

The “jaw thrust” maneuver rather than the “BURP” maneuver improves the glottic view for Pentax-AWS assisted tracheal intubation in a patient with a laryngeal aperture

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To the Editor,

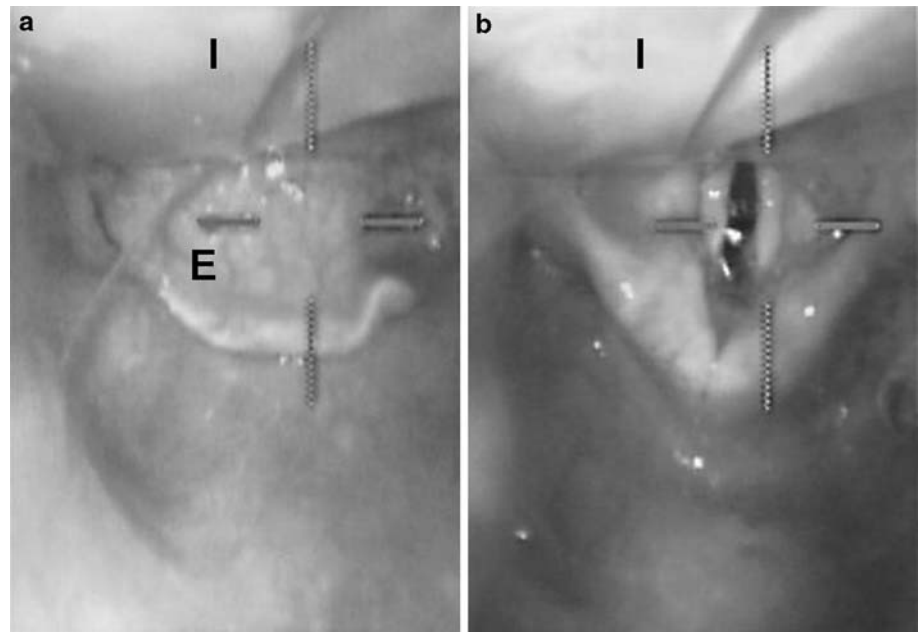
The Pentax Airway Scope (AWS) videolaryngoscope (Hoya, Co., Tokyo, Japan) provides a wide view of the glottis and the tube guidance channel by elevating the epiglottis.^{1,2} Visualizing the glottic opening aids in achieving successful tracheal intubation; however, occasionally we have experienced difficulty in visualizing the glottic opening because the epiglottis could not be elevated due to its close proximity to the posterior wall of the pharynx. Using the Macintosh laryngoscopy, the BURP (backward, upward, and right-sided pressure on the thyroid and cricoid cartilages)³ and/or jaw thrust⁴ maneuvers can facilitate viewing the glottis by elongating the distance between the epiglottis and pharyngeal posterior wall. Herein, we describe the successful use of the jaw thrust maneuver rather than the BURP maneuver for Pentax-AWS assisted tracheal intubation in a patient with a laryngeal aperture.

A middle-aged male scheduled for aortic valve replacement surgery required tracheal intubation. His pre-operative airway assessment was described as Mallampati class II. Propofol, vecuronium, and fentanyl were administered in the operating room, face mask ventilation was easily accomplished, and oxygen saturation was maintained at 100% during oxygen and sevoflurane anesthesia. The Pentax-AWS was inserted into the patient's pharynx to obtain a laryngeal view; however, the Pentax-AWS intlock (the disposable blade) could not elevate the epiglottis because there was no separation between the epiglottis and the posterior pharyngeal wall. Corresponding to the Cormack-Lehane Grade IIIb view, the glottis was not visible (Figure 1a). Somehow the Pentax-AWS intlock was advanced and then withdrawn in order to connect it to the laryngeal aperture under a different head positioning. Despite reinserting the Pentax-AWS intlock several times, either to allow its tip to go along the wall behind the pharynx or to apply the BURP maneuver, tracheal intubation could not be achieved. However, when a jaw thrust maneuver rather than the BURP maneuver was applied to this patient, the soft tissues around the laryngeal aperture expanded. Then, the epiglottis was lifted by the Pentax-AWS intlock, and glottis exposure was easily obtained via the Pentax-AWS monitor (Figure 1b). Finally, the tracheal tube was advanced into the trachea and successfully placed using the image displayed on the monitor. By using the Pentax-AWS and grasping the patient's jaw with the help of another anesthesiologist, the jaw thrust maneuver can be applied to lift the epiglottis and expose the glottis as the focal point in the Pentax-AWS monitor. The jaw thrust maneuver rather than the BURP maneuver is a helpful option for obtaining the glottis view under Pentax-AWS assisted tracheal intubation in patients with a laryngeal aperture.

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Fig. 1 The Pentax-AWS intlock failed to elevate the epiglottis (**a**) but addition of the jaw thrust maneuver made it possible to obtain a glottis view by elevating the epiglottis (**b**)
I = intlock; E = epiglottis



Conflicts of interest None declared.

References

1. Koyama J, Aoyama T, Kusano Y, et al. Description and first clinical application of AirWay Scope for tracheal intubation. *J Neurosurg Anesthesiol* 2006; 18: 247-50.
2. Asai T, Liu EH, Matsumoto S, et al. Use of the Pentax-AWS in 293 patients with difficult airways. *Anesthesiology* 2009; 110: 898-904.
3. Knill RL. Difficult laryngoscopy made easy with a “BURP”. *Can J Anaesth* 1993; 40: 279-82.
4. Aoyama K, Takenaka I, Nagaoka E, Kadoya T. Jaw thrust maneuver for endotracheal intubation using a fiberoptic stylet. *Anesth Analg* 2000; 90: 1457-8.