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Research Article

**AN ALTERED AND SAVVY VIDEO LARYNGOSCOPE (V-SCOPE) THAT CAN BE ASSOCIATED WITH A CELL PHONE CONTRASTED WITH A CUSTOMARY MILLER EDGE**<sup>1</sup>Dr. Tooba Qasim, <sup>2</sup>Dr. Maryam Yaqoob, <sup>3</sup>Dr. Amina Muqaddas<sup>1</sup>Govt THQ Hospital Police Lines Qila Gujjar Singh Lahore<sup>2</sup>BHU Amra Klan<sup>3</sup>District Head Quarter Hospital Sheikhpura**Abstract:**

**Introduction:** Endotracheal intubation is one of fundamental abilities that the anesthetist would find the best. One of primary drivers of anesthesia-related mortality and grimness is respiratory illness. There are few video laryngoscopes accessible available that encourage intubation both in the medical clinic and outside. These gadgets are avoided by their expense and accessibility, particularly in creating nations. In this pilot study, we assessed an altered, savvy video laryngoscope (v-scope) that can be associated with a cell phone contrasted with a customary Miller edge as far as intubation time performed by forthcoming anesthetists. It is the primary savvy laryngoscope dependent on a straight edge structure.

**Methods:** Our current research was led at Sir Ganga Ram Hospital Lahore from June 2018 to May 2019. Fifty grown-up patients utilized for elective medical procedure under general anesthesia remained randomized into gatherings of 21 individuals each. Cases in the principal bunch were intubated through the Millers sharp edge and Bougie utilizing the Para Glossal system. The other gathering remained intubated through the minimal effort video laryngoscope (v-scope) under comparative conditions. All intubations were performed by forthcoming anesthetists. The primary goal was the time required for intubation. The ideal opportunity for the representation of glottis (t1), further time for the effective consummation of the endotracheal intubation (t2) were additionally noted. The simplicity of intubation, the utilization of extra moves, the hemodynamic reaction and conceivable symptoms were additionally noted.

**Results:** The time required for intubation remained comparative in the two gatherings ( $78.26 \pm 27.48$  versus  $75.16 \pm 27.4$  sec, mean  $\pm$  SD). The glottis remained improved in addition the requirement for outer laryngeal control was less with the V-Scope. The time from representation of the glottis to intubation was reached out in the v-scope gathering ( $22.2 \pm 7.1$  sec versus  $15.8 \pm 4.7$  sec,  $p < 0.002$ ). Not any critical unfriendly occasions were watched.

**Conclusion:** The economical video laryngoscope is the valuable gadget in hands of the students that may improve glottal perspectives and accomplish comparative intubation times to Miller's cutting edge, like other video laryngoscopes.

**Key words:** Video laryngoscope; Smart phone; Miller Blade; Intubation.

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## INTRODUCTION:

Respiratory ailments are a typical reason for anesthesia-related mortality and grimness. One of the fundamental aptitudes that can be picked up during anesthesia is the capacity to achieve endotracheal intubation through various kinds of laryngoscopes [1]. The significant advance in endotracheal intubation is arrangement of oral, pharyngeal and laryngeal tomahawks. As of late, a 2-bend idea has been recommended that incorporates an essential (oropharyngeal bend) and an auxiliary (pharyngo-cavern tracheal) bend [2]. The need to adjust the visual hub to these tomahawks is a typical purpose behind poor representation of the glottis and troubles in endotracheal intubation [3]. Video laryngoscopes beat this issue by enabling the watcher to see the glottis through a camera joined to a bended edge. VLSs can be delegated those with a Macintosh sharp edge, calculated edge and one with a conduit for the funnel entry [4]. The normal expense of a dispensable VLS can be up to 8500 INR and requires energy and extraordinary consideration. The restrictive expenses bar their standard use in creating nations. Researchers had built up the financially savvy VLS ("v-scope") in view of a straight Miller cutting edge and contrasted with a traditional Miller sharp edge [5].

### The v-scope:

The endoscope is a device to see concluded a little opening. Widespread Serial Bus Borescopes are frequently utilized for assessment of channels and inside 5.1 and higher) through a USB-OTG (On the go) link. The cell phone gives power and procedures picture (Figure 1). The subsequent picture may be seen on any cell phone utilizing an assortment of free video recording applications. It is additionally conceivable to catch still pictures and video cuts. This makes the gadget convenient and simple to use in a crisis and is additionally a valuable educating instrument. The ideal opportunity for glottal perception was practically identical in the two gatherings ( $63.3 \pm 26.2$  and  $54.2 \pm 25.3$  seconds,  $p = 0.23$ ). The time from the representation of the glottis to the event of EtCO<sub>2</sub> following (t<sub>2</sub>) was fairly short in the v-scope. The opportunity to the event of EtCO<sub>2</sub> following (t<sub>2</sub>) remained somewhat low in the v-scope gathering ( $25.2 \pm 7.2$  sec) than in the Miller gathering ( $15.8 \pm 4.7$  sec,  $p < 0.002$ ) (Table 3).

### METHODOLOGY:

Our current research was led at Sir Ganga Ram Hospital Lahore from June 2018 to May 2019. Forty grown-up cases of both genders stayed enlisted for the current randomized measured preliminary subsequent to getting moral endorsement and educated assent.

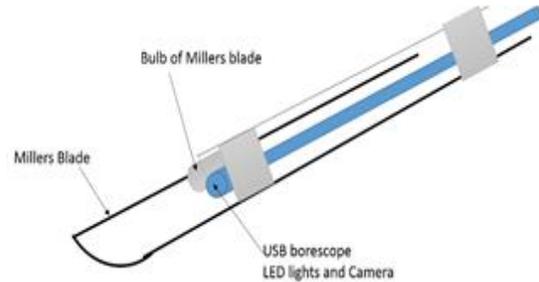
Incorporation criteria were patients of the American Society of Anesthesiologists with physical status I and II who were reserved for elective medical procedure under general anesthesia in addition cases by adjusted Mallampati estimations of 1, 2 and 3. Cases through yearning hazard, sporadic dentition, oropharyngeal pathology, ASA III and IV, confined mouth opening or neck development, cervical spine precariousness, adjusted Mallampati score of 5, weight file (BMI) of in excess of 37 kg/m<sup>2</sup>, neck perimeter of more than 43cm (male) 41cm (female) and history of troublesome aviation routes or rest apnea were barred. Reasonable patients were randomized by PC produced arbitrary numbers over fixed, hazy envelopes into two gatherings of twenty patients each. All patients were intravenously premedicated through infusion glycopyrrolate 0.3 mg before being moved to the working room. All intubations were then again performed by two postgraduates of the principal year. In the event that there were any troubles with the Glottis perception past 130 sec, cover ventilation was continued and the intercession was performed by the expert anesthetist. The specialist was solicited to assess the trouble from intubation on an abstract scale (simple, medium and troublesome). Postoperatively, the recurrence of difficulties, for example, injury, sore throat, roughness was resolved. The factual examination was performed with Microsoft Excel 2017 through Real Statistics Add-On bundle and IBM SPSS version 24.

### RESULTS:

The two gatherings were comparative in age, gender, Mallampati scoring, neck circuit and BMI (Table 1). The hemodynamic limitations stayed equivalent amongst the two gatherings at gauge and after intubation (Table 2, Figures 2-5). The mean intubation time was higher in the v-scope bunch than in the Miller gathering ( $78.26 \pm 27.47$  versus  $75.17 \pm 27.3$  sec, mean  $\pm$  SD), yet the thing that matters was not factually noteworthy ( $p = 0.72$ ). The ideal opportunity for glottal representation was practically identical in the two gatherings ( $63.4 \pm 26.1$  and  $54.1 \pm 25.3$  seconds,  $p = 0.23$ ). The time range from the perception of the glottis to the event of EtCO<sub>2</sub> keying (t<sub>2</sub>) was more prominent in the v-scope gathering ( $22.2 \pm 7.1$  sec) than in the Miller gathering ( $15.8 \pm 3.7$  sec,  $p < 0.002$ ) (Table 3). With respect to CL graduation of the laryngoscope see, 18 patients in the v-scope bunch had an evaluation 1 view contrasted with 8 cases in the Miller gathering. CL grade 3 remained gotten in 10 Miller cases also 4 cases in the v-scope gathering. The distinction in dispersion was measurably noteworthy. (Chi squared,  $p = 0.016$ ). Outer laryngeal controls were required in 12 patients in the Miller gathering and

in just 3 patients in the v-scope gathering. The thing that matters was critical ( $p=0.05$ , Fisher's Exact Test). Altogether intubations remained fruitful in primary endeavor and none of the cases had noteworthy desaturation, injury or different intricacies. 16/20

Intubations in Miller also 15/23 intubations in the v-scope bunch remained evaluated as "tolerably troublesome" and the rest (5/22 in Miller and 7/22 in v-scope) were appraised as "negligibly troublesome" by the understudies.



Figures 1: Custom made VLS:

Table 1: Demography and Cormack-Lehane grades:

Limitation	Miller	V Scope	p-value
Sex (Male: female)	13:7	12:8	0.74
Age (years, mean $\pm$ SD)	40.5 $\pm$ 13.4	41.25 $\pm$ 12.8	0.85
Neck Circumference (cm, mean $\pm$ SD)	33.3 $\pm$ 2.5	34.2 $\pm$ 1.6	0.22
MMP Grade (1,2,3)	2 1, 15, 4	5, 13	0.17

Table 2: Heart rate and mean arterial pressures:

Limitation	Miller	V Scope	p-value
(beats/minute) Baseline MAP (mm Hg)	76.01 $\pm$ 2.3	73.2 $\pm$ 1.89	0.31
Baseline heart rate	74.8 $\pm$ 2.92	69.5 $\pm$ 1.67	0.14
Post intubation HR (beats/minute)	89.7 $\pm$ 1.97	90.4 $\pm$ 1.6	0.71
Post intubation MAP mmHg	91.9 $\pm$ 2.9	90.6 $\pm$ 1.82	0.68

## DISCUSSION

The recurrence of troublesome and bombed intubations is 1.9 - 6.9% and 0.13 - 0.3%, separately. VLSs, for example, Glideslope have been appeared to improve glottal representation, however the opportunity to intubation has been broadened [6]. Intubations in the principal preliminary were increasingly fruitful in non-master clients with

Glideslope. Greendale *et al.* discovered that opportunity to intubation remained shorter in non-specialists through Glideslope, a comparable impact was not seen in specialists. In any case, there was impressive heterogeneity for these outcomes [7]. In an examination contrasting Glideslope, C trach and direct laryngoscopy in pathologically corpulent cases, the intubation time with Glideslope remained quicker than

with C trach (38s more) and direct laryngoscopy (15 s more). 46% and 28% of cases essential advancement moves contrasted with 0% in the Glideslope gathering. Then again, an investigation contrasting McGrath and C-MAC in possibly troublesome aviation routes indicated mean intubation times shorter by C-MAC than with McGrath (51s versus 68s), in spite of the fact that McGrath-Scope accomplished better glottal representation, the quantity of intubation endeavors was likewise lower with C-Mac [8]. Regardless of whether the Glottis representation with VLSs is better, the direction of the endotracheal cylinder can be troublesome. A decent Glottis see doesn't need to transform into less difficult intubations. We partitioned the intubation times into two sections, the ideal opportunity for ideal glottal perception and the further time for fruitful intubation. We utilized an adaptable bougie in the two gatherings. The opportunity to glottis perception (t1) was comparative in the two gatherings, and the glottis see, estimated by CL graduation, remained restored in the v-Scope gathering, yet the time from glottis representation to effective ETT situation was more in the v-Scope gathering [9]. Absence of profundity recognition, administrator experience and misting of camera just as the handling velocity of the framework (cell phone) likewise impact intubation times. The requirement for outer control to streamline glottis see was progressively significant in the Millers bunch contrasted with the v-scope gathering. Outer control of Larynx could be progressively proficient through VLS, as aide can likewise observe glottis and play out control in like manner [10].

### CONCLUSION:

In rundown, a normal endoscope can be utilized as a successful VLS that is practical, simple to mount and work, and can give satisfactory glottal perspectives even in the hands of non-specialists. The showcase may be utilized in any cell phone with an Android working framework, so the gadget is helpful and doesn't require an extra power source, that can be profitable in tight spaces. Huge scale ponders remain required to exhibit adequacy in troublesome aviation routes and short separations and additionally entanglements related with use.

### REFERENCES:

1. Healy DW, Picton P, Morris M, Turner C. Comparison of the glidescope, CMAC, storz DCI with the Macintosh laryngoscope during simulated difficult laryngoscopy: a manikin study. BMC Anesthesiol. 2012 Jun 21;12:11. [PubMed] [Free full text]
2. Burdett E, Ross-Anderson DJ, Makepeace J, Bassett PA, Clark SG, Mitchel V. Randomized controlled trial of the A.P. Advance, McGrath, and Macintosh laryngoscopes in normal and difficult intubation scenarios: a manikin study. Br J Anaesth. 2011 Dec;107(6):983–988. doi: 10.1093/bja/aer295. [PubMed] [Free full text]
3. Liu Z-J, Yi J, Guo W-J, Ma C, Huang Y-G. Comparison of McGrath Series 3 and Macintosh laryngoscopes for tracheal intubation in patients with normal airway by inexperienced anesthetists: a randomized study. Medicine (Baltimore). 2016;95(2):e2514. doi: 10.1097/MD.0000000000002514.. [PubMed] [Free full text]
4. Henderson JJ. The use of paraglossal straight blade laryngoscopy in difficult tracheal intubation. Anaesthesia. 1997 Jun;52(6):552-60. [PubMed] [Free full text]
5. Szarpak L, Truszewski K, Czyzewski L, Gaszynski T, RodriguezNune A. A comparison of the McGrath-MAC and Macintosh laryngoscopes for child tracheal intubation during resuscitation by paramedics. A randomized, crossover, manikin study. Am J Emerg Med. 2016 Aug;34(8):1338-41. doi: 10.1016/j.ajem.2015.11.060 [PubMed]
6. Sargin M, Uluer MS. Comparison of McGrath® Series 5 video laryngoscope with Macintosh laryngoscope: A prospective, randomised trial in patients with normal airways. Pak J Med Sci. Prasana V. A Low cost video laryngoscope. [Online] 2015 Mar 19 [Cited 2016 Oct 1st]. Available from: <https://youtu.be/NTTD9RwzarM>.
7. Karippacehril JG, Le Cong M. Videolaryngoscopy using an Android smartphone: A direct digital technique. Ind J Anaesth. 2016 Feb;60(2):143- 145. [PubMed] [Free full text]
8. Sun DA, Warriner CB, Parsons DG, Klein R, Umedaly HS, Moulton M. The GlideScope Video Laryngoscope: randomized clinical trial in 200 patients Br J Anaesth. 2005 Mar;94(3):381-4. [PubMed] [Free full text]
9. Griesdale D, Liu D, McKinney J, Choi PT. Glidescope video-laryngoscopy versus direct laryngoscopy for endotracheal intubation: a systematic review and meta-analysis. Can J Anesth. 2012 Jan;59(1):41–52. doi: 10.1007/s12630-