

DESCRIPTIVE ABSTRACT:

RUTLAND, Marsha D., and Cheyanne N. HAMILTON. Department of Physical Therapy, Hardin-Simmons University, Abilene, TX, 79698, USA. Middle Ear Dissection in the Anatomy Cadaver Lab to Improve Future Education.

INTRODUCTION. Commonly, cadaver dissections of the middle ear are performed using an endoscope. Dissections using an endoscope are highly specialized and not available to all cadaver anatomy labs. The middle ear is difficult to dissect due to its enclosed location within the temporal bone. These factors contribute to lack of dissection of the middle ear. Instead, other methods of teaching the middle ear are used. This study provides cadaver dissection techniques that can be utilized to allow for more widespread anatomical teaching of the middle ear bones. **RESOURCES.** Embalmed Cadavers. **DESCRIPTION.** Before performing the middle ear dissection, the entire calvaria was removed using a bone saw directly above the eyebrows and one inch superior to the ear canal. Once completed, both the cerebellum and cerebrum were removed from the cranial cavity. Soft tissue surrounding the ear, styloid process, and mastoid process were removed using a scalpel. The prone position allowed the most access to the dissection area prior to initiation of the middle ear dissection. When attempting to dissect the middle ear, a section of the temporal bone was removed from the calvaria for more visualization of the external auditory meatus. Then, dissection tools were used to remove the anterior portion of bone from the external auditory meatus, exposing the tympanic membrane. Visualization of the middle ear cavity was possible after the removal of the tympanic membrane, being careful of the attached malleus. Once the middle ear was exposed, the malleus was viewed and removed followed by the incus and stapes. Care must be used with dissection of the stapes due to its fragility, and the crus can break off the footplate during removal. Once the stapes was removed, the oval window could be viewed. **SIGNIFICANCE.** By performing this dissection, the anatomy and physiology of the middle ear was clearer to first year students. The techniques used in this dissection method allowed anatomy students the ability to locate and dissect the middle ear with minimal difficulty and with common dissection tools. By performing the dissections on cadavers, students can increase their knowledge and skill set in this area without complete dependence on usage of models, textbook images, and other theoretical methods.

References:

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