# Depth of Anesthesia: A Podcast Project to Improve Perioperative Patient Care

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Anesthesia is full of claims. We define a claim as a practice decision that we either believe is true or is something we default to. Oftentimes claims are rooted in anecdotal clinical experiences or observations derived from basic science. Such claims are then introduced into clinical practice without further rigorous examination. These claims are often given life and perpetuated to trainees. Depth of Anesthesia is a podcast born out of the belief that we, as clinicians, should understand the evidence behind such claims and strive to understand the primary literature that may or may not support our practices. Each exploration is designed to foster discussion in the name of improving patient care and to inspire further research to advance our specialty. Our podcast has been well-received globally. Our first episode, exploring the safety of administering paralytic before checking mask ventilation, has earned more than 8,000 unique downloads in 44 countries. World class experts have joined the cause to explore our clinical practices and to better understand the depth of our care in anesthesia.

Each Depth of Anesthesia episode starts with a case that introduces a common clinical scenario in which one or multiple claims are embedded. We ask our guest(s) to identify the relevant claims and for our audience to consider two questions: What is the level of your agreement with the claim(s), and what is the level of evidence for what you believe? Our first episode, published in April of 2019, delved into the primary literature to explore the evidence behind the claim that adequate mask ventilation should be established before administering paralytics. We believe that for each claim in anesthesia, we should know what is supported or refuted by evidence and what claims have no evidence base but are nonetheless prudent because they follow logically from current knowledge. Our mission has been to help clinicians identify these claims, become curious, and question their own practices, with the ultimate goal of improving patient care.

As of June 2021, we have published 25 podcast episodes exploring a range of clinical controversies in anesthesia from the efficacy of cricoid pressure to the safety of cefazolin in penicillin-allergic patients. Podcasting has emerged as an influential modality to disperse information. It has gained popularity in Free Open Access Medical (FOAM) education. A podcast is a digital audio file, often available as a series, that is available for download. It is a unique form of engagement that provides flexible, self-paced, and self-directed learning during times that might otherwise not be used for studying (e.g., running, washing dishes, driving) [1]. While podcasts have been discussed in medical education literature for over a decade, evidence suggests that a full spectrum of medical education learners in various specialties are engaging in podcasts as part of the journey of lifelong learning [2,3]. In a survey of emergency medicine residents, listening to podcasts was the most popular asynchronous teaching modality and endorsed as the most beneficial [4]. Another study of internal medicine residents revealed clinical pearls as the most important feature of a podcast and offered a framework for creating podcasts for clinical topics specifically [5]. In anesthesiology, learners are interested in basic science, clinical, and professional topics, highlighting the versatility of this platform [6,7]. This modality may also be beneficial in teaching procedural skills [8]. In perhaps a recognition of a paradigm shift of knowledge dissemination, a number of journals including Anesthesiology and British Journal of Anesthesia have started producing podcasts.

Some medical educators have compared podcasts to review articles, allowing educators to curate, summarize, and share knowledge [9]. Indeed, features that make a podcast effective include the inclusion of multiple perspectives, an engaging style, and short duration [10-12]. The conversational nature of podcasts and their use of storytelling not only make podcasts feel engaging but also draw upon a sense of human connection
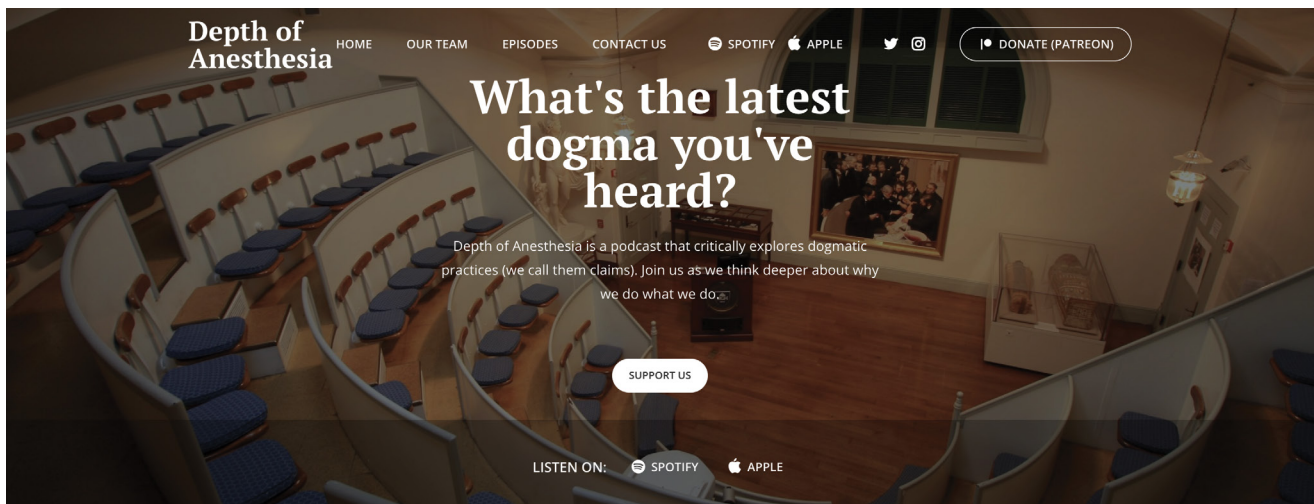
**Figure 1:** Depth of anesthesia website.

[12]. Podcasts also create a sense of community in that, similar to a book club, episodes may function as a catalyst for conversation [13]. This community may take the form of social media posts, collaboration with professional societies, and other, often digital, networking opportunities [14]. Importantly, as a podcast that critically explores claims, we would be remiss if we didn't mention that this level of evidence and rationale provides only hypothesis-generating support for podcasts as an effective educational tool.

In a formative article on evidence-based medicine in 1992, the Evidence Based Medicine Working Group commented that "Evidence-based medicine de-emphasizes intuition, unsystematic clinical experience, and pathophysiologic rational as sufficient grounds for clinical decision making and instead, stresses the examination of evidence from clinical research [15]." A guiding philosophy of our podcast has been to provide our audience with the information and tools to practice evidence-based medicine while simultaneously allowing space for interpretation and application. We create each episode with the hope that our audience will be inspired to explore the primary literature themselves to further explore the clinical questions we've raised. We've published a recent episode on the safety of low-flow anesthesia with sevoflurane as an interactive discussion with the episode script and all references [16].

Throughout each episode of Depth of Anesthesia, the conversation between host and guests is designed to prompt the audience to consider questions related to the claims and re-examine their beliefs through the lens of the evidence presented. We foster additional engagement through social media (e.g., Twitter @ depthanesthesia) to cultivate a community of clinicians who are interested in asking questions, staying up to date on literature, and engaging in lifelong learning to improve practice. As our podcast continues to grow,

we hope to explore and study the role of podcasting in improving knowledge retention, shaping clinical practice, and informing on the latest literature. Our goal is to bring dialogue around the topics we explore on the podcast to operating rooms around the world and to inspire our audience to explore the evidence underlying our practices. All our podcasts are available at depthofanesthesia.com (Figure 1) or on any major podcasting platforms (e.g., Apple Podcasts; Spotify Podcasts). Connect with us on social media (Twitter: @depthanesthesia; Instagram: @depthofanesthesia) or by email (depthofanesthesia@gmail.com). Explore our recently published discussion on the literature surrounding the safety of low-flow anesthesia with sevoflurane [16]. And consider joining us as a guest if you're interested in exploring a claim with us. We hope you join us on our mission to help anesthesia clinicians think more critically about what we do every day.

## Conflict of Interest Statement

None.

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