

American Association of Orthodontists Foundation

Research Aid Award

Dr. Ryan Kearney, *University of North Carolina, Adams School of Dentistry*

Biography

Dr. Ryan Kearney is a third-year orthodontic resident at the University of North Carolina Adams School of Dentistry. He completed his undergraduate education at the Florida State University and went on to obtain a dental degree from the University of North Carolina Adams School of Dentistry. During his previous studies, Dr. Kearney's focus has been on translational and clinical science in the fields of mTBI and craniofacial patients. His research focus in orthodontic residency emphasizes improvement of clinical efficiencies and modalities for orthodontists in their daily treatment of patients.



Project Description

In the United States, anterior openbite (AOB) has a prevalence of 0.6% to 16.5%. It is a condition that drives affected individuals to seek treatment, because of poor function and esthetics. The etiology includes digit-sucking habits, condylar resorption, or true skeletal growth abnormalities. The management approach is dependent on the AOB etiology and severity. Orthopedic appliances and fixed appliances are commonly used for the correction of mild AOBs. For more severe cases of skeletal origin, orthognathic surgery is recommended.

Studies have demonstrated long-term stability of AOB correction with fixed appliances and temporary anchorage devices (TADs). More recently, clear aligners have become a legitimate option to address openbite malocclusions. This is following technological advances in clear aligner software, such as ClinCheck[®], which have allowed clinicians to program the intrusion and extrusion of specific teeth. These tooth movements, combined with the bite block effect aligners provide to molars, have the potential to correct dental openbites. With the increased use across the world and improvements in clear aligners, there is an urgent need to assess the long-term stability of AOB correction with aligners. Examination of the literature has demonstrated paucity of robust studies on this topic, therefore, our study is particularly timely and relevant.

Importance of AAOF Funding

The honorable support from the American Association of Orthodontists Foundation (AAOF) for my research project will offer the orthodontic profession insight into the treatment of anterior openbites and examine the differences that fixed appliances versus clear aligners may have into long-term treatment outcomes and stability. Through our work, we hope to offer orthodontists the information needed to guide their clinical treatment and management of patients who exhibit an anterior openbite. This opportunity provided to me by the AAOF plays a vital role in aiding my beginnings of my future academic career.