

Dental Occlusion and Posture: A New Scientific Paradigm

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Editorial

Received date: 20/08/2019;

Accepted date: 22/08/2019;

Published date: 29/08/2019

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Keywords: Dental occlusion, Posture, Physiotherapy, Dental team work, Posturology

EDITORIAL

Posture is a complex system, based on continuous feedback between the musculoskeletal system with afferent and efferent pathways of the central nervous system in order to maintain the body in a state of musculoskeletal balance. Different parts of the stomatognathic system contribute to orthostatic postural regulation, in fact, from a biomechanical point of view, it is considering a single functional cranio-cervical-mandibular anatomical complex. The relationship between dental occlusion and body posture has always attracted a certain amount of interested in the scientific field of dentistry. In the last decade, there has been a great growth of joint research on dentistry and its relationships with body posture leading to the development of a specific branch of study called posturology whose purpose is to investigate the anatomical and functional connection between some postural attitudes and pathological conditions difficult to recognize [1]. Nowadays, there is still great confusion about this connection because of the different variety of approaches and research methods, but above all because dental occlusion and body posture relations are remarkably complex, because are part of a nonlinear system in continuous search for balance. Some available scientific publications do not report about strong evidence as for certain impact between dental occlusion and postural balance [2]; other scientific publications remark as predictable a correction of occlusal anomalies will lead to posture enhancement, demonstrating that different mandibular positions can induce variations in body posture [3-5]. It has been demonstrated that the mandibular position is able to modify basal electrical activity of postural muscles, in particular paravertebral and some changes experimentally in the plantar position influences the basal muscle tone of the upper temporal muscles [6,7]. Other recent research reveals findings that relate dental malocclusion and body posture alteration [8,9]. Specifically, emerging evidence indicates the potential role of altered mandibular position influence upper cervical movement [10], and induces variations in postural settings, showing the existence of a biomechanical and neurological connection between stomatognathic and postural systems [11-13]. Alterations of the stomatognathic system can cause cranio-cervical-mandibular alterations which in turn can generate postural imbalances [14], the correct functional dental occlusion has been shown to play an important role in generating an adequate posture reflex through mandibular stability, thereby preventing falls [15] so, a connection was conjectured between dental occlusion and general body health based on clinical findings and related reports; this connection could be anatomical or related to various body

systems, however, the mechanism of curative effect after occlusal treatments on the general body posture are not yet clear. Therefore, investigate this relationship it is of particular theoretical and practical importance, especially in dentistry diagnostics and treatment planning.

References

1. Pastorelli F, et al. Biomechanical analysis and rehabilitation in athletes. *Clin Cases Miner Bone Metab.* 2013;10:96.
2. Michelotti A, et al. Occlusion and posture: Is there evidence of correlation? *Miner. Stomatol.* 1999;48:525-534.
3. Huggare J. Postural disorders and dentofacial morphology. *Acta Odontol Scand.* 1998;56:383-386.
4. Milani RS, et al. Relationship between dental occlusion and posture. *Cranio.* 2000;18:127-134.
5. Nobili A and Adversi R. Relationship between posture and occlusion: A clinical and experimental investigation. *Cranio.* 1996;14:274-285.
6. Ambrosi F. Fundamentals of posturology. *Fabio Ambrosi Natural Med.* 2012;1-12.
7. Baldini A. Clinical and instrumental treatment of a patient with dysfunction of the stomatognathic system: a case report. *Ann Stomatol (Roma).* 2010;1:2-5.
8. Cuccia A, et al. Occlusal patterns in patients with idiopathic scoliosis. *Am J Orthod Dentofacial Orthop.* 2009;64:61-67.
9. Bracco P, et al. Effects of different jaw relations on postural stability in human subjects. *Neurosci Lett.* 2004;356:228-230.
10. Grondin F, et al. Does altered mandibular position and dental occlusion influence upper cervical movement: A cross-sectional study in asymptomatic people. *Musculoskelet Sci Pract.* 2017;27:85-90.
11. Olivo AS, et al. The association between the cervical spine, the stomatognathic system, and craniofacial pain: A critical review. *J Orofac Pain.* 2006;20:271-287.
12. Perinetti G, et al. Dental malocclusion and body posture in young subjects: A multiple regression study. *Clinics.* 2010;65:689-695.
13. Barbara I, et al. (2019). Analysis of Dental malocclusion and neuromotor control in young healthy subjects through new evaluation tools. *J Functional Morphol Kinesiol.* 2019;4:5.
14. Gangloff P, et al. Dental occlusion modifies gaze and posture stabilization in human subjects. *Neurosci Lett* 2000;293:203-206.
15. Yoshida M, et al. Functional dental occlusion may prevent falls in elderly individuals with dementia. *J Am Geriatr Soc.* 2005;53:1631-1632.