Year: 2023

Type of Awards (Young)

Name of Principal Investigator: Jie Zheng

Affiliated Institution: Wuhan University

About of the PI

- Introduction & Education:

2007-2012 Baccalaureate, Dentistry, School of Stomatology, Wuhan University

2012-2015 PhD, Orthodontics, School of Stomatology, Wuhan University

- Career Trajectory:
  - ✧ *2015-2022* Attending physician, Hospital of Stomatology Wuhan University
  - ✧ *2022 to date* Associate chief physician, Hospital of Stomatology Wuhan University
  - ✧ *2020 to date* Youth committee member of Chinese Cleft Lip and Palate Society
  - ✧ *2020 to date* Youth committee member of Chinese Orthodontic Society

- Research Contributions, Impact & Recognition:

The digital nasoalveolar molding appliance for presurgical use, developed by my team, has achieved an advanced international standard. It won second prize for technological invention in the Hubei Provincial Science and Technology Awards in 2021.

- Personal Insights:

In 2015, I earned my PhD in Orthodontics and have since specialized in treating patients with cleft lip and palate, as well as conducting related scientific research. My research focuses on the craniomaxillofacial growth and development of this patient population, with the aim of significantly improving their growth deficits.

- Future Directions:

I work on the full lifespan of cleft lip and palate, and there are many interesting aspects of clinical research on cleft lip and palate, including phonetics, psychology, airway, growth and development, reporting of treatment outcomes, and so on, which are all areas I intend to follow up with research.

Brief Summary of the Project:

Pre-surgical nasal alveolar molding (PNAM) is the first step in the cleft lip and palate (CLP) sequence therapy. Traditional PNAM treatment has some limitations, such as high technical requirements and frequent follow-up visits, which limit the widespread use of this technique. The application of a novel digital PNAM device (consisting of a series of 3D-printed alveolar molding plates and a nasal hook) could solve these problems. However, no prospective study has been conducted to determine whether its effectiveness in shaping the soft and hard

tissues of the nasolabial and palatal regions in children with unilateral CLP is superior or close to that of conventional PNAM methods. Therefore, this study intends to compare the molding effect of the novel digital PNAM appliance with that of the traditional one by means of a three-dimensional study to analyze whether there are differences in the efficacy of these two methods and thus provide some guidance for the presurgical infant orthopedics of UCLP.