



**American Academy of Maxillofacial Prosthetics**  
**70<sup>th</sup> Annual Meeting: October 21 – 24, 2023**  
**Omni San Diego Downtown, San Diego, California**

**Program Speaker – Arthur Bigsby III**

**Title**

Rigidly Fixated Custom Oral Radiation Shield Positioner: Fabrication and Hospital Workflows

**Abstract**

When treating patients with head and neck cancer using radiation, fixation of a rigid custom oral radiation shield positioner (ORSP) to a thermoplastic treatment mask will immobilize tissue, allow for predictable radiation delivery with minimal radiation exposure to adjacent tissue and reduce sequelae often seen with radiation delivery. Sculpting a custom ORSP in dental waxes allows for rounded, idealized contours that optimizes patient comfort and dosimetry planning.

This process continues to scanning and 3D printing in photopolymerized resin that avoids porosity and, with known material properties, allows for effective calculated dosimetry through the device.

Experience and skills required to fabricate ORSP are often developed between clinical teams of integrated head and neck cancer care: a community of surgical oncologists, radiation oncologists, imaging specialists, dental laboratory technicians and oncologic dentists. This lecture will detail both direct and indirect workflows for the fabrication of ORSP. These workflows can be incorporated to fit the needs of both patients treated with adjuvant radiotherapy and those where radiation is used as a primary mode of therapy.

**Biography**

Dr. Bigsby III maintains a private practice in Syracuse, NY limited to maxillofacial prosthodontics and prosthodontics. He is an attending maxillofacial prosthodontist at SUNY Upstate University Hospital. Dr. Bigsby III is a graduate of the University at Buffalo SDM, SUNY Upstate GPR, Manhattan VA Graduate Prosthodontics and the Mayo Clinic's Maxillofacial Prosthetics and Dental Oncology Fellowship.

Dr. Bigsby III currently sits on the AAMP's Insurance Committee, the board of the Western New York chapter of the ACP and he is Onondaga County Dental Society's treasurer. He is a proud recipient of the 2022 Maxillofacial Foundation Award and the 2021 Dennis Tarnow Award. His research has been awarded at the AAMP poster competition, MD Anderson Oncology Symposium and the Alan Carr Scholarship Symposium.