

# "Image Is Everything": A Graphic Depiction of the Tracheobronchial Tree using Clay Models For Radiology Resident and Student Education



Obaro-Best, Oghale, MD<sup>1</sup>; Edelman, Daniel, MD<sup>1</sup>; Hur, Sonia, MD<sup>1</sup>; Baig, Mirza MD<sup>1</sup>; Maddineni, Shekher MD<sup>1</sup>;

Perry, Gerard, MD, MBA, FACR<sup>1</sup>; Meshekow, Jared, MD<sup>2</sup>

1: Department of Radiology; Westchester Medical Center 2: Department of Radiology, Temple Health



## OBJECTIVE

- To advance radiology resident and medical student's pulmonary understandings using a 3D clay construct of the tracheobronchial tree.
- We demonstrate a detailed view to further understanding from a radiology perspective with reference to plain films, CT, MR, nuclear medicine and molecular imaging procedures.

## METHODS/MATERIALS

Clay modeling has been shown to stimulate imagination, improve hand-eye coordination, develop fine motor skills, learn anatomy, and increase the overall enjoyment in learning. Here we using air dry clay and image references, models of the tracheobronchial tree were created. Models with actual imaging studies to demonstrate pathologies, variable anatomy, post surgical procedural anatomy and various pathologies.

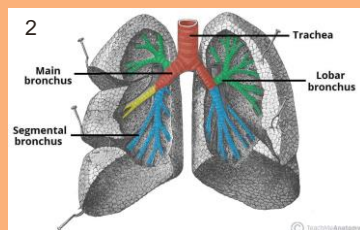
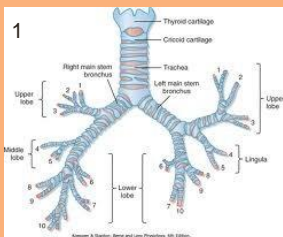


Fig 1: Tracheobronchial tree, example for clay model. Fig 2: Tracheobronchial tree with lobar divisions depicted within the lung

## RESULTS

Clay models of the tracheobronchial tree were formed to enhance the understanding of the complex anatomic structures. A clear and detailed understanding of the anatomy is important to the radiologist to allow interpretation of complex radiology studies. This is especially true in the post surgical patient where anatomy has changed and understanding these issues can assist the surgeon in follow-up of complications. The 3D models promote interactive learning and helps students visualize the respiratory system's intricate details.

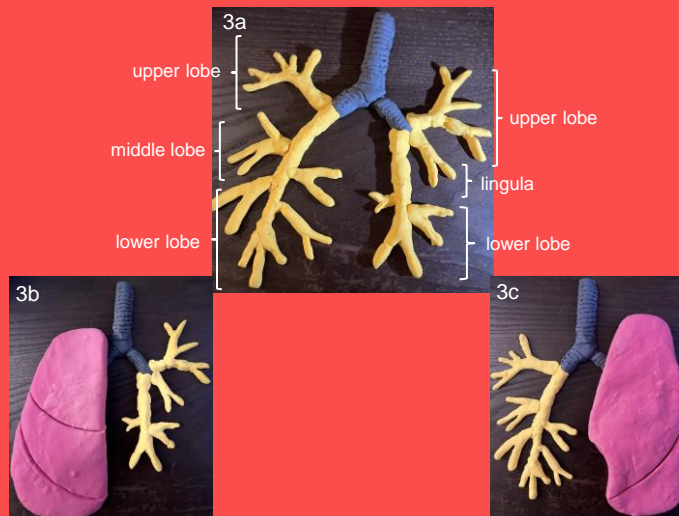


Fig 3a-c: Clay Models of the tracheobronchial tree

## CONCLUSION

Using clay models to demonstrate the tracheobronchial tree can be an effective educational tool in medical and healthcare settings to allow residents and medical students a better understanding of the anatomy and pathology. The 3D models allows a more complete understanding of complex anatomy and pathologies while comparing these models with actual radiology imaging examinations.

## REFERENCES

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## ACKNOWLEDGMENTS

WMC Department of Radiology  
TEMPLE Health Department of Radiology