

## Rare cause of light failure in two Macintosh blades within 2 weeks

Thomas E. Schulte · Ankit Agrawal

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To the Editor:

I report two instances of light failure in a Macintosh blade during direct laryngoscopy within 2 weeks. Laryngoscope malfunction is a frequently encountered equipment failure in the operating room [1]. The usual causes of laryngoscope malfunction encountered are a failing light source, defective bulb, or faulty contact between the blade and the handle or in the socket [2]. In another case, the blade separated at the weld line, causing the laryngoscope to fracture [3].

The operating rooms had been prepared by a first-year anesthesia resident. The laryngoscope (Welch Allyn fiberoptic Macintosh 4; Skaneateles Falls, NY, USA) was engaged to illuminate the light and found to be functional. The patients were brought to the operating room, and general anesthesia was induced. Bag ventilation was easy, and after adequate relaxation, direct laryngoscopy was performed. Upon insertion of the laryngoscope into the patient's mouth, no pharyngeal illumination was obtained, and no anatomical landmarks could be seen. The laryngoscopes were removed and found to have a functioning light source present. A second insertion again showed darkness of the hypopharynx. An additional laryngoscope blade (Welch Allyn fiberoptic Miller 2) was inserted in both cases, and successful intubation was performed.

Further analysis of the Macintosh blades revealed that the fiberoptic light guide had been misplaced on the wrong side of the flange (Fig. 1). Upon questioning of the anesthesia technician, it was noted that the individual frequently removes the fiberoptic channel for cleaning purposes and screwed the fiberoptic bundles back on the blade incorrectly. The fiberoptic bundles were not passed through the sidewall to the right side of the blade. The light source was misplaced on the left side of the flange, which is used to sweep the tongue to the left during direct laryngoscopy. Therefore, the light only shone onto the patient's tongue and did not illuminate the airway.

A thorough analysis of all laryngoscopes needs to be performed before use. It was also beneficial to have an additional laryngoscope blade and handle available if failure were to occur.



**Fig. 1** Laryngoscope blade showing incorrect light source placement (*left*) and correct light source placement (*right*)

T. E. Schulte (✉) · A. Agrawal  
Department of Anesthesiology,  
984455 Nebraska Medical Center,  
University of Nebraska Medical Center,  
Omaha, NE 68198-4455, USA  
e-mail: teschult@unmc.edu

A. Agrawal  
e-mail: agrawala@unmc.edu

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