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In Reply:—Dr. Peters should not assume that we regard infrared thermography as a golden standard for monitoring sympathetic block "especially in the unconscious patient." We recognize that skin temperature is subject to many influences and, therefore, designed a study in which every practical precaution was taken to minimize the effects of factors other than sympathetic blockade on skin temperature. All the patients were unpremedicated, received no medication during the observation period, were fully conscious, and were without documented neurological disease. Temperature was measured without direct skin contact, and the environmental temperature was maintained constant.

We shall answer Dr. Peters' comments in turn.

1) In awake patients, we were unable to record esophageal temperature, and so elected to use oral temperature monitoring to give us some indication of possible body cooling. We deduced from the changes in oral temperature that, in the environment in which the study was conducted, the patient cooled during the observation period, thus making any detected rise in skin temperature more significant rather than less significant. We reported[1] both observed and data corrected for cooling. For the purpose of this letter, we have analyzed only the observed data, and this does not alter our findings.

2&3) While it is true that the loss of circulating catecholamines and the occurrence of shivering above the level of motor block are both factors which might contribute to the increase in skin temperature, we believe that it is unlikely that this would occur in a segmental pattern advancing up the body six segments higher than the sensory block level. The pattern of a wave of temperature increase advancing up the body was a striking feature of this study.

4) With the regard to hemodynamic data, we do, in fact, describe the relationship between mean arterial pressure and the dermatome level of temperature increase in paragraph four of the results section. In the lidocaine group, the mean arterial pressure and heart rate decreased from 103.4 ± 4.3 mmHg and 78.5 ± 4.7 beats/min before anesthesia to 89.8 ± 3.8 mmHg ($P < 0.001$) and 69 ± 4.4 beats/min ($P < 0.01$) on arrival of the wave of temperature increase at T-2 or above. In the tetracaine group, the corresponding values were 96.8 ± 3.4 mmHg and 76 ± 3.6 beats/min before anesthesia and 87.3 ± 2.7 mmHg ($P < 0.02$) and 72.5 ± 3.7 beats/min ($P < 0.05$) after temperature rise at T-2. Data are expressed as mean ± standard error. Statistical analysis of hemodynamic changes was made using the paired t test. We believe it to be very improbable that a fall in blood pressure and heart rate would contribute to an increase in truncal skin temperature.

5) Increased skin temperature is not incompatible with upper limb vasoconstriction as demonstrated by whole body scintography and plethysmography[2,3] during partial sympathetic blockade. It is well known that[4] in spinal anesthesia, vessels in the skin are subject to more extreme vasodilation than those in striated muscle, in the kidneys, or in the splanchnic bed. It is, therefore, not unlikely that, in the presence of a partial sympathetic blockade, blood flow could increase to the skin, but decrease to the deeper structures. This would give a picture of increased skin temperature in the presence of decreased blood flow to the limb as a whole. We have discussed the possible reasons for the differences between our findings and those of Bengtsson in paragraph three of the discussion in our article.[5]

Our intention was to study the rapidly changing picture at the beginning of a spinal anesthetic. This may be very different from the more gradual onset of epidural anesthesia. In our pilot study, we found that small doses of morphine caused a generalized warming of the skin and obliterated the more subtle changes seen in spinal anesthesia in the unmedicated patient. Bonica has shown that, in epidural anesthesia,[3] the blood levels of local anesthetic substantially alter the hemodynamic changes from those seen in spinal anesthesia. We suspect that the high blood levels of lidocaine, which would be likely to occur in an epidural block rising to T-2, would also have significant effects on skin blood flow and temperature. This would be further complicated if skin temperature were measured by probes in direct contact with the skin, so making the results of the experiment difficult to interpret. For these reasons, we question the appropriateness of a comparison between Dr. Peters' work and our own.

6) Using a paired t test, the temperature rise we observed was significant in both groups at each dermatome level ($P < 0.05$) except for T-10 ($P < 0.1$) in the lidocaine group.

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Elastic Foamed Polymer Earplug as a Stethoscope Earpiece

To the Editor:—A precordial or esophageal stethoscope has been considered to be a fundamental monitor in pediatric anesthesia. A monaural earpiece is more comfortable than a binaural headpiece. However, unless custom-molded, the earpiece is often not used during a long operation because of discomfort.

I have found that an elastic foamed polymer earplug (Ear Whisper™, Cabot Corporation) and a disposable iv extension tube made a very comfortable earpiece, even for a long use.

The earplug is cut short, and a male adapter of an iv extension tube is inserted into the plug (fig. 1). The plug-earpiece is compressed and inserted into the auditory canal, then the earplug expands slowly in the canal and seals the space.

Since the introduction of the elastic foamed polymer earplug-earpiecc, no residents have complained about discomfort of the ear.

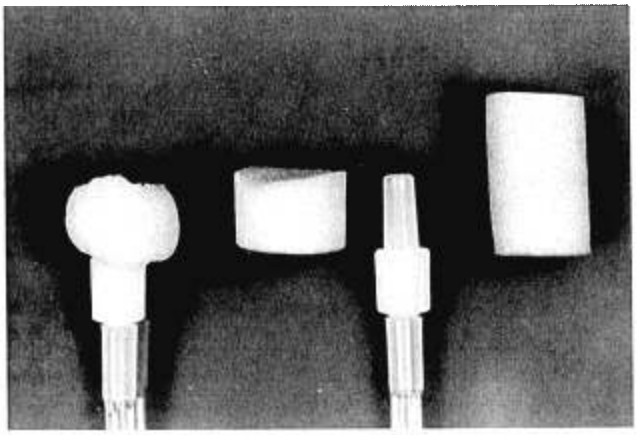

FIG. 1. Ear plug and iv extension tube make a comfortable earpiece.

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N_2O Has No Place During Oropharyngeal and Laryngotracheal Procedures

To the Editor:—We read with interest the clinical report entitled "Endotracheal Tube Fire Ignited by Pharyngeal Electrocautery," by Simpson and Wolf,[1] and we agree with their concern regarding the use of intraoral or pharyngeal electrocautery. However, we feel they missed an important opportunity to warn others and emphasize the danger when using electrocautery or laser with N_2O/O_2 combinations during upper airway procedures. Although the beneficial effect of decreasing the O_2 concentration in N_2 has not been studied in a controlled fashion with electrocautery, we feel the specific energy ignition source (electrocautery or laser) is of secondary importance to the avoidance of N_2O and the use of a low O_2 percentage in N_2.

El-Baz *et al.*,[2] investigating catheter ignition by laser during the use of O_2-N_2 and O_2-N_2O mixtures, noted the critical O_2 concentration in N_2 which avoided PVC tube ignition by laser to be an $F_{I_{O_2}}$ of 30%. Although the use of O_2 concentrations above the critical level of 30% may be required to provide adequate oxygenation in patients with coincident pulmonary disease, the majority of those presenting for elective airway procedures should tolerate 25–30% O_2 in N_2. Whether individual clinicians use cuffed endotracheal tubes in children or not, or avoid the