Guest Editorial

Fast Food or Slow Food Orthodontics? *Part 2*

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In the last issue of The Angle Orthodontist I wrote about the profession of orthodontics undergoing a change from the role of "wire benders" to providers of premade appliances in standard fashion, as *Prescription Orthodontics*. Prescription Orthodontics is, to an increasing degree, being marketed to the general dentist and sometimes directly to the patient without personal intervention from dentists at all. I just read a chapter in a book dealing with "Aligner Orthodontics". It was written by John Morton, who started his career as an engineer working with Charles Burstone. The chapter described how biomechanical principles can be used in relation to aligners by adding attachments, TADs, and different materials as well as by using intermaxillary elastics. Without doubt, this widens the spectrum of patients in which the aligners can provide the desired result. The danger arises when the individuals to which companies are catering do not have a clear idea of the desired tooth movement.

Dr. Burstone defined a "consistent" inter-bracket configuration or "geometry" as a situation where both desirable forces and moments are developed when inserting a straight wire. He labeled an inconsistent configuration as a situation where either the moment or the force is undesirable. If the configuration is undesirable, teeth will move in the wrong direction initially, causing "jiggling" and prolongation of treatment time, contributing to the risk of root resorption and periodontal damage.

In the last issue, I also mentioned that Charles Tweed, in a 1967 JCO interview, admitted that growth and development contributed significantly to the favorable treatment results he obtained. We cannot predict growth, but that does not prevent us from benefitting from growth. When reviewing case reports and studying intramaxillary tooth movement, it is surprising that we fail to wonder why the profession is so intensely focused on decreasing treatment time. We glorify randomized controlled studies but are they valid? When Anne Marie Kuipers-Jagtman and her colleagues studied the effect of different force levels on tooth movement in dogs, they found that the individual dog and not the force level was responsible for the variation observed. Would it not be the same with humans? The large standard deviations seen in many such studies reflect that prediction for the individual patient is impossible. Nevertheless, according to the marketing messages, even bone cells can tell the difference between bracket manufacturers and subsequently respond with faster bone cell activity. During the indiscriminant leveling procedure, where there is no differentiation between the active and the reactive (anchorage) units, we are already prolonging the treatment time. If we want to shorten treatment time, it is not enough to merely mention the problem that has to be solved in our diagnostic work-ups. An increased overjet can be skeletal, dental, or emanate from either the upper or the lower jaw and, in each of those cases, the treatment goal will be different The goal has to be defined and, as the shortest distance between two points is always a straight line, only one force (the correct one) can generate this displacement efficiently.

As was claimed by Charles Tweed, there is no doubt that the response to alignment and adaptation between the two arches will occur favorably in growing individuals, frequently leading to good results. Yet, the number of adult patients, where growth has no influence on the displacement of teeth, and who ask for "straight teeth" is increasing. Many of these patients will be treated by outsourcing appliances, aligners, or preformed arches. Can the non-orthodontists, doctors without insight into mechanics and biology upon which our graduate training is built, distinguish between cases that represent configurations where the force is right but the moment is wrong and vice versa?

When non-specialists, or even the patients alone, without intervention from professionals, attempt to obtain "straight teeth" (the "hat" under which all aspects of orthodontics are assembled on the internet), the result might be successful or might lead to enormous damage. Such harm was demonstrated in an autopsy report of a young adult orthodontic patient who was killed in an accident (Werhbein et al, AJODO,

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1995). The increasing number of publications about iatrogenic damage may reflect not only that more adult patients are being treated, but also that goal-oriented orthodontics is converting to the market-driven, "easy, fast smile" orthodontics. If we don't do anything to prevent this development or, if we fail to look at the patient and his/her problems individually, are we seriously shortchanging our patients? Assigning the patient to one of the standard categories where the appliance is focused on intra-arch problems and leaving the inter-arch problems to intermaxillary elastics or compliance free bite jumpers is rarely quality treatment. And what about asymmetries? Exchanging a midline deviation with a canted occlusal plane is not a quality result.

Well-defined treatment goals, described in all three planes of space followed by the application of a goal-oriented appliance may be our salvation. If we don't know where we are going, we may not be as lucky as Alice in Wonderland, who claimed that all places could be beautiful. Instead, the reputation of our profession which we love so much might just become blackened. Let it be known and shown that the well-trained orthodontist is able to distinguish between the problems that can be solved by fast food and the ones that require knowledge of mechanics and biology. The societies gathering in the name of Edward Angle and the Board certificates awarded to candidates proven capable, contribute to recognition of the attempt to deliver quality treatment to patients. We cannot prevent "Fast Food Orthodontics" but maybe we should try to teach the non-orthodontists the limitations. I don't have the solution but a discussion on the future is urgent.