

Methods of anterior torque control during retraction: a systematic review

Anna Ewa Kuc

Specialist Aesthetic Dentistry Center, Poland

Abstract

Background: There are various methods of controlling the inclination of the incisors during retraction, but there is no evidence as to the advantages of some methods over others. Research conducted by our team related to the review of the available literature identified several methods with varied effectiveness of torque control during anterior teeth retraction.

Methods: In the study of the available literature that was qualified to our study we included the patients with complete permanent dentition with the examined the maxillary incisor torque after and before retraction with straight-wire appliance and different modes of torque control where statistically significant differences in torque values of the upper incisors after orthodontic treatment were observed. The literature of our research were subjected to risk of bias and quality analyses with the ROBINS-I protocol and the modified Newcastle–Ottawa QAS, respectively

Results: Despite numerous articles published in reputable scientific journals (580 subjects) only 13 articles could be selected because only they met our criteria. All authors recognized that incisors were retroclined during retraction by 2.46° (mean difference), which was statistically significant. Statistical analysis confirmed that the differences in torque between the study group and the control group were statistically significant in most of research. We assessed our research for heterogeneity of articles in relation to their impact on the significance of the analysis performed.

Conclusion: As a result of the analysis conducted by our team we recognized that both properly performed corticotomy and en-masse retraction using orthodontic microimplants seem to be the most effective and scientifically validated methods of torque control. Just after the publication of our research an article “En-Mass Retraction of Maxillary Anterior Teeth with Severe Proclination and Root Resorption—A Case Report” appeared which also discussed the advanced retraction of incisors with the use of Tads and evaluate the difference in their inclination.

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Biography

Anna Ewa Kuc is an orthodontist and dental hygienist. She is the owner of Dental Star with 18 years of professional experience. she passed the specialization exam with a high result and completed 3-year postgraduate studies in orthodontics at the University of Austria. she participates in numerous trainings in the field of orthodontics, dental prosthetics and cosmetic dentistry, and continues to develop his skills and acquire the latest knowledge. She deals with orthodontic and prosthetic treatment both in children and

adults, restoring the aesthetics of a smile and functional occlusion. Since 2009, she has been running his own clinic and takes care of the highest level of services provided. She always carries out thorough diagnostics that allows for the presentation of the optimal treatment plan for the patient. In her work, she always recreates the natural shape of the teeth, correct occlusion (bite) and perceives the entirety of oral problems from all dental fields, including them in a comprehensive treatment plan so as to maintain the effects of treatment obtained over time.