

1. Esthetic aligner treatment, widen the spectrum of opportunities using palatal TADs

Lecture Synopsis:

An increasing number of patients seek orthodontic treatment with sequential plastic aligner therapy. Pure bodily tooth movement with aligner therapy is challenging when relying on aligner movement alone. Whilst there are limited reports of successful upper molar distalization of up to 2.5 mm in the literature, a very long treatment time and high level of patient compliance and is expected with requirement for intermaxillary elastics to be worn during the long period of the sequential upper molar distalization. Moreover, the potential side effects of elastics must be considered in terms of shift of the lower anchorage teeth; this might be a severe problem especially in unilateral elastics applications with the potential for development of a lower midline shift, maxillary arch rotation and a jaw discrepancy, and transverse occlusal canting. To avoid this anchorage loss and the high demand on class 2 elastic wear, orthodontic mini-implants may be used. Currently, the alveolar process is the most preferred insertion site for mini-implants. However, due to the varying bone quality and the risk of root contact, the survival rate of implants inserted in the alveolar ridge is far from satisfactory. Other regions such as the anterior palate provide much better conditions for the insertion and stability of skeletal anchorage devices, as the amount and quality of the available bone is far superior. Mini-implants in the anterior palate with different types of abutments and connectors allow the construction of a large variety of anchorage reinforcing appliances. Utilising mini-implants in the anterior palate eliminates the risk of root injury and removes them from the path of tooth movement.

Learning Objectives:

- Clinical problems, recent advances and research pertaining to the use of skeletal anchorage will be presented.
- Attendees will learn where and how mini-implants can be inserted
- The strategies to combine aligners and mini-implant borne mechanics such as the Beneslider and Mesialslider should be understood.