

ABSTRACT

Current advances in contemporary Class III treatment. How far can we push the limits?

Rapid Maxillary Expansion (RME) with facemask (FM) protraction has been the most frequent treatment option in Class III correction as maxillary retrusion is a major contributing factor in the development of the malocclusion. In addition, Class III subjects show larger mandibular plane angles, gonial angles, mandibular ramus and corpus length and lower face height whereas maxillary length, ANB and Wits are and remain much smaller between 6 to 16 years of age compared to Class I subjects. This aberrant pattern of craniofacial growth expressed as worsening of maxillomandibular relationships over time makes management of Class III patients a challenge in clinical practice. Significant favorable effects of conventional RME/FM treatment include forward maxillary movement, reduction of mandibular projection and improvement in relative intermaxillary discrepancy with the long term stability of observed skeletal changes being questionable and attributed mainly to the early establishment of positive overbite and overjet relationships. However, individual variations in treatment response and a series of dentoalveolar side effects have resulted in seeking and employing alternative treatment approaches by utilising temporary skeletal anchorage such as titanium miniplates and/or mini-implants and miniscrews. The aim of this presentation is to describe and quantify the effects of current approaches in the treatment of Class III malocclusion as achieved with the implementation of skeletal anchorage, surgically assisted methods and protocols using alt-RAMEC.

Accelerating tooth movement. Fast and furious at what cost?

One of the most challenging aspects of orthodontic treatment is its increased duration and resultant side effects such as orthodontically induced inflammatory root resorption (OIIRR). Patients and especially adolescents and adults are concerned about the length of time required for them to wear fixed orthodontic appliances and this factor has been shown to be a significant barrier for patients considering orthodontic treatment. Recently, there

has been an increased interest in research focusing on accelerating orthodontic tooth movement. This is partly due to an increased demand for shorter orthodontic treatment times and the increasing numbers of adult patients seeking treatment. Reducing the duration of orthodontic has been advocated of having multiple advantages such as reducing the risk of caries, gingival recession, root resorption, reducing patient burn out and improving the efficiency of treatment. Several surgical methods including bone decortications with or without bone grafting, segmented osteotomies, piezocision and osteperforations have advocated a positive effect in reducing orthodontic treatment time. In conjunction, appliances being available in the market claim that the use of vibration, laser emission and photomodulation in general can safely reduce overall orthodontic treatment time. There is currently limited evidence on whether or not these methods have a significantly favourable clinical effect in accelerating orthodontic treatment and if they are responsible for any side effect to the dental tissues. In this presentation, current evidence in the efficacy and safety of these methods will be discussed.

CV

Dr Alexandra K. Papadopoulou (short CV)

Dr Alexandra K. Papadopoulou is a Senior Lecturer in the Department of Orthodontics of the University of Sydney, Australia. Dr Papadopoulou has received her Dental Degree, Certificate in Oral Surgery, Implantology and Dentomaxillofacial Radiology, Specialisation Degree in Orthodontics and PhD from the Faculty of Dentistry, Aristotle University of Thessaloniki, Greece. She also completed a 2-year Fellowship in the Department of Histology and Embryology, Faculty of Medicine, Aristotle University of Thessaloniki, Greece. Dr Papadopoulou has supervised 12 Doctor in Clinical Dentistry (DClinDent) Orthodontics Thesis and additional Higher Research Degree projects (Masters

in Philosophy and PhD) in the University of Sydney. Dr Papadopoulou has published several research papers in peer-reviewed journals and is also a reviewer in most orthodontic journals. She has received the 2015 International Align Research Award from Align Technology. Her main research interests focus in the efficacy of dentofacial orthopaedic treatment, adjunct methods in accelerating orthodontics, skeletal anchorage devices, orthodontically induced inflammatory root resorption (OIIR), biology of orthodontic tooth movement, obstructive sleep apnoea and airway changes with orthodontic treatment, interdisciplinary treatment.