Research Aid Award

Dr. Po-Jung Chen, *University of Connecticut Health Center*

Biography

Dr. Chen is a second-year orthodontic resident at the University of Connecticut. He graduated from dental school at Kaohsiung Medical University in Taiwan. He completed his Master of Dental Science at National Yang-Ming University, and simultaneously completed clinical orthodontic training at Taipei Veterans General Hospital, Taiwan. He is a diplomate of the Taiwan Board of Orthodontics. After 6 years of practice in orthodontics, he came to the University of Connecticut for a clinical orthodontic fellowship and a postdoctoral fellowship. He has been proactive in advancing his knowledge in clinical orthodontics along with pursuing his interest in translational research and has expressed his interest in pursuing an academic career as a clinician-scientist.

Project Synopsis

Anchorage control is critical during space closure, especially in extraction patients requiring high/absolute anchorage. This helps to achieve/maintain proper occlusion and improve soft tissue profile. Establishing adequate anchorage before initiating anterior teeth retraction is important.

Extraoral appliances depend extensively on patient's compliance, are not easy to wear and have esthetic & social issues. Some intraoral anchorage techniques such as inter-arch elastics require compliance while others (like; Trans-palatal arches, bonding second molar) have not shown to provide any significant advantage over traditional anchorage reinforcements. Temporary anchorage devices (TADs) are a popular noncompliance alternative to more traditional forms of anchorage, however additional anesthesia, possibility of damaging the dental roots during insertion and removal, added costs and implant loosening/failures are major disadvantages.

Intraarch mechanics utilizing the concept of differential moments has been shown to accomplish adequate anchorage control. This project will help to optimize the application of one couple-force system created by a cantilever spring with traditional sliding mechanics for superior anchorage control. This is a quick, non-invasive, noncompliance, intraoral based method of obtaining maximum anchorage.

The innovation of this project lies in the 3-dimensional approach of measuring the force system created by the base archwire cantilever combination during sliding mechanics-based space closure.

Importance of AAOF Funding

The support and generous funding from the AAOF RAA play a pivotal role in conducting his research. Also, completion of this work will serve as a key professional stepping-stone to further his career aspirations in academia combining his interests in clinical excellence and research.