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.

Albino Leoni MD
Giovanni Landoni MD
Milano, Italy

References

- 1 Leoni A, Crescenzi G, Landoni G, Castracane W, Zangrillo A. Use of the laryngeal mask airway and a modified sequential intubation technique for the management of an unanticipated difficult airway in a remote location (Letter). *Can J Anesth* 2003; 50: 523–4.
- 2 Atherton DP, O'Sullivan E, Lowe D, Charters P. A ventilation-exchange bougie for fiberoptic intubations with the laryngeal mask airway. *Anaesthesia* 1996; 51: 1123–6.

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.

Michael Mitton
Madison, Wisconsin
michael.mitton@datex-ohmeda.com

References

- 1 McLean JS, Houston P, Dumais R. Erroneous connection of the fresh gas flow to the anesthesia circuit (Letter). *Can J Anesth* 2003; 50: 93.
- 2 <http://www.fda.gov/cdrh/humfac/anesckot.pdf>.

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