

few seconds, the unmodified stopcock is turned 90 degrees to close off the opening, and liquid anesthetic is delivered via a microliter syringe through the septum into the bulb. Next, the unmodified stopcock is opened to allow the contents of the bulb to equilibrate with atmospheric pressure. When the inrush of air has ceased, the stopcock is immediately closed and the contents of the bulb agitated. A small piece of aluminum foil inside the bulb aids this process. Ten- to 15-ml amounts of standard can then be removed from the bulb via the

septum using a syringe fitted with a 3-in-25-g spinal needle. At least three samples may be removed from a bulb of 500-ml volume before the partial vacuum inside the bulb begins to cause problems.

The above-described modification costs less than a dollar and is adaptable to a vessel of any size or shape so long as it is equipped with two Teflon stopcocks.

The author thanks Mrs. Sandra Good for preparing the illustration.

Dental Anesthesia

ANESTHESIA AND DENTAL EXTRACTION In the United Kingdom, two million general anesthetic and sixty million local analgesic administrations are used annually for dental extraction. Both techniques were evaluated in one institution in order to determine whether there was any significant difference in morbidity. General anesthesia was administered to 300 patients, 277 of whom returned a questionnaire. Local analgesia was used in 218 patients, 159 of whom replied. General anesthesia consisted of N₂O-O₂-halothane with or without intravenous barbiturate induction. Local analgesia was accomplished by the injection of no more than 6 ml 2 per cent lidocaine with 1:80,000 epinephrine. General anesthesia lasted less than 5 minutes in 65 per cent of the cases and more than 10 minutes in only 3 per cent. Of patients receiving general anesthesia, 54 per cent were fit to leave the hospital 30 minutes after termination of the procedure. Almost 90 per cent had left after 45 minutes. Twelve patients receiving local analgesia fainted immediately after the injection. In patients receiving general anesthesia, 11 per cent did not require an escort. On the other hand, 30 per cent of the patients

receiving local analgesia desired such an escort. In both groups, approximately 30 per cent required postoperative analgesics. On the day of operation 50 per cent of the local anesthetic group and 15 per cent of the general anesthetic group found it difficult to open their mouths. Two patients receiving local analgesia developed severe trismus. By the following day, there was a 15 per cent incidence of difficulty in both groups. On the day of operation, 70 per cent of patients receiving local analgesia and 15 per cent receiving general anesthesia had difficulty in eating. By the next day the incidence had decreased to 10 per cent in both groups. On the trip home, 37 per cent of patients receiving general anesthesia and 10 per cent of those receiving local analgesia vomited. In the general anesthesia group, the incidence of vomiting could be related to duration of anesthesia. The following day, 28 per cent of patients given general anesthesia and 65 per cent of those receiving local analgesia felt unfit for work or school. (Muir VMJ, Leonard M, Haddaway E: *Morbidity following dental extraction: A comparative survey of local analgesia and general anaesthesia. Anesthesia* 31:171-180, 1976.)