

the open technique is probably better for the infant for this reason. Induction of anesthesia in the child requires great care, as this is the procedure the child remembers, and the impression produced may affect his whole future attitude toward operations. A slow administration without sudden increase in concentration, which tends to give the child a feeling of being smothered, is obviously important. . . . An infant can tolerate a long operation if the level of anesthesia is kept light except for the short periods where deep anesthesia is required. Oxygen by nasal catheter or into a Gwathmey-Yankauer ether mask is invaluable in the young infant, in an anemic or poor risk patient and for long shocking operations. Endotracheal technique is as useful in the child as in the adult, and in certain procedures is it indispensable. . . . The size of endotracheal tube in the child is most important, as the thickness of the wall of the tube diminishes the air space more in the smaller tubes. The tube with the largest lumen which will pass the orifice and into the trachea should be used, especially in the infant and in the younger child. The tube may be passed orally or nasally after viewing with the laryngoscope, but in the infant under 18 months it is usually more satisfactory to pass it nasally. . . .

“Choice of anesthetic agent for the child differs little from that for the adult.”

A. A.

WATTS, D. E.: *The Effect of Local Anesthetics on the Respiration of Brain Homogenates*. *J. Pharmacol & Exper Therap.* 96: 325-351 (July) 1949.

“In view of the widespread use of local anesthetics for surface, regional, and spinal anesthesia, an investigation of their *in vitro* action on the respiration of nerve tissue was considered de-

sirable at this time. Recent developments in the use of fortified homogenates makes it possible to investigate the effect of drugs on highly active and specific enzyme systems. . . . The rate of oxygen uptake or carbon dioxide evolution was followed in Warburg manometers at 36.3 C. After a ten-minute period for gassing and temperature equilibration the stopcocks were closed, homogenates and substrate mixed and readings made at ten-minute intervals for 60 minutes. An apparatus with fourteen manometers was used in order that duplicate controls and five concentrations of any one drug could be examined simultaneously. In experiments to compare the relative effect of the anesthetics duplicate determinations were made on control vessels and on vessels with five of the anesthetics at a concentration of 0.005 M. This eliminated any possibility of variations due to differences in the homogenate preparation. . . . In a few of the anaerobic glycolysis experiments lactic acid determinations were made on the contents of the Warburg vessels immediately after the 60-minute experiment by the method of Edwards. The effect of nupercaine on the oxidation and reduction of cytochrome c was determined by following the rate of appearance or disappearance of reduced cytochrome c with a Beckman spectrophotometer at 550 m μ . Succinic dehydrogenase method. Ninety per cent methylene reduction, determined visually, was used as the end point. . . .

“Tissue homogenates were prepared by grinding fresh whole rat brain in cold buffer or distilled water for all experiments except those for some of the succinate and ascorbate oxidation determinations. Frozen beef brain stored on dry ice was used for these experiments. Control determinations showed homogenates prepared from the beef brain and rat brain gave comparable results

when succinate and ascorbate were used as substrates. . . . Cocaine, procaine, metycaine, butacaine, tetracaine and nupercaine inhibit the oxidation of glucose, succinate and ascorbate but do not inhibit the anaerobic glycolysis of glucose by brain homogenates. The oxidation and reduction of cytochrome c is inhibited; the anaerobic reduction of methylene blue in the presence of succinate and homogenate is not inhibited. These results indicate the blockage of the enzymatic chain is occurring at the cytochrome c-cytochrome oxidase level or at some factor necessary for the reduction of cytochrome c.

"There is a wide range in the degree of inhibition by the anesthetics at 0.005 M and over a range of concentrations. Cocaine, procaine and metycaine give the least inhibition; tetracaine and butacaine are next in order; and nupercaine produces the greatest inhibition. There is a correlation between the in vitro and in vivo order of inhibition of these drugs."

A. A.

THOMAS, D. E.: *Use of Oil Anesthetics in Rectal Diseases*. Bull. U. S. Army M. Dept. 9: 589-592 (July) 1949.

"The use of an oil anesthetic was first reported in 1927 by Yeomans, Gorsch, and Mathesheimer. These workers named their product 'benacol.' . . . Although oil anesthetics are widely used, particularly in rectal surgery, the subject has received little attention in the literature. Their clinical use has been described by various authors. No worth while investigative work appeared until the reports of Duncan and Duncan and Jarvis. These men noted that practically all articles except that of Steinberg gave the impression that the prolonged anesthesia produced by oil anesthetics resulted from the slow release of procaine by the oil. Histologic investigation by Duncan revealed that the prolonged anesthesia was ac-

companied by degeneration of nerve fibers in the area involved. This proved that the injection of anesthetic mixtures in oil caused prolonged anesthesia by killing nerve fibers and not by a gradual release of contained medicaments with a consequent depression of functional activity. Duncan and Jarvis carried the experiment further by investigating the components of oil anesthetics in order to determine which ingredient was the effective agent. The method consisted of infiltrating the vicinity of the peripheral motor branches of the facial nerve of the cat with the individual substances in sweet almond oil. The substance was then evaluated by noting its effect on the orbicularis oculi muscle. . . . Pruritus ani is a disease that, when it becomes chronic, is almost intractable. Early in the disease, anesthetic salves and lotions are of value, but these soon become ineffective. . . .

"When first seen the patient cannot be adequately evaluated because of infection secondary to scratching, and, if surgery is indicated, it cannot be intelligently planned in the presence of abnormal tissues. Injection of an oil anesthetic, if properly performed, may be of value because it gives a period of about three weeks in which the vicious cycle is interrupted and the patient, unless his trouble is primarily psychic, does not have to scratch because he does not itch. During this time his perianal area can be returned to as nearly normal as possible by sitz baths, scrupulous cleanliness after bowel movements, powder to control perspiration, and similar measures. After these procedures have had their effect an intelligent appraisal can be made of what must be done surgically, if anything.

"When injecting the solution, it should be remembered that just anterior to the anus, the skin is supplied by the first, laterally by the second,