

## Research Aid Award

**Dr. Mary Morgan Bitler Keyser, *University of North Carolina at Chapel Hill***

My name is Mary Morgan Bitler Keyser, and I am a member of the Orthodontic Residency Class of 2021 at the University of North Carolina at Chapel Hill. I am an honored and proud recipient of the 2020 Research Aid Award from the AAO Foundation for my project titled “Orthognathic speech pathology: Understanding how jaw disharmonies influence speech.”



I am a native of Raleigh, North Carolina where I lived throughout my adolescence prior to moving to Chapel Hill as an 18 year-old undergraduate to study Psychology, Spanish and Chemistry. Falling in love with Chapel Hill, I stayed on to complete my D.D.S. at the UNC-CH Adams School of Dentistry. During my third year of dental school, I realized my interest in orthodontics had grown into a passion and a calling that I could not ignore. After 8 years in Chapel Hill, I traveled to explore the wonderful orthodontic residencies throughout the country. After visiting many impressive programs, I knew I would be lucky to study in any one of them. I am immensely blessed that my native state has such an esteemed orthodontic residency, which I was able to join.

In working with more orthognathic cases as residency has progressed, I have learned that speech-sound disorders are seen in 80% of patients with dentofacial disharmonies (DFD) compared with only 5% of the general population, impacting communication and quality of life. However, the causal link is unknown. The goal of my project is to examine the relationship between jaw disharmonies and speech distortion and to characterize tongue posture in surgical patients with Class III and AOB malocclusions. The end-goal of the project is, with the knowledge generated from this investigation, to provide insight into the interplay between the jaws, teeth and vocal instrument and develop evidence-based treatment recommendations for addressing speech anomalies in DFD patients.

The AAO Foundation is affording me a unique opportunity to expand on a research project established by two previous UNC residents--Drs. Hillary Lathrop and Laura Jacox. Their desire to investigate a gap in the body of

knowledge regarding speech patterns within the DFD population spawned a project that has the potential to change clinical practice. The Foundation is integral to allowing this project to continue, grow, and flourish. The Foundation's support of those residents and academicians before me is what has provided a picture of what sound and strong research looks like. More specifically, one of the project initiators, Dr. Laura Jacox, has received previous support from the Foundation and stayed on as a faculty member at UNC-CH; she has served as a mentor to me throughout residency.

I am thankful for the chance to work with the speech pathologists, oral surgeons and orthodontists who care passionately about this interdisciplinary project. These experiences will undoubtedly shape me into a better clinician because of my interactions with the other specialists and the wisdom they have shared. I also hope this project will provide data to guide the decisions of clinicians for many generations to come.