

The gas chromatographic measurement of mepivacaine is both sensitive and discriminating. In table 4 retention times are presented for various local anesthetics relative to 5  $\alpha$ -androstanone. From these data one may select a system best suited for the measurement of a specific anesthetic or readily select more than one system to confirm the identity of an anesthetic. A chromatogram displaying the resolution of a mixture of anesthetics is presented in figure 4.

Kristerson *et al.*,<sup>6</sup> have reported that metabolic products of mepivacaine, when studied in mice, occur principally in the liver. Two of the metabolites, *viz.*, *N*-desmethyl mepivacaine † and 4-hydroxy mepivacaine † have been subjected to the gas chromatographic procedure and the chromatograms of these substances are presented in figure 5.

#### Summary

A gas chromatographic procedure is described which selectively measures mepivacaine after isolation from 2 ml. volumes of whole blood. Levels of mepivacaine as low as 0.05  $\mu\text{g./ml.}$  blood can be measured. The method has a relative standard deviation of 10 per cent over the range of 1.0 to 5  $\mu\text{g./ml.}$  blood. A systematic partitioning loss of mepivacaine, occurring during the processing of blood, is considered in application of the pro-

† Specimens supplied by Aktiebolaget Bofors, Mölndal, Sweden.

cedure. Peak time and concentration of drug in blood at peak time in humans are noted after low level administration of mepivacaine. The effect of a vasoconstrictor on peak levels is demonstrated. Method selectivity for several common local anesthetics is presented as well as chromatograms of known metabolic products of mepivacaine.

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#### Surgery

**POSTOPERATIVE ANALGESIA** Methadone and morphine when used with 25 per cent nitrous oxide in oxygen administered by a tight fitting mask and bag fitted with inspiratory and expiratory valves provides a significant improvement in pain relief over the use of opiates alone as documented by an increase in vital capacity. (Parbrook, G. D.: *Postoperative Pain Relief: Comparison of Methadone and Morphine when used Concurrently with Nitrous-Oxide Analgesia*, *Brit. Med. J.* 2: 616 (Sept.) 1966.)