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 anesthetic unless preparations have

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been made to open the jaws immediately in case of respiratory difficulty or vomiting. A very satisfactory anesthesia may be obtained by a deep block of the second and third divisions of the fifth nerve with 2 per cent procain hydrochloride. In many cases it is possible to wire the teeth with no anesthesia other than a preliminary hypodermic of morphine or scopolamine but the operator should always be gentle in his manipulations."

J. C. M. C.

PINNELL, E. E.: *Use of Intravenous Evipal in Minor Gynecological Operations.* Ohio State M. J. 37: 449–450 (May) 1941.

"Since 1938 intravenous evipal has been used when possible on the gynecological service as a routine anesthetic for minor operations. . . . This paper has to do with factors bearing on relaxation of the patient, especially the effect of pre-anesthetic medication, and the incidence of certain reactions occurring during and after its use. . . . It was found that 41 cases or 33 per cent showed fair to poor relaxation, requiring supplementary anesthesia in 30 cases or 25 per cent. . . . Most of the patients over 40 years of age were well relaxed. The majority of patients requiring supplementary anesthesia weighed over 60 kg. Most cases with operations lasting more than thirty minutes required supplementary anesthesia. Only 27 per cent of the total patients were colored. . . . Thirty patients or 25 per cent of the total number were apprehensive, 17 of these were poorly relaxed, with 12 requiring supplementary anesthesia. Apprehension is apparently a big factor in poor relaxation and occurs more often in the colored race. . . .

"At the time of administration generalized muscular twitchings were noted occasionally. Vomiting occurred only once. There was one case of hiccoughing of two minutes' duration occurring five minutes after the injection and the patient became moderately cyanotic but responded quickly to carbon dioxide and oxygen inhalations. Post-operatively, moderately severe headaches were occasionally noted, also nausea and vomiting after the evening meal. It was thought a liquid rather than a soft diet would remedy the nausea but the results were approximately the same. . . . Pre-medication of morphine sulphate gr. $\frac{1}{6}$ and atropine sulphate gr. $\frac{1}{150}$ was found to have no definite effect on the relaxation, the change in respiratory rate, or the time required to produce loss of consciousness in the patient. There were several non-serious side-reactions noted but no deaths in over 1800 cases. It was generally agreed by patients to be a pleasant type of anesthesia." 4 References.

J. C. M. C.

PUGSLEY, H. E., AND RICHARDSON, G. D.: *Anesthesia in the Patient with Pulmonary Tuberculosis.* Canad. M. A. J. 44: 473–476 (May) 1941.

"Patients with active pulmonary tuberculosis usually tolerate anesthesia and operation very well. However, a small percentage develop a post-operative spread of the tuberculous disease in their lungs. This extension of the pulmonary lesion is the principal cause of post-operative deaths and it is the purpose of the present paper to indicate the causes of and measures which will aid in the prevention of this serious complication. . . . We believe that surgical shock results in a lowered resistance to the tuberculous infection and is one of the primary causes of a spread in the lung. Therefore, every effort should be made to avoid the development of shock by careful pre-operative preparation, multiple stage operations where feasible, routine intravenous saline during major surgery, and blood transfusion if signs of shock appear. . . .

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