

## 3D PRINTING & MEDICAL EDUCATION: DEVELOPING SIMULATED VAGINAL MODELS FOR PEDIATRIC GYNECOLOGY TRAINING.

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### ABSTRACT: Poster (1E)

**Purpose:** Pediatric and Adolescent Gynecology (PAG) is a subspecialty of Obstetrics and Gynecology focused specifically on the care of children and adolescents. This demographic differs from the adult population as they present with unique pathologies, have different anatomical variants, and are often challenging to examine. Despite this, residency programs in Canada have identified a pervasive lack of exposure to PAG during academic training. Fortunately, 3D printing provides an affordable way to design and construct models for use in simulation based medical education to provide a safe and effective environment, within which the development of these skills may be fostered. The aim of this study is to employ 3D printing technology to develop a vaginal training model in PAG that addresses a potential lack of patient exposure and enables learners to develop important skills including basic examination, vaginoscopy, and hymenectomy.

**Methods:** This study is to be completed with staff and resident physicians in the specialty of Obstetrics and Gynecology. The first phase of model development is currently in progress and is to be completed in collaboration with a research assistant within the MUN MED 3D printing team. Vaginal models at various developmental phases will be constructed. Molds will be 3D printed, from which silicone models will be produced, which include realistic external genitalia and vaginal canals as well as anatomical variants (e.g. imperforate hymen) to simulate patient encounters. Phase two of this study will involve establishing validity of the model during dedicated resident simulation labs. Residents and staff physicians will be asked to complete a qualitative questionnaire that asks participants to assess the model on measures of face validity including appearance and functionality during simulated procedures.

**Next Steps:** This study is currently in progress as the models are undergoing development for future testing. This development is being carried out in collaboration with staff Obstetrician/Gynecologists and representatives from MUN MED 3D. Once the initial models are completed, we will proceed to the second phase of this project which involves validity testing by Obstetrician/Gynecology residents of various postgraduate levels in a simulated skills session. We hope to demonstrate the value of integrating 3D printing technology and simulation into medical education initiatives in the field of PAG.