

pected especially since the chemical procedure involves the transition from a straight chain to a closed ring structure. There is evidence to indicate that certain of these unsaturated compounds predispose the patient to pulmonary edema; therefore, it is important both to the manufacturer and to the patient that suitable methods be available for determining the efficiency of purification methods employed before this anesthetic gas is used. . . . There are three unsaturated hydrocarbons which are most likely to occur in the preparation of cyclopropane: (1) propene; . . . (2) propadiene; . . . [and] (3) propyne. . . .

"We have recently completed a more comprehensive examination of the present pharmacopoeial test with and without certain modifications. In this work we have had the cooperation of various manufacturers of cyclopropane through one of whom we also obtained an especially purified sample which we have designated as C.P. Several commercial samples of cyclopropane were examined as well as some special ones showing a high value for unsaturates. Nearly 200 analyses were carried out. . . . In a second series of experiments we have modified the pharmacopoeial method. . . .

"The results show a slight improvement of reproducibility as shown by a general decrease in the average deviation. In the modified procedure, there is also a general decrease in the magnitude of the permanganate titer which is especially marked in the case of the C.P. cyclopropane. . . . Although the modified procedure does not produce any marked improvement in the accuracy of the method, it is believed to be desirable since it attempts to standardize further the procedure, particularly at the point where the source of the difficulty most likely occurs. Either the pharmacopoeial method or the modified form may be regarded as adequate with regard to

the present cyclopropane market and methods of production. Any marked change in these factors would undoubtedly call for an immediate review of the method. Therefore, it is clearly indicated that further studies should be undertaken."

J. C. M. C.

SPAID, J. D.: *Anesthesia for Oral Surgery During Infancy*. J. Indiana M. A. 34: 143-145 (March) 1941.

"During the past five years we have had the opportunity of handling the anesthesia for some 300 cases of hare-lip and cleft palate repair. The great majority of these cases were infants under eighteen months of age, and many of the lip cases were newborn. . . . The consideration of the anatomy and function of the respiratory and circulatory systems of very young children is important. The nasal passages of the infant are very narrow, and space between the vocal cords is extremely narrow. The calibre of the trachea is between 3 to 4 mm. The lungs, naturally, are very small, with a limited vital capacity. As a rule, vital capacity is greater in boys than in girls. Respiration in the infant is usually described as abdominal in type. During infancy, and especially with the newborn, respiration is very irregular and the rate is influenced by the slightest causes. At times quite a long pause may occur. The average rate of respiration in very early life can only be determined approximately and the estimates of various investigators differ widely. . . .

"As to circulation, the activity is greater in children than adults. In the newborn, the time required for the blood to leave the heart and return is about twelve and one-tenth seconds. At 3 years of age, the time is about fifteen seconds. Even in health the pulse rate tends to be somewhat irregular in force and frequency. During the first month of life the pulse rate is

about 130 to 150 per minute; from the first to the sixth months it is about 120 to 140. From 1 to 2 years it runs 110 to 120, and from 2 to 6 years the rate is about 90 to 110. Blood pressure is very low in young children and reliable readings are impossible in infants younger than 3 years. Figures from the best investigators indicate a mean systolic pressure at birth of 55 mm. of mercury and a mean diastolic pressure of 40 mm. . . . It has been our practice with babies who are to receive anesthesia to have first an x-ray study of the thymus gland, and in those showing hypertrophy we postpone operative procedures until the child has had adequate x-ray therapy. . . . As a mild preoperative sedative, paregoric is given orally in doses from one to three minims one-half hour before operation. Atropine is also given hypodermically in doses from 1/500 to 1/300 grain, depending upon the age and weight of the infant. As ether is our choice of anesthetic agent, we find that atropine is very useful for its drying effect. In a few instances we have used a very small dose of barbiturate rectally with excellent results. However, this procedure is not to be recommended for the large percentage of cases because of the great possibility of respiratory depression. . . .

"Regardless of the form of anesthesia to be employed in very young patients, it is imperative to use small doses and administer them slowly, since babies are very sensitive to rapid induction. . . . In our hands ether has proved to be the agent of choice because of its high factor of safety and its anesthetic potency. . . . For induction we use the open drop method, given slowly and with plenty of air. When the baby is in first plane anesthesia, the mask is removed and a small mouth hook is used, supplying a mixture of warm ether vapor and oxygen. . . . The oxygen supply is regulated by a standard liter flowmeter attached to a large

oxygen cylinder. We prefer the type which is supplied with a water bottle through which the oxygen bubbles and thus supplies adequate humidity to the anesthetic mixture. The oxygen flow is usually maintained at about four to five liters per minute. . . . Anesthesia is maintained at the highest level possible to accomplish the necessary surgery, which is usually in the upper first plane. Deep anesthesia is neither necessary nor desirable. Careful watch for sudden deep anesthesia must be maintained at all times. Pallor, shallow respiration, and dilating pupils are danger signs. The chief care is to keep the small patient quiet with as little anesthetic as possible. Since between one and two hours are required for many palate and lip repairs, the danger of prolonged anesthesia must be kept in mind. . . . Where we have followed this anesthetic technic, recovery has been almost immediate and no signs of shock have been present. The convalescence in all our cases has been uneventful." 7 references.

J. C. M. C.

HAMM, W. G.: *Fractures of the Jaws*. South. Surgeon 10: 185-193 (March) 1941.

"The treatment of a fracture of the lower jaw should be directed to replacing and maintaining the fragments in their correct position until healing has occurred. . . . Although adequate fixation may be obtained by means of dental splints, or by direct bone fixation with wires or bone plates, a much simpler as well as more satisfactory method is by the direct fixation of the lower jaw to the upper jaw, by wires fastened directly to the necks of the teeth. . . . The patient should be able to cooperate and the stomach should be empty. Local anesthesia is to be preferred since it would not be safe to wire teeth in occlusion under general anesthesia unless preparations have