

Lights, Camera, Action! Comparing Outcomes of Direct and Video Laryngoscopy

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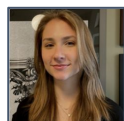
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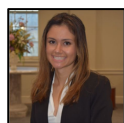
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1. INTRODUCTION

In cases where a patient’s airway is blocked and they can not breathe on their own, tracheal intubation helps deliver air to the body.² First, a clinician uses a laryngoscope, an instrument that helps them visualize the airway, to guide a tube into a patient’s nose or mouth, past their voice box, and through their trachea.² The tube connects to a machine that delivers air to the lungs.² There are two types of laryngoscopes commonly used to intubate: a direct laryngoscope and a video laryngoscope.¹ In direct laryngoscopy, a clinician uses a blade and light to visualize the inside of the mouth.¹ Video laryngoscopy uses the same equipment, but also includes a camera positioned at the end of the blade which allows the clinician to guide the tube without a direct line of sight from the mouth.¹ In 20-30% of intubations performed in the emergency department or intensive care unit, the clinician fails on the first attempt.¹ This is associated with an increased risk of life-threatening complications.¹ Approximately 80% of these intubations are performed using a direct laryngoscope.¹ Prekker et al. aims to determine the effectiveness of direct laryngoscopy compared to video laryngoscopy on critically ill adults in the emergency department and ICU.¹

2. PRIMARY FINDINGS

The study was conducted at 17 different emergency medical centers across the United States and randomly assigned 1417 critically ill patients being intubated to receive video-laryngoscopy or direct-laryngoscopy.¹ The primary outcome was successful intubation on the first attempt while the secondary outcome was the occurrence of life-threatening complications during intubation. These included hypoxemia, hypotension, increased vasopressor use (indicating low blood pressure), cardiac arrest and death.¹ Successful intubation on the first attempt was significantly higher in the video-laryngoscope group, occurring in 85.1% of the patients compared to 70.8% in the direct-laryngoscope group.¹ Additionally, video-laryngoscope group appeared to have a higher degree of severe complications at 21.4% of patients compared to 20.9% in the direct-laryngoscope group. However, the study was not optimized to determine the effect of video laryngoscopy on cardiac arrest, hypoxemia, and hypertension, so definitive conclusions can not be drawn.¹

3. HOW THIS IMPACTS PATIENT CARE

Prekker et al. suggests that video laryngoscopy resulted in higher cases of successful intubation on the first attempt than direct laryngoscopy.¹ This study differs from previous trials in that it used a significantly larger pool of patients over multiple centers.¹ Since failure to intubate on the first attempt has been associated with more life threatening complications and most critically ill patients undergo direct-laryngoscopy, these findings could have significant implications on patient care.¹ Increasing training in video laryngoscopy could lead to a higher rate of success in first-attempt intubations. This could decrease risk of life threatening complications and improve patient outcomes.¹

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Claire joined RAP-EMCC to help find ways to improve patients' experiences and explore the field of emergency medicine. She looks forward to gaining research experience and expanding her clinical and research skills. In her free time, she enjoys watching sci-fi movies, creating digital art and animation and drinking coffee.