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Functional Anatomy vs. Straight - Wire Anatomy, Orientation for Diagnosis, Treatment, CMD.

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Abstract

The definition of orthodontics is, to prepare occlusal function for future activities.

Perfect aesthetics is perfect function.

Disease means dysfunction of an organ.

Occlusal dysfunction means disease of the masticatory organ, parodontium, TMJ and its muscles and nerves.

Modern dentistry defines occlusal dysfunction as a main reason for Craniomandibular Dysfunction, CMD. By this, orthodontics is getting in a prime responsibility for occlusal function and later following general dentistry and CMD-treatment.

Textbook - Functional Anatomy defines dental function and craniomandibular- / TMJ – function.

Anatomy of the orthodontic discipline defines tooth angulations, especially of the upper molars and the occlusal curve contrary to official common Functional Anatomy, Gnathology and Evolution, meaning: dysfunction.

Orthodontic occlusal anatomy was derived from studies of “120 ideal plaster models”, resulting into uniform straight wire techniques.

This lecture will demonstrate “Functional Anatomy” and “Age Adapted Anatomy” versus “Orthodontic Anatomy” to visualize basic differences and to provide basic orientation for functional occlusion, its diagnosis and treatment objectives for future orthodontics, general dentistry, Gnathology and CMD.

CMD or TMJ – dysfunction needs the application of Functional Anatomy vs. Straight-Wire Anatomy. The application of Functional Anatomy means a complex new orthodontics in diagnosis, treatment objectives and mechanics.

Functional Anatomy provides no indication of Straight-Wire-Techniques.

Functional Anatomy vs. Straight-Wire Anatomy

Results and Conclusions of Part I,II,III and IV

Application of Functional Anatomy

Application of Functional Anatomy in diagnosis and treatment opens the orthodontic discipline for medical care and prevention of severe diseases of Craniomandibular Dysfunction, CMD.

Two CMD- Techniques

There are two orthodontic edgewise-techniques only following the guidelines of Functional Anatomy

Complex additional training

Both techniques require complex additional training and education in diagnosis and treatment procedures and profound interdisciplinary knowledge of classical mechanics, quantum mechanics, bio cybernetics, fuzzy logic, navigation and functional engineering.

CMD- Orthodontics , a new discipline

CMD-Orthodontics, Orthodontics under consideration of Craniomandibular dysfunction will be the medical definition of future orthodontics. By this extended definition of treatment objectives in area - from the area of teeth towards the area of head and shoulders- by means of a new functional engineering and navigation, CMD-Orthodontics is a new discipline.

Orthodontic medicine

Orthodontics is changing from just "aesthetics" and "straight teeth" towards a basic discipline for individual medical care of severe diseases of head and shoulders by functional occlusion.

CMD- Orthodontics, a basic discipline

Cmd – Orthodontics is a basic support for general dentistry, parodontology, gnathology, prosthetics and implants.

CMD - Orthodontics is a interdisciplinary based medicine, cooperating with all adjacent disciplines of general medicine, physiotherapy, neurology, orthopedics and ear specialists.

Guideline No 1 Anatomy

Principles and definitions of official Functional Anatomy and Evolution solely

are the guidelines for orthodontic diagnosis and treatment objectives and the preconditions for interdisciplinary dentistry and medicine.

Guideline No 2 Centrepiece of functional occlusion

The angulation of upper first permanent molars is the centrepiece of occlusal development with domino-effect for functional occlusion or complex dysfunction and for orthodontic diagnosis and treatment objectives.

Guideline No 3 Precondition of individual treatment

To achieve individual angulations and a individual Curve of Spee, Bio Functional Orthodontics, BFO, and knowledge of System Theory, Fuzzy Logic and Bio-Cybernetics are a basic precondition.

Guideline No 4 Precondition of orthodontic engineering

Basics of differential and individual biofunctional engineering of fixed orthodontic appliances are prime conditions for orthodontic treatments.

Guideline No 5 Malpractice by straight wire orthodontics

Contemporary Orthodontics on the level of straight wire anatomy and straight wire orthodontics means complex malpractice and a broad medical disaster:

- In teaching straight wire orthodontics, orthodontic officials are teaching preconditions for malpractice.
- Central definitions of Straight wire Anatomy, anatomy of contemporary orthodontics is contradictory to guidelines of official Functional Anatomy, Evolution and guidelines of general dentistry.
- By this, straight wire orthodontics is causing wrong tooth angulations, wrong occlusal shape and angulation, mesial drift of upper dentition, wrong and irreversible vertical alveolar bone growth, misusing growth with aftereffects of severe Temporomandibular Dysfunction, TMD, or complex Craniomandibular Dysfunction, CMD, surgery, tooth extractions and parodontal diseases by diagonal loading or by occlusal stress of local precontacts.
- The mesial drift of upper dentition by mesial rotational moments of straight wire orthodontics very often are leading to unnecessary tooth extractions in the upper jaw. The retraction of the upper front often is causing precontacts in the front with resulting TMD, tinnitus and CMD, beside a negative profile.
- The downwards and mesial moments of the maxillary molars by straight wire levelling arches cause irreversible wrong alveolar bone growth and wrong bone-statics and function of the masticatory organ and the spine, often followed by CMD, TMD, after years. In adult patients without growth, straight wire orthodontics very often may lead to open bites and direct CMD, TMD and orthognatic surgery for a rough repair of orthodontic malpractice.
- Straight wire orthodontics is misusing natural adaptability and compensation, especially growth.
- Superelastic Ni-Ti wires of straight wire orthodontics are insufficiently controllable, have a 140% greater risk for root resorptions, contain up to 55% nickel.
- Straight wire orthodontics is misusing wires to line up teeth on a straight line / wire instead to use the wire for individual tooth positioning.
- Straight wire orthodontics comprise a complex lack of knowledge and experience of individual wire bending or orthodontic appliance engineering and tooth navigation on a biofunctional level of wire sizes of .010 x .020 inch SS, in a .016 x .020 slot dimension.
- The main advantage of straight wire orthodontics is easy and quick application or delegation, reduced chair time and quick profit – the optimal culture-medium for a standstill and a cover up of all disadvantages and severe forms of malpractice.
- Due to severe educational deficiency and mistakes in contemporary orthodontics, a complex new training immediately is needed to avoid ongoing broad malpractice.

Guideline No 6 Bodily injury

- A treatment of an insufficiently informed patient means in jurisdiction bodily harm and liability.
- Application of straight wire anatomy, insufficiently controllable wires (NiTi) and biomechanics may lead to litigations and liability for CMD - diseases, as the orthodontist has to explain, why he didn't apply Functional Anatomy and why he preferred to apply insufficiently controllable wires and mechanics.
- The orthodontist must be able to explain how he is able to perform a controlled treatment by means of insufficiently controllable wires and wrong Anatomy.