Dinko Tonkovic MD PhD
Ino Husedzinovic MD PhD
Stjepan Barisin MD
Nikola Bradic MD
Sasa Schmidt MD
Ana Barisin MD
Zagreb, Croatia

References

1 *Spahn DR, Casutt M.* Eliminating blood transfusion: new aspects and perspectives. Anesthesiology 2000; 93: 242–55.
2 *Hebert PC, Yetisir E, Martin C, et al.* Is a low transfusion threshold safe in critically ill patients with cardiovascular disease? Crit Care Med 2001; 29: 227–34.
3 *Bracey AW, Radovancevic R, Riggs SA, et al.* Lowering the hemoglobin threshold for transfusion in coronary artery bypass procedures: effect on patient outcome. Transfusion 1999; 39: 1070–7.
4 *Couture P, Denault A, Limoges P, Sheridan P, Babin D, Cartier R.* Mechanisms of hemodynamic changes during off-pump coronary artery bypass surgery. Can J Anesth 2002; 49: 835–49.
5 *Shinoda T, Mekhail NA, Estefanous FG, Smith C, Khairallah PA.* Hemodynamic responses to dobutamine during acute normovolemic hemodilution. J Cardiothorac Vasc Anesth 1994; 8: 545–51.

The Dexter® Endoscopic Dexterity Trainer improves fibreoptic bronchoscopy skills: preliminary observations

To the Editor:

Fibreoptic intubation of the trachea is the gold standard for control of the known difficult airway. Nevertheless this technique is still under utilized in clinical practice.[1,2] Perhaps one reason for lack of use of awake fibreoptic intubation is a lack of training or confidence on the part of the anesthesiologist.[3] Few teaching programs formally train their fellows in endoscopic techniques, and only some anesthesiologists actively maintain this psychomotor skill.[4] We evaluated the efficacy of a training program using a new endoscopy training model (Figure), the Dexter® Endoscopic Dexterity Trainer (Replicant® Medical Simulator Ltd., Wellington, New Zealand).

We enrolled five anesthesia trainees, and evaluated speed and accuracy in performing a complete bronchoscopy before and after a training program with the Dexter®. The efficacy of the training procedure was assessed by comparing pre and post performance obtained on the Dexter® and on the commonly used Laerdal™ AirMan™ difficult airway simulator[5] (Laerdal Medical Corporation, Wappingers Falls, NY, USA).

All participants showed improvement in accuracy and speed after the training program with the Dexter® Endoscopic Dexterity Trainer. The pretest average speed (duration of performance) in performing a standard exercise was 30.33 min:sec ($P < 0.001$). The post test average speed in performing the exercise was 12:30 min:sec ($P < 0.001$).

The pretest average number of errors in finding pictures and/or segments missed was 5 ($P < 0.001$). The post test average number of errors was 0 ($P < 0.001$).

These results were confirmed in the Laerdal™ SimMan™ universal patient simulator.

The pretest average speed (duration of performance) in performing a standard exercise was 30:24 min:sec. The post test average speed was 12:23 min:sec ($P < 0.001$).

The pretest average number of errors was 6.8 ($P < 0.001$). The post test average number of errors was 1.8 ($P < 0.001$).

Our preliminary data suggest that the Dexter® training program improves bronchoscopy skills. The configuration of the Dexter® enhances eye-hand coordination and aids in the recognition of images, their size, depth and distance. This skill is important in dealing with the difficult airway where the anatomical orientation of structures may be abnormal.

Felice Agrò MD*
Federica Sena MD*
Errol Lobo MD PhD†
Simone Scarlata MD*
Nicola Dardes MD*
Giorgio Barzoi MD*
Rome Italy*
California, USA†

References

1 *Caplan RA, Posner KL, Ward RJ, Cheney FW.* Adverse respiratory events in anesthesia: a closed claims analysis. Anesthesiology 1990; 72: 828–32.
2 *Ovassapian A.* Fiberoptic Endoscopy and the Difficult Airway, 2nd ed. Lippincott-Raven; 1996.
3 *Mason RA.* Learning fibreoptic intubation: fundamental problems (Editorial). Anaesthesia 1992; 47: 729–31.
4 *Mason RA.* Education and training in airway management (Editorial). Br J Anaesth 1998; 81: 305–7.
5 *Agrò F, Giuliano I, Montecchia F.* A new human-dynamic simulator (Air Man) for airway training in emergency situations (Letter). Am J Emerg Med 2002; 20: 495.

FIGURE Dexter® Endoscopic Dexterity Trainer.

Modification of the Lipp maneuver for blind insertion of the Esophageal-Tracheal Combitube

To the Editor:

Modifications of the original technique have been suggested to facilitate the insertion technique of the Esophageal-Tracheal Combitube® (ETC; Tyco-Healthcare, Pleasanton, CA, USA).[1–3] We wish to communicate a modification of the "so-called Lipp maneuver", which is used to facilitate blind insertion of the device. Originally, Dr. Markus Lipp recommended bending the ETC in the portion between the balloons (Figure) for a few seconds in order to augment the preformed curvature, allowing an even more rapid placement.

It also became apparent that it is very important to avoid contact of the tip of the ETC with the posterior pharyngeal wall during insertion, since the posterior pharyngeal wall is very friable and bleeds easily. Bloody stripes are often seen after the use of the laryngeal mask airway, laryngeal tube, etc., because all these devices share the same mechanism of insertion, which is its application against the palate and the posterior pharyngeal wall.

Contrary to upper airway devices, insertion of the ETC does not include slipping it against the palate and posterior pharyngeal wall. The tip of the ETC should be applied against the tongue, thus avoiding damage to the pharynx.

In order to improve the efficacy and safety of the blind insertion of the ETC, we strongly recommend keeping the ETC bent as long as possible prior to insertion in the oropharyngeal cavity. To achieve this, the ETC should be held as shown in the Figure. Maintaining the ETC bent, together with a rapid insertion into the oropharyngeal cavity will enable the tip to reach the esophagus before the ETC recovers its original, less curved shape, making insertion fast and safe.

Of course, during laryngoscopic insertion it is not necessary to perform this maneuver because the ETC is inserted under direct vision while avoiding the posterior pharyngeal wall.

Ricardo M. Urtubia MD*
Michael Frass MD†
Thomas Staudinger MD†
Peter Krafft MD†
Santiago, Chile*
Vienna, Austria†

References

1 *Frass M, Staudinger TH, Losert H, Krafft P.* Airway management during cardiopulmonary resuscitation--a comparative study of bag-valve-mask, laryngeal mask

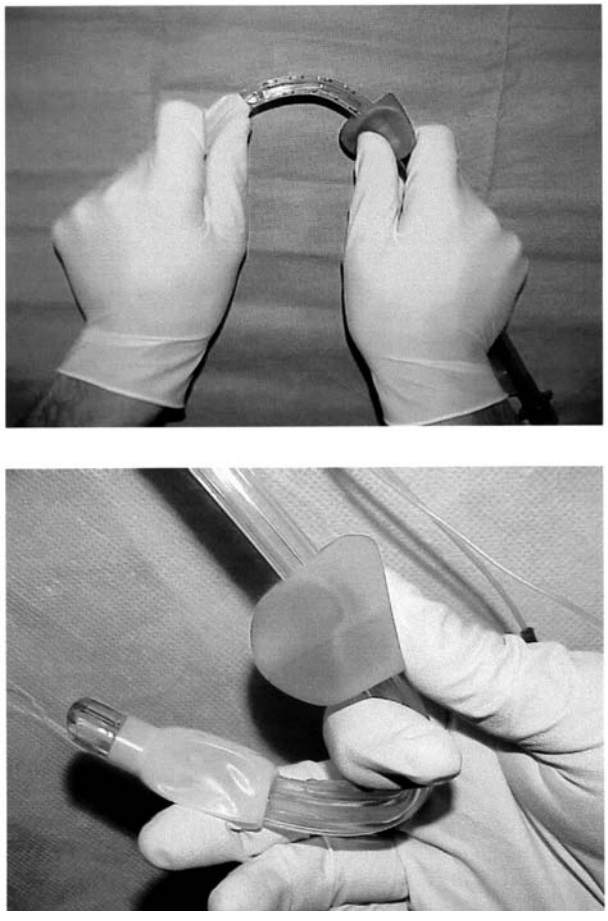

FIGURE Original (above) and modified (below) Lipp maneuver.