Construct Validation of a Low-Cost, Non-Biologic, Sinus Surgery Task Trainer

**Primary Investigator:** R. Alex Harbison, MD, MS (PGY6/R4)
**Faculty Mentor:** Greg E. Davis, MD, MPH
**Study Team:** Kaalan Johnson, MD

**Aims/Goals:** To evaluate a reusable, non-biologic, low-cost sinus surgery task trainer for training and practice of sinus surgery movements. To analyze the association between task trainer performance and (1) level of surgical training, and (2) potential predictors of endoscopic skills.

**Methods:** Cross-sectional validation study with medical students (12), residents (9) and otolaryngology faculty (5). A Global Rating Scale (GRS) evaluated baseline demographics and prior experience with sinus surgery, simulation, and fine motor activities. Participants also performed a set of nine deconstructed sinus surgery tasks using a surgery task trainer.

**Results & Interpretation:** Task trainer performance is associated with surgical experience. Previous video gaming, sports, and sinus surgery simulation experience are likely associated with task trainer performance.

**Conclusions:** This study demonstrated evidence of construct validity of a widely accessible, low-cost, low technology, non-biologic sinus task trainer. We observed associations between GRS score and prior video gaming, sports participation, and sinus surgery simulation experience.