

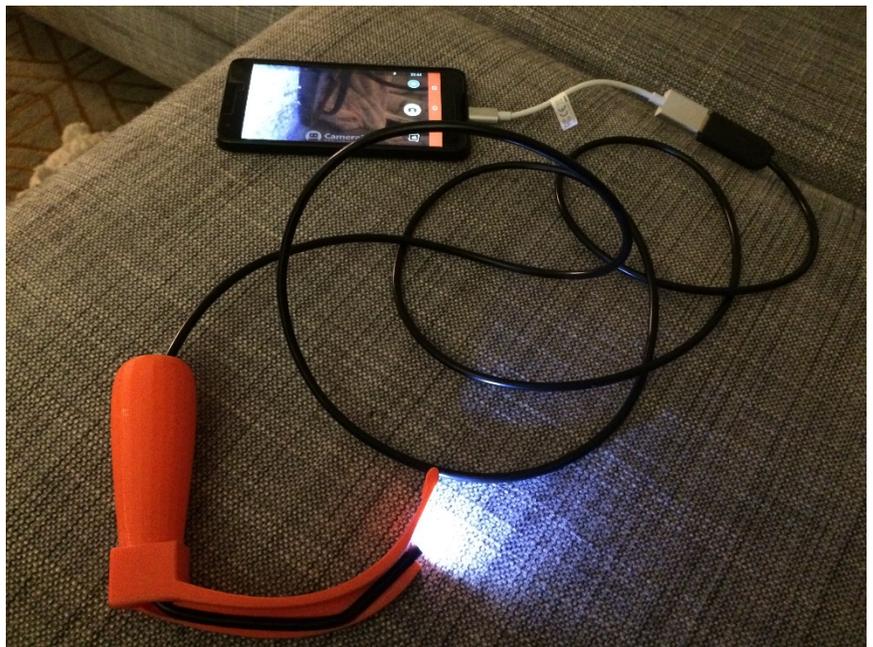
3D Printing the Affordable Video Laryngoscope

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Background/Introduction: Direct Laryngoscopy has seen little change since it was first described over 100 years ago, and remains the most common method for endotracheal intubation. In the last 20 years, airway management has seen significant technological advances, most notably, the video laryngoscope (VL). Studies have shown that the VL improves laryngoscopic views, increases first-attempt success rates, and is a valuable aid in education for inexperienced providers.^{2,3} High costs associated with this equipment have restricted its complete adoption as standard of care and limited its availability for training/education as well as for medical missions and healthcare in impoverished nations. This presentation will demonstrate how a simple VL can be made with easily available affordable technology.

Methods: I designed an open source, 3-D printed blade which accommodates an affordable widely available waterproof camera that can be displayed on any compatible Android based device or nearly any personal computer. The blade was trialed on intubating simulators and found to be effective at providing a good intubating view. Prototype blades and cameras will be inspected and demonstrated.



Results/Conclusions: The author hopes that this will ultimately stimulate discussion that will encourage innovation and lead to superior equipment with decreasing costs, ultimately benefiting patients. An affordable VL using easily available equipment and technology is feasible and effective.

References:

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3. Howard-Quijano KJ, Huang YM, Matevosian R, Kaplan MB, Steadmann RH. Video assisted instruction improves the success rate for tracheal intubation by novices. *British Journal of Anaesthesia* 2008; 101: 568–72