Correspondence

Anaesthesia fellowships in Canada

To the Editor:

Our department has recently reviewed its Fellows' Program. This included a preliminary review of other programs offered at Canadian University Departments of Anaesthesia. The advertisement of positions available for interested applicants documents 106 positions across the country. Memorial University, Queen's University, and the University of Saskatchewan do not have positions at this time. The number of postgraduate fellows has increased considerably since 1992. Candidates tend to come from Great Britain, Australia, and most recently, Canada. This may reflect a change in the career options for graduates of Canadian programs. The general duties of fellows include clinical, research, teaching, and administrative opportunities that tend to vary among departments. Six departments conduct a performance review before completion of a fellowship.

Although there was some interest in ACUDA playing a role in regulating the activities of fellows across the country, the majority of departments felt this should remain a departmental concern. Programs in Ontario expressed concern about the future of their programs based on the impact of government cutbacks. In contrast, programs in western Canada were optimistic about their ability to maintain, and in some instances, expand their programs.

This information may be of assistance for those involved in the administration of programs or individuals who are considering applying for postgraduate fellowships in Anaesthesia.

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A simple method to decrease malposition of Robertshaw-type tubes

To the Editor:

Double-lumen endotracheal tubes (DLTs) have become the lung separation technique of choice to provide one-lung ventilation during anesthesia for the majority of thoracic surgery cases.¹ The plastic disposable Robertshaw-type tubes are by far the most commonly used DLTs. A left-sided tube is preferable for most cases requiring one-lung ventilation because the right-sided tube incurs the risk of inadequate right upper lobe ventilation.² The DLT intubation procedure and cuff inflation-deflation manoeuvres are well known.¹ The tube is introduced with cuffs deflated and, after rotation, advanced until most of it is inserted. A high incidence of malpositioning has been described with subsequent fiberoptic bronchoscopy.³ There are three possible gross malpositions: in too far on the left (both lumina in left main stem bronchus), out too far (both lumina in the trachea) and in or down the right main stem bronchus. Inflation and deflation of the left cuff while the left lumen is

clamped create a breath sound differential diagnosis of tube malposition.¹

We have been using a different strategy for Robertshaw DLT intubation with success. We select the size of tube based on the height and sex of the patient⁴ and coat the tube liberally with lubrication. We partially inflate the left cuff with one mL air, instead of introducing the DLT completely deflated. Advancement of the tube ceases when moderate resistance is met indicating that the tube has been firmly seated in the left mainstem bronchus. This technique does not cause difficulty in passing the vocal cords but prevents the introduction of both lumina in the left mainstem bronchus which is the most frequent malpositioning in our and others' experiences. The partially inflated left cuff prevents further passage of the right lumen into the left mainstem bronchus. The correct DLT position should always be confirmed fiberoptically after initial placement and positioning of the patient.³ In our experience, partial inflation of the left cuff has decreased the incidence of initial malpositioning of the Robertshaw-type DLTs from 30% to <5%.

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REFERENCES

- 1 Benumof JL, Alfery DD. Anesthesia for thoracic surgery. In: Miller RD (Ed.). Anesthesia. New York: Churchill Livingstone, 1994, 1689-715.
- 2 Benumof JL, Partridge BL, Salvatierra C, Keating J. Margin of safety in positioning modern double-lumen endotracheal tubes. Anesthesiology 1987; 67: 729-38.
- 3 Alliaume B, Coddens J, Deloof T. Reliability of auscultation in positioning of double-lumen endobronchial tubes. Can J Anaesth 1992; 39: 687-90.
- 4 Hannallah MS, Benumof JL, McCarthy PO, Liang M. Comparison of three techniques to inflate the bronchial cuff of left polyvinylchloride double-lumen tubes. Anesth Analg 1993; 77: 990-4.
- 5 Lieberman D, Littleford J, Horan T, Unruh H. Placement of left double-lumen endobronchial tubes with or without a stylet. Can J Anaesth 1996; 43: 238-42.

Graduated compression stocking prevents hypotension during spinal anaesthesia

To the Editor:

Since 1991, almost all patients under spinal anaesthesia have

TABLE The number of patients administered with vasopressor agents during spinal anesthesia

	Administration	No administration	
<i>Appendectomy</i>			
Stoc (+)	6 (6.25%)	90 (93.75%)	$P < 0.01$
Stoc (-)	42 (35.59%)	76 (64.41%)	
<i>Inguinal hernia</i>			
Stoc (+)	10 (10.99%)	81 (89.01%)	$P < 0.05$
Stoc (-)	26 (24.53%)	80 (75.47%)	

Stoc (+) = Fitting graduated compression stockings on both legs.

Stoc (-) = No fitting the stockings.

worn graduated compression stockings (TED Stocking™, The Kendall, UK) fitting on both legs with thigh-length in my operation rooms. The present study compared the use of vasopressor agents before and after this date.

From 1987 to 1989 and from 1991 to 1993, 118 and 96 patients undergoing appendectomy, and 106 and 91 inguinal hernia were subjected to Stoc (-) and Stoc (+) groups. The criteria for using vasopressor agents was <80 mmHg systolic blood pressure. Statistical analysis was done with Mann-Whitney U and chi-square tests.

The age, sex and injected dose of local anesthetic (dibucaine 0.3%) in Stoc (-) and Stoc (+) groups were 41.4 ± 20.2 , 35.8 ± 16.0 (mean $\pm$ SD) 62/56, 48/48 (male/female), and 2.18 ± 0.28 , 2.14 ± 0.28 ml (appendectomy), and 59.0 ± 15.2 , 59.2 ± 16.8 , yr 80/26, 69/22, m:f and 2.06 ± 0.22 , 2.01 ± 0.29 ml (inguinal hernia). There were no differences between groups. There was a decreased use showed the results of vasopressor agents, in Stoc (+) groups compared with Stoc (-) groups. (Table)

The mechanism seems to be suppression of cutaneous venous dilatation of the lower extremities and an increment in femoral vein blood flow.¹ However, the stocking does not prevent spinal hypotension in Caesarean section.² Further, the stocking does not impair the peripheral circulation for long-term fitting.³ Consequently, graduated compression stocking may be a non-invasive, simple and safe procedure to prevent spinal hypotension except for Caesarean section.

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REFERENCES

- 1 Sigel B, Edelstein AL, Savitch L, Hasty JH, Felix Jr. Type of compression for reducing venous stasis. A study of lower extremities during inactive recumbency. Arch Surg 1975; 110: 171-5.
- 2 James FM III, Greiss FC Jr. The use of inflatable boots to prevent hypotension during spinal anesthesia for cesarean section. Anesth Analg 1973; 52: 246-51.
- 3 Lawrence D, Kakkar VV. Graduated, static, external compression of the lower limb: a physiological assessment. Br J Surg 1980; 67: 119-21.

Vitalert 3200 Capnometer alarm

To the Editor:

Capnography is a useful tool in the operating room. The Canadian Anaesthetists' Society recommends the use of a capnometer for each anaesthetized patient. However, the devices are only as useful as the information they provide. Recently, I have had an opportunity to point out a "flaw" in the design of the Vitalert 3200 Capnometer (North American Draeger). I do not feel my concern was taken seriously by the manufacturer. If the inspiration line on the Vitalert 3200 Capnometer becomes occluded for any reason during a case (e.g., kinked line or occluded by trapped water vapour) the capnogram will disappear from the screen and a visual advisory will appear on the screen but there will be no audible alarm to draw your attention to the problem. While it is unlikely that a disconnection will occur simultaneously or immediately following such an unfortunate event, it can occur (as it did to me). If this should occur there will be no audible alarm from the capnometer signifying a disconnect. The manufacturer concludes that "the performance of the Vitalert 3200 is compliant with its design specification." They referred me to the "Guidelines to the Practice of Anaesthesia" to enforce the concept that "the only indispensable monitor is the presence of an experienced physician." It is true that anaesthetists should keep a constant "vigil" but it is also true that from time to time we are distracted from "watching the monitor screen." While other alarms (i.e., pressure alarms) may alert you to the danger there still is no guarantee that will occur (e.g., partial disconnection). The manufacturer clearly feels that this is not a problem, and refused to issue an alert.

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REPLY

Thank you for inviting us to respond to Dr. Lang's letter. North American Draeger has been the pioneer in developing structured alarm systems for use in the operating room. The task was aimed at eliminating the negative effects of the proliferation of alarm messages from different monitors which had become an unmanageable and hazardous problem in the OR.

The structured alarm system approach is based on dividing alarm messages into WARNINGS, CAUTIONS and ADVISORIES and assigning distinctive sound patterns to each of the alarm messages. Many of the features in the structured alarm system were adopted from the aircraft industry, including that certain advisories shall not be accompanied by an audible signal. During our research on the subject, we found that the opinions of users are almost equally divided into increasing the number of audible alarm annunciations on one side, and decreasing the number of audible alarm annunciations on the other side.

The alarm classification for a CO₂ line block was carefully considered during the design process of the Vitalert 3200. It was divided to classify the alarm as a visual ADVISORY with-