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

	Administration	*No administration*	
Appendectomy			
Stoc (+)	6 (6.25%)	90 (93.75%)	$P < 0.01$
Stoc (−)	42 (35.59%)	76 (64.41%)	
Inguinal hernia			
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 ± 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 extremeties 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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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 it's 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 Dräger 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 prolifieration 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 CO_2 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-

out audible annunciation. It must be understood that audible alarm annunication is only indicated when immediate operator's action is required (WARNING) or when prompt operator action is required (CAUTION).

NAD's anaesthesia machines are equipped with pressure monitors which reveal a disconnect independent from the CO_2 monitor. The above-referenced classification for a line block has been re-evaluated after Dr. Lang's request to change this classification and to issue an alert. Our opinion has not changed from our original decision and an alert is, in our opinion. therefore, not indicated.

Peter J. Schreiber
North American Dräger
Philadephia

Error – publisher's correction

To the Editor:

I am writing to alert readers of Canadian Journal of Anae sia, to an erratum in one of our books, *Drug Infusior Anesthesiology, Second Edition.* Page 39 of this book dis a table of manual infusion schemes listing dosages and sions at lethal levels. In the original Table doses were giv mg and not as μg. The correct Table 6 is

TABLE 6. Manual infusion schemes when combined with 66% nitrous oxide*

	Anesthesia		Sedation or Analgesia	
Drug	Loading dose ($\mu g \cdot kg^{-1}$)	Maintenance infusion $\mu g \cdot kg^{-1} \cdot min^{-1}$	Loading dose $\mu g \cdot kg^{-1}$	Maintenance infusion $\mu g \cdot kg^{-1} \cdot min^{-1}$
Alfentanil	50–150	0.5–3.0	10–25	0.25–1.0
Fentanyl	5–15	0.03–0.10	1.5–3	0.01–0.03
Sufentanil	1–2.0	0.006–0.02	0.15–0.3	0.002–0.007
Methohexital	1000–2000	50–150	500–1000	10–50
Ketamine	1000–2000	10–50	500–1000	10–20
Propofol	1000–2000	80–150	250–1000	10–50
Midazolam	50–150	0.25–1.0	20–100	0.25–1.0

*Following the loading dose, an initially high infusion rate to account for redistribution should be used and then titrated to the lowest infusion rate that will maintain adequate anesthesia or sedation. For sedation, the loading dose is given over 5–10 min and is adjusted according to the patient's response. For anesthesia, midazolam must be administered in combination with an opiate.

David L. Sampson
Lippincott-Raven
Publishers