Part IV

CMD-Orthodontics - The Future Orthodontics

Case presentation of Bio-Functional Orthodontics, BFO

Orthodontic example to prove CMD-Orthodontics by Functional Anatomy, fixed functional mechanics and biofunctional engineering.

- Without surgery – success just by changing the maxillary tooth angulations towards prescriptions of official guidelines of Functional Anatomy after G.H.Schumacher and general dentistry by means of individual bio-functional fixed appliances – stable since 15 years:

Fig. 10
Before treatment
wrong upper tooth angulations

Fig. 21
after treatment, no surgery
corrected tooth angulations and function

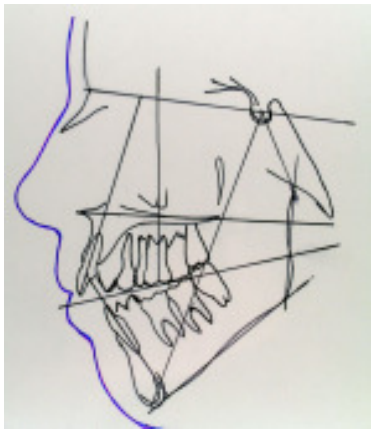


Fig. 22a tracing of Fig. 20a.
angulation of maxillary molars: +13°

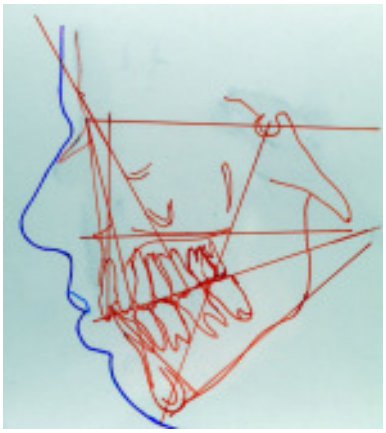


Fig. 22b tracing of Fig. 20b
angulation of maxillary molars: –6°
Domino effect for treatment success

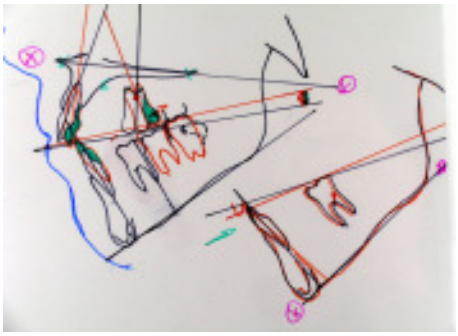


Fig. 23 superimosition in X

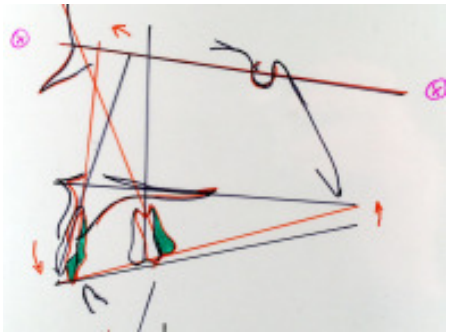


Fig. 24 superimosition in X

Two Orthodontic Treatment Approaches under Consideration of Craniomandibular Dysfunction, CMD, and Functional Anatomy

- The Multiloop Edgewise Archwire, MEAW, -

Prof. Dr. Sadao Sato / Japan

Slot-size .018 x .025 inch
Wire-size .016 x .022 inch Multiloop

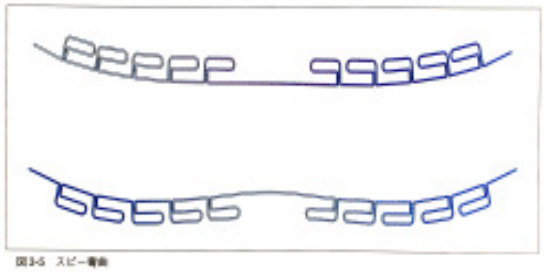


Fig. 25 MEAW -technique

- Bio – Functional Orthodontics, BFO / CMD- Orthodontics

Dr. Georg Risse / Germany

Keywords:
Functional Anatomy, angulation of upper first permanent molars centrepiece of functional occlusion and occlusal development, age adapted angulations, domino-effect, new bio-functional orthodontic slot- and wire sizes, with differential wire- and system loading, biofunctional navigation of teeth and bone growth, system theory, clearly defined guidelines.

Slot-size .016 x .020 inch
Wire-size .010 x .020 inch, to
.014 x .020 inch

Stainless Steel, braided wires, CNA , differential loops, wire loading, system loading.

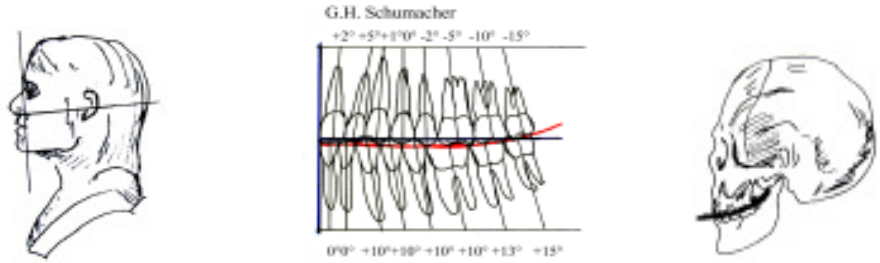


Fig. 26 Bio-Functional Orthodontics on the basis of Functional Anatomy, Anatomy of Homo Sapiens and general dentistry

Bio-Functional Orthodontics, BFO, and CMD-Orthodontics

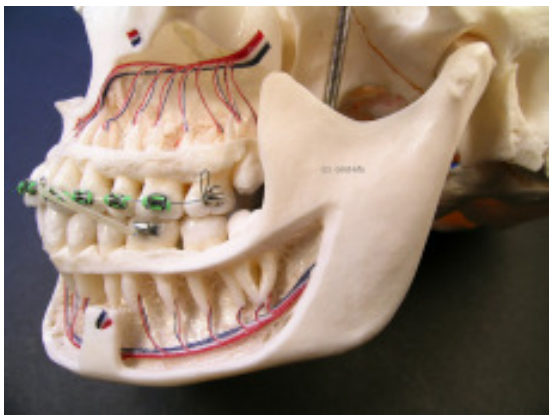
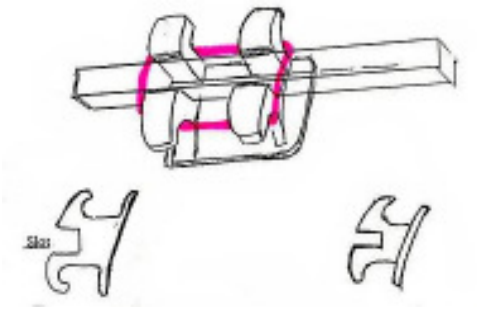


Fig. 27 BFO- technique with System loading additional to wire loading for precise individual tooth navigation (.010 x .020 SS- wire – in a .016 x .020 slot)



28a
Contemporary orthodontics
.018 x .025

28b
Bio-Functional Orthodontics, BFO
.016 x .020,

Fig. 28b BFO – slot dimensins: .016 x .020 inch and highly formable
wire sizes down to : .010 x .020 till .014 x .020 inch wires.

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.