

capabilities prior to anesthesia and surgery. A number of tests have been devised to permit determination of these capabilities. . . .

"In spite of the tremendous advances that have been made in measuring instruments, it appears at the moment that one of the most reliable assays of ventilatory capacity and reserve can be made by a careful history of the patient's response to exercise. . . . Bronchspirometry has promise in determining the relative effectiveness of the two lungs. . . . One of the most promising instruments for the study of ventilation is the pneumotachograph. . . . There is increasing realization that inadequate attention has been paid in the past to the accumulation of carbon dioxide during anesthesia. . . . The vast majority of contributions of the basic sciences in recent years have been the introduction of instruments which give a more precise interpretation of the changes that occur during anesthesia as a result of the abnormal state. This is important information and permits us to institute prophylactic measures, recognize undesirable changes earlier, and effect corrective therapy promptly. In addition, a better evaluation of the different anesthetic drugs and technics is possible and the opportunity is presented to improve the application of drugs and technics. However, a minimum of evidence has been introduced which permits a better insight into the understanding of the mechanism of anesthesia. Recently it has been determined that the rare and chemically inert gas, Xenon, is capable of producing anesthesia and analgesia in the presence of atmospheric tensions of oxygen. . . . Enumeration of some of the contributions made by the basic sciences during recent years serves only to give us a better understanding of the enormous amount of work yet to be done."

A. A.

RAPOPORT, LEONARD, AND DOBBS, E. C.: *A Quantitative Method for Evaluating Topical Anesthetic Potency.* Oral Surg., Oral Med. & Oral Path. 4: 615-622 (May) 1951.

"For over half a century vast amounts of research have been channeled into the field of local anesthesia, with the prime purpose in mind, so far as dentistry is concerned, of making the dental operation as safe and as painless as possible. In spite of the advances and improvements made, improvements that have rendered the majority of dental procedures absolutely painless, there has been a certain reluctance on the part of a rather wide segment of the population to submit to local anesthesia. Much of this reluctance may be traced to the fact that the insertion of the needle, in itself, gives rise to pain. This, together with the psychologic apprehension attending the injection, is often sufficient reason to warrant the patient's seeking other forms of anesthesia, or of avoiding the dental operation altogether. Realizing this, there has been a distinct effort on the part of the profession to develop topical anesthetics, which when applied to the oral mucosa would eliminate the pain of needle insertion. Unfortunately there has not been developed a sufficiently satisfactory topical anesthetic which will render the injection absolutely painless. . . .

"The work was begun with the prime purpose of finding a more satisfactory, more scientific, and more accurate method of evaluating topical anesthetic preparations in human subjects. . . . In order to utilize the response obtained from human beings and at the same time to eliminate as many extraneous variables as possible, an instrument was devised which reduced some of these factors. A weighting system was assigned to the instrument so that topical anesthetics might be mathematically evaluated for efficiency

in terms of an index, in the same manner that alcohols are weighted by proof or percentage of alcoholic content. It was not our intent to evaluate the various topical anesthetics in vogue today, but rather to develop an instrument which could be used to measure the potency of topical anesthetics. The findings were rather enlightening, indicating that certain types of topical anesthetics are practically worthless, others designed for specific purposes, and that none of those tested could be wholeheartedly recommended for all types of work. . . . It is our hope that a new avenue of approach to the evaluation of topical anesthetics has been opened and that this work will be but the forerunner of further investigation in this field."

A. A.

GOLIGHER, J. C., AND THORNTON, H. L.: *General Anaesthesia for Gastroscopy*. *Lancet* 1: 652-635 (Mar. 24) 1951.

"Until comparatively recently, like most other gastroscopists, we have performed almost all our gastroscopies under local analgesia with amethocaine ("Decicain") supplement by heavy premedication with "Omnopon" and scopolamine or barbiturates. . . . The only reason why local analgesia has been tolerated, despite its obvious imperfections, is that it has been held to be much safer than any form of general anaesthesia for this purpose; but with the recent advances in general anaesthetic technique we have felt that there are now good grounds for challenging this contention. During the last eighteen months or so we have been experimenting with several methods of administering general anaesthesia for gastroscopy and oesophagoscopy and have eventually arrived at a technique which we are satisfied is thoroughly practicable and possesses significantly advantages over purely lo-

cal analgesia. . . . Topical analgesia is obtained 10 minutes before endoscopy, using 2% amethocaine. . . .

DAVENPORT, H. T.: *Damage to the Skin Due to Trilene*. *Brit. J. Anaesth.* 23: 56-57 (Jan.) 1951.

"A search of the literature has not revealed an account of injury to the skin due to Trilene, therefore the following report may be of interest. A fit woman aged 30 years underwent a vaginal repair of operation in the lithotomy position. Anaesthesia was induced with 5 per cent thiopentone after the skin of the right antecubital fossa had been cleaned with a cotton wool swab dipped in spt. vini. meth. and an easy venipuncture performed. The syringe and swab were then placed upon the Boyles machine, which was used to maintain anaesthesia with semi-closed gas and oxygen. Later, using the same swab and the remains of the solution in the syringe, a further dose of thiopentone was given into the same vein to facilitate the suture of the levator muscles. . . . On routine inspection of the patient in the ward 90 minutes later, it was noticed that an area of the right arm had sustained a first and second degree burn, and appropriate treatment was ordered. . . . Inquiry showed that a swab soaked in Trilene and used for cleansing purposes elsewhere was placed on the anaesthetic trolley during the operation session. The anaesthetist also recollected that when preparing for the second injection on this particular patient there had been an excess of a blue fluid on the swab, but its importance was not apparent to him at the time. By means of tests on members of the medical staff, it was shown that a burn resulted with Trilene and Trilene-spirit mixture. The latter was most severe and the degree varied with the time of application and the individual tested."

A. A.