for the prolonged and continuous administration of this drug. Nitrous-oxid plus ether is the most popular anesthesia for routine major surgery, although sometimes nitrous-oxid is reinforced with chloroform. Open ether was very seldom seen, though sometimes it was used to maintain anesthesia after induction had been carried out with gas given by Clover's inhaler. Spinal, local or regional blocks were rare. . . .

"Casualties are brought in directly from the scene of action, or from first aid posts. . . . Those . . . seriously injured, that require treatment for shock, go immediately to the resuscitation wards, where they are warmed up, given oxygen by a mask and bag apparatus, and blood transfusions, if necessary. A good stock of plasma and serum is kept on hand, and is constantly replenished by donor centers established in all the large cities. . . . Oxygen therapy equipment is available at all hospitals for the treatment of gas casualties."

J. C. M. C.

FISCHER, T. E.: *General Anesthesia in the Treatment of Maxillo-facial Cases.* Mil. Surgeon **89**: 877–892 (Dec.) 1941.

"Nitrous-oxide-oxygen is admirably adapted to oral surgery procedures, for it may be administered in a closed system and the concentration of the gases easily controlled. With the commercial machines now on the market, nitrous oxide can be used as a vehicle for other gases depending upon the type and site of operation. Then, too, the divided oral and nasal inhalers enable the continuance of the anesthesia, leaving the mouth free for operative procedures. . . . Nitrous-oxide per se is a relatively weak anesthetic. Therefore, its use must be confined to those cases in which muscular relaxation is not desired, or to produce sleep only in cases in which relaxation has been produced by other means. . . . The greatest objection to nitrous-oxide-oxygen is that anesthesia is maintained only with the quantity of nitrous-oxide from 90 to 93 per cent, and the oxygen from 7 to 10 per cent. . . . It is this high concentration, with its risk of anoxemia, which constitutes the principal objection to its use. . . .

"Ethylene has been listed as the number two gas for safety to the patient. But the fact that ethylene is an unsaturated hydrocarbon which, when mixed with other gases, is very highly explosive and inflammable in the pure state, causes this safety factor to be disregarded in relation to oral surgery. . . . Cyclopropane is number three in safety to the patient. It has low toxicity with a wide margin of safety, and does not produce anoxemia. . . . Cyclopropane seems to increase the tendency toward capillary oozing during operation. . . . This gas, administered by the closed endotracheal method, in the opinion of almost all of the investigators offers a tremendous advantage in maxillo-facial surgery. . . . Ethyl chloride as a general anesthetic is safe, convenient, and economical. My personal opinion is, that it is too toxic for use in adults in the amount needed to induce general anesthesia for any length of time. Its chief indication is for short operations on children. . . . Vinyl ether, or vinethene, . . . has been used successfully by a large number of men. . . . At present it is not recommended for operations lasting longer than one-half hour, if given without oxygen. . . . Ether still remains the most popular agent for operations requiring prolonged anesthesia and complete muscular relaxation. . . . Ether per se offers no advantages whatsoever in the field of maxillo-facial surgery, unless added to other gases to produce muscular relaxation. . . . Chloroform, except for its toxic effect upon the parenchymatous organs, and

its narrow margin of safety, would be a very good anesthetic agent. . . . Oxygen is literally 'the breath of life,' and its presence in adequate amounts is vitally essential to the existence of every living thing. . . . No patient in good physical condition under general anesthesia has ever shown any ill effects from the anesthetic as long as a sufficient amount of oxygen was present. . . . Untold harm has been done by employment of carbon dioxide in anesthesia. . . . Helium mixed with oxygen, as a purveyor of any other anesthetic agent, has, according to a number of authorities, greatly increased the safety of anesthesia. This is especially true in operations for pathological conditions of the mouth, face, and neck, or wherever edema or swelling may have caused a constricted airway. . . . A great number of cases in which tracheotomy has been averted due to the timely use of helium have been reported. . . .

"Probably the greatest advance in modern times for the safe administration of anesthetic agents, especially in maxillo-facial surgery, is the development of the use of endotracheal anesthesia. . . . Intravenous anesthesia seems to be especially suitable as a general anesthetic in maxillo-facial surgery. A free and open airway is vital. It is not recommended for children and inhalation of oxygen greatly reduces its hazards. Large doses of over 1.0 gram should be avoided, and the danger of overdosage cannot be overemphasized. . . . Preanesthetic sedation and basal narcosis have contributed much to the comfort and safety of the patient. . . . Routine premedication is to be condemned." 25 references.

J. C. M. C.

SEIBERT, C. W.: *Practical Application of Obstetric Analgesia.* J. Iowa M. Soc. **31**: 583–585 (Dec.) 1941.

"The ideal obstetric analgesia must meet the following requirements: 1. It must relieve all or most of the pain of labor. 2. It must not produce undue excitement in the mother rendering her incapable of cooperating in the second stage. 3. It must not affect the respiratory center of the infant, rendering it incapable of function soon after birth. 4. It must not increase postpartum bleeding. . . . It has been my experience that by a judicious use of an analgesic in moderate doses one is able to control the discomfort of the first stage without producing undue excitement and without any appreciable depression of fetal respiration. . . . For the actual delivery the patient may be given gas oxygen, open ether or the above may be combined with perineal block. Any repair work may be done under general anesthesia or one per cent novocain infiltration. In this way the patient receives a minimum of general anesthesia before delivery and the infant is practically never affected. . . . Obstetric analgesia is still an open question. No drug, combination of drugs or technic yet discovered is ideal." 6 references.

J. C. M. C.

TAINTER, M. L., AND THRONDSON, A. H.: *Suitability of Butyn for Injection Anesthesia in Oral Surgery.* J. Am. Dent. A. **28**: 1979–1986 (Dec.) 1941.

"Butyn is a local anesthetic closely resembling procaine in chemical structure, but differing from it considerably in potency and actions. As a topical local anesthetic, it is about ten times as strong as procaine, which makes it one of the most effective of this type. When injected into tissues, it is also highly active, although its potency is not much greater than that of procaine. Butyn suffers from the general defect that in animals its toxicity is considerably higher than that of procaine, and its use has had more reactions in patients. . . . It was thought