Comparing anaesthesiologist’s muscular activity and workload during GlideScope vs Macintosh laryngoscopy. Is it really comparable?

Editor—We read with interest the article by Caldiroli and colleagues1 about upper limb muscular activity and perceived workload during laryngoscopy. We appreciate the authors’ efforts in conducting the study. It is interesting research and we agree with the author that there have been a very limited number of studies addressing operator muscle activity and workload. We wish to make a few comments regarding study design.

In our opinion, the two intubation devices, Macintosh laryngoscope and GlideScope chosen for comparison in this study may not be comparable and could be a confounding factor. The first is a direct laryngoscope whilst the second is indirect and could have made a difference in the anaesthesiologist’s laryngoscopic view,2–4 resulting in the operator using varying forces to achieve successful intubation.

Secondly, the acute curvature of the GlideScope blade would yield an enhanced laryngoscopic view in comparison to Macintosh blade2–4 and would lead to use of less physical force by anaesthesiologists in GlideScope group.

Thirdly, there would be sharing of available limited space towards the head of the manikin in the Macintosh group as both assistant and anaesthesiologist are maintaining the glottis view to achieve endotracheal intubation, which could possibly affect the posture of the anaesthesiologist and hence, may be a confounder.

We would recommend comparing operator forces with GlideScope vs D-blade of C-Mac videolaryngoscope as both are indirect laryngoscopes and have comparable blade curvatures.5

Declaration of interest
None declared.

P. Maheshwari*
P. Maheshwari
Oklahoma, USA
*E-mail: praveen-maheshwari@ouhs.edu

Reply from the authors
Different view or different device?

Editor—We would like to thank Praveen and Parul Maheshwari for appreciating our paper and for the observations regarding the study design. They raise the issue of the validity of our study of comparison between DL (Macintosh Direct Laryngoscopy) and Glidescope video-laryngoscopy (GLS).1 The authors state that GLS and DL, being two different tools, are not comparable and that their diversity could be a confounding factor.

We should point out that the aim of our study was to identify and quantify the determinants of the lesser effort perceived by the operators performing intubation manoeuvres with GLS compared to DL. Our study was therefore designed to detect the effects of two ergonomically different devices on the operator. The authors of the letter identify the better laryngoscopic view with the Glidescope blade in comparison with DL blade as the direct determinant of the operator’s smaller muscle strain. Assuming that a relationship between Cormack & Lehane and the Macintosh laryngoscope.


