

P. E. Dawson

Functional Occlusion: From TMJ to Smile Design

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Although the author is a prosthodontist, his work cannot be regarded as either a textbook on prosthodontics or as one on occlusion. His primary motivation for writing the text was “to provide a framework by which any dentist could develop into a master dentist“, and he coins the term “complete dentistry“ to describe his concept.

The book is divided into three sections entitled functional harmony, dysfunction and treatment. In the first section, Dawson criticizes a recent statement made by the National Institute of Health in the U.S., who have claimed that occlusal treatment for TMD is at best of little value, if not detrimental. While this statement reflects today’s evidence-based dentistry, Dawson objects to the view that too much of the literature on that topic has been based on false presumptions. In the third chapter he defines what he means by “occlusal disease“, namely the most destructive dental disorder, the cause of tooth loss, TMD, instability after orthodontic treatment and many other dental problems. Dawson frankly admits that his claims are not based on scientific data, but on many years of personal experience. In the subsequent chapters he discusses teeth, TMJs and masticatory muscles as a part of a healthy masticatory system.

The author’s most important tenet is probably that before dental occlusion can be diagnosed and treated, TMJs should be manipulated into a position he defines as centric relation, actually the most superior position of the condyles in the fossae. It seems that most patients present a distal occlusal relation, premature contacts in the molar region and an anterior open bite in the centric relationship defined here. However, it remains unclear to what extent this iatrogenic malocclusion is a disease requiring therapeutic measures. He describes the procedure to manipulate the condyle into centric relation as “romancing the mandible“. Several chapters are dedicated to describing this position, its identification and documentation.

General occlusal principles are discussed in the remaining chapters in the first section.

The second section, dedicated to temporomandibular disorders, is the weakest part of the text. Pain is defined as a response to tissue damage, an obviously incorrect definition, as structural damage is not a necessary prerequisite for experiencing pain. Several decades of pain research, as well as a solid body of epidemiologic studies showing that occlusal factors are not a major cause of TMD, are ignored in what follows. Dawson believes that occlusal disturbances are the most important etiological factor in TMD, and thus describes diagnosis and therapy as a largely occlusal intervention best undertaken if possible in the centric relation. The most common kind of TMD is called occluso-muscle pain, which is rather unconventional and misleading terminology. He maintains that occlusal anomalies are the major cause of occluso-muscle pain, bruxism and tooth wear. It goes without saying that the reader can expect no evidence other than Dawson’s personal experience for these opinions.

The third section deals mostly with prosthodontic therapy. Being an experienced clinician, he illustrates restorative cases with extremely abraded teeth or severe anatomic deviations, e.g. deep overbites, crossbites and mutilation cases. Orthodontic treatment is included in the treatment plan in some of these cases, but the orthodontic appliances involved are wooden tongue depressors, Crozat-type appliances, rubber bands attached to removable plates and clear plastic aligners, all appliances from the very early days of orthodontics except for the clear plastic aligners. While many of the prosthodontic cases presented are amazing, comprehensive orthodontic treatment with fixed appliances may have in several cases helped to achieve even better results in less time.

Finally, this book leaves the critical reader feeling somewhat helpless. The reader senses the author’s life-long devotion to dentistry throughout the text, and that is worthy of admiration. On the other hand, he refers (in too many chapters) to his “50+ years of professional experience“ in thousands of patients as a major source of evidence. This extensive experience can be acknowledged and appreciated, but it is not an adequate basis upon which to recommend the procedures described for clinical practice. In that respect Dawson’s textbook is an example of the eminence-based dentistry of the past, which hardly makes it suitable for educating dental professionals. However, it is well illustrated and of excellent print quality, and will surely be welcomed by Dawson’s followers.

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