

It may be suggested that in the management of patients with difficult intubation the use of a straight blade with a gum elastic bougie is an alternative strategy in the accurate placement of the endotracheal tube.

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Management of the unanticipated difficult airway using a modified sequential intubation technique

To the Editor:

Leoni *et al.*¹ are to be congratulated on the successful outcome to a technically-difficult life-threatening situation. By first oxygenating the patient, and only then attempting to intubate the trachea, they have beautifully illustrated the golden rule for the difficult airway – that patients die from failure to oxygenate, not failure to intubate.

Whilst impossible to criticize the final result, we wish to comment upon two areas.

Firstly, we would question the value of drawing arterial blood for blood gas analysis whilst still attempting to ventilate via face-mask. The inadequacy of gas exchange is all too obvious from the clinical picture. An investigation should only be performed if its result may alter the patient's management, and clearly, tracheal intubation was inevitable. To make matters worse, the physician taking the arterial sample is being diverted from the urgent priority of resuscitating the patient.

Secondly, most endotracheal tubes are not long enough to avoid the risk of its cuff sitting over or above

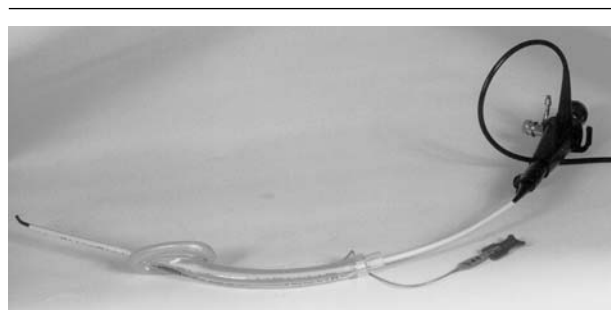


FIGURE Aintree catheter mounted onto fiberoptic bronchoscope and passed through a laryngeal mask airway.

the vocal cords when passed through the laryngeal mask airway (LMA).² This increases the risk of accidental extubation when removing the LMA, in addition to preventing the administration of high positive airway pressures and positive end-expiratory pressure. A solution would be using the Aintree intubating catheter³ (Cook Critical Care, IL, USA). This is a modified airway exchange catheter that fits over the bronchoscope. It is 56 cm long, allowing greater control of the airway and oxygenation to continue, via its Rapi-fit® connector, whilst rail-roading the endotracheal tube over it. A purpose-built solution for this situation.

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REPLY:

We appreciate your comments on our letter to the *Canadian Journal of Anesthesia*¹ and agree with both of them.

The arterial blood gas analysis was drawn from the in situ catheter used by the cardiologist during the invasive procedure. This did not divert the anesthesiologist from airway control.

We were not aware of the existence of a modified airway exchange² that fits over the bronchoscope and will include it in our "difficult airway management" kit.

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Preoperative checkout procedures for modern anesthesia machines in an emergency situation

To the Editor:

Datex-Ohmeda would like to thank Drs. McLean, Houston and Dumais for their recent Letter to the Editor¹ in which they describe an unexpected problem with the ADU anesthesia machine during an emergent Cesarean delivery. Their description serves to remind users and manufacturers of the necessity for developing preoperative checkout procedures originally and why they remain a requirement to this day.² It is also this reminder along with the potentially serious clinical events recounted in the McLean letter that compels us to respond to the Journal.

The authors describe that, after securing adequate ventilation of the patient, it was discovered that the hose from the fresh gas port was connected to the ventilator, not the breathing system. Datex-Ohmeda has conducted extensive testing of the ADU system check to evaluate the various misconnections and whether the system would indicate PASS or FAIL. Despite the misconnections, the system will fail the system check procedure if the hoses are misconnected. The system check failure may occur during either the completely automated section or during the user-validated section of the system check.

The ADU system check procedure reliably identifies possible faults and, while Datex-Ohmeda understands that the time required to complete the check is more than what users may be used to, this time is well spent. The delay imposed by the system check would have been far less than the time required in overcoming the inability to ventilate, as described in the Letter to the Editor.

In earlier anesthesia machines, an abbreviated checkout procedure similar to pressurizing the rebreathing bag may have sufficed. Abbreviated checkout procedures are, however, inadequate for modern anesthesia machines in general, and the ADU in particular. All preoperative checkout procedures, whether full or abbreviated, must be consistent with the type of device being checked. Even though Datex-Ohmeda does allow the user to bypass the preoperative checkout procedure, the user is admonished both on the anesthesia machine screen and in the owner's manual that the checkout has not been completed and that valuable verifications have not been achieved.

Datex-Ohmeda recommends that preoperative checkout procedures, as recommended by the Food and Drug Administration along with machine-specific procedures as described in the ADU owner's manual, be used at all times.

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References

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REPLY:

In response to Mr. Mitton's comments re our original letter¹ and description of a systems failure with the Datex-Ohmeda ADU, we would like to re-emphasize the following points.

First, despite the most sophisticated computer-assisted anesthesia workstation, there remains a possibility of a grave anesthetic machine/operator error in an emergency situation.

Secondly, this was an emergency situation, not an elective one. A full check on the Datex Ohmeda AS/3™ anesthetic delivery unit requires a minimum of four minutes to complete.² According to the Datex Ohmeda manual, the recommended procedure in an emergency situation is to use the bypass check option.¹ In our case, the anesthetic machine had been checked previously a few