INTRODUCTION AND RATIONALE

- Many medical schools teach anatomy and embryology in a combined course as an essential component of preclinical medical curriculum.
- A large disparity exists between average course hours devoted to anatomy (167) versus embryology (16) (Drake, 2002).
- The course at Brody is largely taught with a course pack with few images and accompanying 2D textbook images.
- Previous studies (Chekroni et al., 2020; Preece et al., 2013) have indicated that using three-dimensional models enhances student understanding and is perceived positively by students.
- However, models for purchase can be cost-prohibitive for many medical schools.
- This study examines how low-cost three-dimensional models can be used effectively to supplement class materials and instruction.

RESULTS

- Quiz score mean increased by 25.7 points (p < .001)
- 38/42 students increased their score (up to 80 points)
- 4 students maintained same score
- No student’s score decreased

MATERIALS AND METHODS

- Participants recruited from the first-year class at the Brody School of Medicine.
- Attended a 30-minute workshop using 3D models made of modeling dough (Figs. 1 & 2) to reinforce topics learned in class.
- Completed a 10-question pre- and post-quiz and an exit survey designed to gauge students’ opinions of the teaching methods used.

DISCUSSION

- Students performed significantly better on knowledge-based questions after attending the 3D model workshop.
- Participants indicated overall strongly positive attitudes toward the use of models to supplement in-class instruction.
- These data corroborate previous studies highlighting the potential value of using 3D models in embryology courses.
- Also indicates that homemade, economical models can be effective teaching tools.
- Further research needed to assess impact of models on long-term recall and compare modeling methods (homemade versus professional varieties).

ACKNOWLEDGEMENTS

- Funding for this project was provided by the Medical Education and Teaching Distinction Track.
- Special thanks to Dr. Craig Wuthrich and the participants from the Brody School of Medicine class of 2025.

REFERENCES