

# Ovine Endoscopic Ear Surgery - Accessible Smartphone-Based Training Model

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## Abstract

Background: Understanding middle ear anatomy, in addition to endoscopic surgical skill acquisition, is an arduous task. Mastering 3-dimensional conceptualization as well as surgical dexterity may take many years. The coronavirus pandemic has made training difficult and complicated due to social distancing and risk of aerosolized viral spread in cadaver dissection. Objectives: We suggest a smartphone-based endoscope ovine head cadaveric dissection which is a simple, safe, and affordable training model for residents as an initial step in otologic endoscopic surgery training. Design: A stepwise depiction of endoscopic ovine middle ear surgery; from cadaver and equipment acquisition, setting preparation, to surgical explanation and procedural steps. Results: Smartphone-based endoscopic otological ovine dissections provide comprehensive anatomical understanding, middle ear proprioception, as well as a “safe” practicing model for diverse middle ear procedures for the novice endoscopic surgeon. Conclusions: The ovine cadaver otological smartphone-based endoscopic surgery training model is an affordable, easy, reproducible, and transportable model, which makes it an ideal model from implementation in both low-middle and high-income countries.

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