity. However, the influence of prosthetic appliances on the prevalence of TMD and on chewing efficiency is still unclear. Therefore, it would appear worthwhile to conduct this cross-sectional study to investigate these conditions and other relevant variables among Jordanian Subpopulation.

Osteoarthritis of the Temporomandibular Joint

A Comparison Between Masticatory Muscle and Temporomandibular Joint Pain Patients with Regard to the Prevalence and Impact of Post-traumatic Stress Disorder Symptoms

A Systematic Review of TMD Prevalence and Incidence (1990- January 2019)

Its Prevalence in a Pre-orthodontic Adolescent Population and Association with Upper Respiratory Conditions ; a Pilot Study

TEMPOROMANDIBULAR JOINT DISORDERS AND NASAL SEPTUM DEVIATION IN DENTOFACIAL DEFORMITY PATIENTS

Temporomandibular Joint Pathology

Dental practitioners face a large number of patients seeking help for pain and loss of function in their temporomandibular joint and related structures. This book consists of eight chapters by authors who would like to share their experiences and researches on pathological conditions related to the temporomandibular joint. The chapters mainly focus on disorders, diseases, and entities while shedding light on the diagnostic methods and management modalities.

Research is finally acknowledging that sex differences in pain perception are experimental opportunities rather than obstacles. For the International Association for the Study of Pain, 32 specialists in 18 contributions explore basic biopsychosocial considerations for sex, gender, and pain research; and sex-related differences in experimental pain responses, and in clinical conditions (e.g. headache disorders, fibromyalgia, irritable bowel syndrome). The concluding paper by K. Berkley (neuroscience, Florida State U., Tallahassee) proposes a developmental lifespan framework for the complex issue of whether there is characteristic female pain as vs. male pain. Fillingim is in the U. of Florida’s College of Dentistry. For those keeping count of such matters, there is about a 40:60 percent ratio of female to male authors. Annotation copyrighted by Book News, Inc., Portland, OR.

It is fashionable in professional circles to deplore the difficulty of intellectual discourse between "academicians" - men of letters, researchers, rationalist- and "practitioners" - surgeons, radiologists, physical therapists. How benefici cial it would be if educated non-academicians could speak intelligently about t-tests and chi-square tests and men of academia could appreciate the travail, spirit, and needs of a busy office and practice! Even this suspected gap between "two cultures" came very near together in the wonderful town of Groningen (The Netherlands) as wise men from both practice and scholarship gathered to talk about the unfathomables of the temporomandibular joint. There were keen discussions about the intense bio logical changes which occur about the complex temporomandibular joint after excessive use or injury. These papers were followed by talks outlining the experiences of those involved in the imaging and non-surgical and surgical management of patients who were enduring such changes. The pitch and interchange of opinions and evidence as to why a disc or its position could effect little or profound disturbance of the temporomandibular apparatus were en lightening to each who listened - and thought. And even more sobering was to hear the report of a well-documented, multiple decades long study of a large number of patients with osteoarthritis and internal derangement which defined a natural course and eventual end of the disease. With this understanding, one is now faced with the obvious question of how much treatment patients with osteoarthritis really require.

Temporomandibular Disorders and Related Pain Conditions

Management of Temporomandibular Joint Degenerative Diseases

Functional Occlusion - E-Book

Challenging Concepts in Oral and Maxillofacial Surgery

Functional Pain Syndromes

Principles and Current Practice

**Temporomandibular joint dysfunction is a very common problem, estimated to affect 20-40% of the population. The author guides the reader through the wide range of signs and symptoms of joint dysfunction and their causes in both adults and children. Over 650 colour photographs and diagrams demonstrate investigative procedures and clinical findings, as well as the principles of the latest treatments. An essential reference for general dentists and orthodontists, oral and maxillofacial surgeons, and radiologists, this book will also be of interest to many neurologists and otolaryngologists.**

**This book is designed to provide a crisp and necessary information for all the under-graduate and post-graduate medical students, Oral and Maxillofacial Surgeons, ENT Surgeons, General Surgeons, General Dentists and other health care workers who deal with TMDs in their practise. It includes contributions from eminent surgeons across the world who treat TMJ disorders and diseases using various conventional to modern state of the art techniques. Temporomandibular joint disorders (TMDs) are familiar yet difficult to diagnose in routine practice due to the complexity of the joint and its surrounding structures. The symptoms usually associated with TMDs present with pain, joint sounds such as click or crepitus, difficulty during mastication, reduced mouth opening are some of the many presentations. Definite diagnosis of the TMDs can be challenging as the patients present with varying symptoms. These disorders of the joint can vary from a simple disc displacement to complex pathologies. Management of the TMDs can be tricky and hence need a thorough evaluation of the joint and surrounding structures.**

**There has been a tremendous leap in managing these disorders from simple conservative management to several advanced surgeries to salvage the joint. This compilation highlights all the relevant details regarding TMDs and its management which will offer utmost details to practising surgeons who often deal with TMDs. This book will be a delight to read for all the clinicians and surgeons who are interested in treating the small yet complex jaw joint in the facial region.**

**Temporomandibular disorders (TMDs), are a set of more than 30 health disorders associated with both the temporomandibular joints and the muscles and tissues of the jaw. TMDs have a range of causes and often co-occur with a number of overlapping medical conditions, including headaches, fibromyalgia, back pain and irritable bowel syndrome. TMDs can be transient or long-lasting and may be associated with problems that range from an occasional click of the jaw to severe chronic pain involving the entire orofacial region. Everyday activities, including eating and talking, are often difficult for people with TMDs, and many of them suffer with severe chronic pain due to this condition. Common social activities that most people take for granted, such as smiling, laughing, and kissing, can become unbearable. This dysfunction and pain, and its associated suffering, take a terrible toll on affected individuals, their families, and their friends. Individuals with TMDs often feel stigmatized and invalidated in their experiences by their family, friends, and, often, the health care community. Misjudgments and a failure to understand the nature and depths of TMDs can have severe consequences -- more pain and more suffering -- for individuals, their families and our society. Temporomandibular Disorders: Priorities for Research and Care calls on a number of stakeholders -- across medicine, dentistry, and other fields -- to improve the health and well-being of individuals with a TMD. This report addresses the current state of knowledge regarding TMD research, education and training, safety and efficacy of clinical treatments of TMDs, and burden and costs associated with TMDs. The recommendations of Temporomandibular Disorders focus on the actions that many organizations and agencies should take to improve TMD research and care and improve the overall health and well-being of individuals with a TMD.**

Referred Pain in Temporomandibular Disorders

2D and 3D

Tinnitus and Temporomandibular Joint Disorder Subtypes

Cephalometry in Orthodontics

Guidelines for Assessment, Diagnosis, and Management

Orofacial Pain Biomarkers

