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Anterior Tooth Alignment – Recommendations for Stability

Abstract: This article considers the importance of current orthodontic practice in retention and stability when considering anterior tooth alignment.

Clinical Relevance: With the exponential increase of general dentist-based orthodontic systems for anterior tooth alignment, with considerably shorter treatment times, practical recommendations along with a current literature review are required to improve success and outcome of the long-term result.

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Anterior tooth alignment seems to be a treatment option preferred by dentists as the non-invasive alternative to destructive tooth preparation for adult patients. Although, from a biological perspective, this may be an ideal way to provide a conservative approach, it is open to controversy, particularly if the treatment time is considerably shortened. The key issues being related to compromised treatment goals, informed consent, clinical consequences of retreatment and long-term stability.¹

Anterior tooth alignment is a feasible treatment option for adult patients and constitutes one of the many possible solutions after a thorough orthodontic and aesthetic assessment. The assessment should

consist of understanding the patient's chief complaint, performing a thorough evaluation with relevant diagnostic analysis which will allow for the formulation of a problem list from which treatment goals and solutions can be devised. A joint consultation with the patient, restorative dentist and the inclusion of other specialties, if necessary, at the outset may prove invaluable and is to be recommended.

When considering different treatment options, the clinician must be able to explain how the malocclusion affects the patient aesthetically, functionally and biologically. Treatments advocating a long-term improvement in the prognosis of teeth and the stomatognathic system will inevitably be more cost-effective in the long run.

Therefore, case selection for anterior tooth alignment requires a full disclosure of treatment options, with advantages and disadvantages of each treatment plan, before the patient can make an informed and educated decision.

When the decision to embark on an anterior tooth alignment case is made, consideration needs to be taken on both the occlusal stability and the

retention protocol. This should essentially be at the treatment planning phase and utilize an evidence-based approach to comprehensive orthodontic treatment regarding retention and stability.

A good starting point is by reviewing the findings from the Cochrane Library on '*Retention procedures for stabilizing tooth position after treatment with orthodontic braces*'.² The study compared Hawley retainers, clear vacuum-formed retainers and fixed retainers, along with the use of the circumferential supercrestal fibrotomy procedure. The review states that there is a lack of robust evidence on which to base clinical practice owing to the inclusion of only five randomly controlled trials in the study. However, the review demonstrates the benchmark for the basis of further studies to improve research and understanding in this field. The answers or lack of answers derived from evidence-based research should be considered with other influences, such as cognitive or political factors, when setting up good practice.³

One of the most useful and easily accessible papers on retention protocol, which supersedes any recommendation made by opinion, is

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