ilation increased to 17 changes per hour the N_2O level increased to approximately 10 ppm after one hour and exceeded that level only six times during the day rising above 25 ppm only once for a brief period.

The NIOSH recommendations regarding room ventilation are not as specific as those regarding individual gas levels and simply state that "engineering controls shall be implemented so that occupational exposure to waste anesthetic gases are controlled in accordance with the following sections ... that no worker is exposed at TWA concentrations greater than 25 ppm."² However, the British Columbia government committee on surgical suite ventilation, recommended in 1975 that 20 air changes be provided per hour, of which 15 would be exhausted.³ Our department has always considered these ventilation rates to be the desirable standard. We therefore feel that Wood *et al.* are incorrect when they claim NIOSH recommendations are unattainable and if this is accepted staff may be exposed to greater atmospheric levels of N_2O than necessary. Finally we feel every anaesthetic department should include regular atmospheric sampling of N_2O levels as part of a regular equipment maintenance programme.

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REFERENCES

- 1 Wood C, Ewen A, Goresky G, Sheppard S. Exposure of operating room personnel to nitrous oxide during paediatric anaesthesia. *Can J Anaesth* 1992; 39: 682-6.
- 2 Recommendations for an occupational exposure standard for waste anesthetic gases and vapors. National Institute for Occupational Safety and Health 1977; 77-140.
- 3 Oulton JL. Operating room venting of trace concentrations of inhalation anaesthetic agents. *Can Med Assoc J* 1977; 116: 1148-51.

REPLY

Thank you for the opportunity to reply to the letter from Dr. Fancourt-Smith *et al.* Unfortunately their letter does not identify the population that they studied, or the type of anaesthetics administered. Nor is it clear at what location they measured atmospheric levels of N_2O . It is, therefore, difficult to draw comparisons between the levels of N_2O that they quote and the N_2O exposures of operating room personnel that we measured.

In our study the N_2O exposures of individual staff members consistently exceeded the background room level as measured at the room exhaust outlet. This probably reflected the proximity of personnel to the main sources of waste N_2O : the pa-

tient's exhaled gases and the breathing circuit. We agreed that increased air exchanges in the operating room would decrease overall concentrations of N_2O . However, any reduction in background levels of N_2O does not necessarily imply an equal reduction in the individual exposures of operating room personnel.

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REFERENCE

- 1 Wood C, Ewen A, Goresky G, Sheppard S. Exposure of operating room personnel to nitrous oxide during paediatric anaesthesia. *Can J Anaesth* 1992; 39: 682-6.

Portex epidural catheters

To the Editor:

It has recently come to our attention that some epidural catheters have been produced without any holes in the distal part of the catheter. If passed into the epidural space (without prior close inspection), it is impossible to aspirate or to inject into them. Defective catheters may be found in the epidural kits supplied by Concord/Portex (Keene, New Hampshire) of Lot #204685 with expiry date 4/97. These kits contain the 16-gauge Tuohy needle and the 17-gauge nylon closed-end catheter.

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REPLY

We at Sims are proud of our service commitment to our customers. Part of that commitment is reflected in our defective goods policy. We have a clear understanding with both the doctor and/or the anaesthesia technician that any defective tray be reported to us as soon as possible. We ask that the doctor tear off the tray lid and enclose a written message, or in the case of defective catheters return them to us for an immediate no charge replacement. This information is forwarded to the main plant on a product complaint form, along with the defective product in question. The plant tests the product and reviews the complaint and a written explanation is sent back to the Initiator.

It is the responsibility of Concord/Portex to provide the highest quality products to our customers and their patients. We are distressed that the epidural catheter with defect reached the