CORRESPONDENCE

Confirmation of endotracheal tube depth using ultrasound in adults

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To the Editor,

We have read with great interest the article by McKay *et al.*¹ It is a welcome investigation into the confirmation of endotracheal tube (ETT) depth using ultrasound. In the study, the correct placement of the ETT was determined when its tip was > 2.5 cm above the carina with the ETT cuff still below the cords. The ETT was fixed when its tip reached the sternal notch. As the manubriosternal joint is a well-known surface landmark for the carina,² if the tip of the ETT is at the level of the sternal notch, it may be too far above the carina. Because the distance between the upper margin of the cuff and the tip is about 6.5 cm in adults, the cuff may be too close to the vocal cords. Several other studies, including those using ultrasound or palpation, have revealed that the depth of the ETT was correct when the cuff, rather than the tip, was placed at the sternal notch.^{3,4} As McKay *et al.* did not record the position of the ETT cuff in their study, we are concerned that the cuff may have been too close to the vocal cords, thus increasing the risk of vocal cord impingement as well as unplanned extubation.

We have found it relatively easy to locate the position of the cuff and the vocal cords by ultrasound, and in so doing, if the ETT tip is far enough away from the carina, we can increase the ETT depth to keep the cuff away from the cords. We also agree with the view that subglottic damage by the ETT cuff can be minimized if the upper margin of the cuff is distal to the cricoid cartilage. This is because the

membranous posterior wall of the tracheal rings may act to relieve the ETT cuff pressure if the cuff is overinflated, whereas the complete cricoid cartilage could not.⁵

Conflicts of interest None declared.

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This letter is accompanied by a reply. Please see *Can J Anesth* 2015; 62: this issue.

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