tory depression produced by this type of anesthesia in the patient whose circulation is already impaired, either actually or potentially."

A. W. F.

Thoracoabdominal Wounds. Bull. U. S. Army Med. Dept. No. 85: 12 (Feb.) 1945.

"The management of abdominal and thoracic wounds has long been a challenge to surgical skill and judgment. . . .

"If an abdominal approach is used when perforation of the diaphragm may be present, it is essential to have an intratracheal tube in place. The sudden collapse of a lung from a sucking diaphragmatic perforation has been observed to cause death on the operating table."

A. W. F.

ROVENSTINE, E. A.: *The Pre-anesthetic Preparation of the Surgical Patient.* J. Michigan M. Soc. **44**: 45–51 (Jan.) 1945.

"It is no new practice to give drugs shortly before anesthesia is induced. . . . The modern concept, however, except as related to surgical preparation, has gained little significance. This tardy recognition has been the result of the empirical use of pre-anesthetic drugs and the convenience of routinizing practices. The time-honored 'quarter and one hundred fiftieth' has become so firmly intrenched that it is almost traditional in many clinics. . . . Once a routine is established the incentive for improvement is suppressed. . . .

"Pre-anesthetic medication has for its primary purpose an increased margin of safety for the patient. His comfort and rapid convalescence are other important aims. . . . It is established that patients who have received sedative drugs will require correspondingly less anesthetic agent depending upon the degree of narcosis already present. . . .

"The thesis of Guedel is familiar wherein he correlates the reflex irritability or what might be termed resistance to anesthesia directly with oxygen demand or metabolic activity and indirectly with the state of mental activity. . . . In practice this tenet serves as a useful guide in the proper pre-anesthetic medication. To illustrate, patients with elevated metabolic rates, such as those with hyperthyroidism or infections, can be given properly a much larger amount of sedative drugs than is needed or is safe when there is a normal metabolic rate. Likewise for the old and young, a decreased amount of sedatives is imperative and can be approximated from Guedel's recommendations. . . . Other considerations are the anesthetic agents and techniques that will be employed later, the nature of the surgery to be completed, the postoperative requirements and, of greatest importance, the nature of existing disturbed functions that may influence either the response to pre-anesthetic or anesthetic drugs. . . .

"The opiates have a well-deserved place at the top of the list of drugs for use immediately before surgical anesthesia is induced. The morphine salts are representative and most widely employed. The profound analgesic effect of morphine is advanced to justify its use to control pre-anesthetic pain. It is readily agreed that such use is indicated but it should be remembered that there are other methods to control pain and secure comfort. Among these are nerve blocking, nursing care, freedom from worry and fear and other analgesic drugs. . . .

"The objective and subjective depression with morphine does not parallel the analgesic action. When given subcutaneously, more than an hour will elapse before subjective narcosis

attains its maximum. If it is given at a shorter interval before anesthesia is induced, its value is decreased greatly, and often the anesthetist may realize that maximum effects are reached at a time when the patient is already deeply anesthetized and with a high concentration of anesthetic agent in his tissues. . . . When given intravenously, and it is altogether likely that this will soon be the rule, the desired effects are to be had in about ten minutes.

"An analgesic recently added to those useful in premedication is marketed as demerol. . . . It has not been evaluated conclusively, but a recent comparative study in dogs and man concludes that it provides psychic sedation, facilitates induction, has fewer side effects such as nausea and vertigo and reduces the amount of complemental anesthetic drug comparable to morphine. . . .

"Apomorphine in sub-emetic doses (1.5 to 2.0 mgs.) almost equals morphine in narcotic action. It is useful in combating delirium and has been of value for the patient addicted to alcohol.

"It is common practice to combine with injections of morphine or demerol either atropine or scopolamine. Until recently these alkaloids of the belladonna plant were used primarily to depress salivary activity. This is an essential effect but by no means the primary one. Their action on the central nervous system as well as on smooth muscle is important. They counterbalance to some extent the respiratory depression caused by opiates and cyclopropane. . . . The most recent consideration given atropine and scopolamine in anesthesia is occasioned by their effect in modifying reflex activity of the autonomic nervous system. Attention is being directed toward reflex circulatory disturbances more frequently than in the past. The carotid sinus mechanism with hypotension and bradycardia; the vago-vagal reflexes stimulated mechanically by manipulations in the thoracic cavity with cardiac inhibition, laryngospasm and apnea; the bronchospasms with lower respiratory tract obstruction are complications which may be avoided often with adequate amounts of the belladonna alkaloids. Particularly is this true when the barbiturates or cyclopropane is used since these drugs tend to increase parasympathetic activity. When drugs such as ether are used sympathetic activity is increased and reflexes such as the abdominal traction reflexes may be hyperactive. Such sympathetic influence is enhanced by atropine and scopolamine, a fact which must be taken into account when they are used before upper abdominal surgery.

"Among the more popular groups of drugs used before the induction of anesthesia are the derivatives of barbituric acid. These hypnotics have the specific action of reducing the toxic effects of the local anesthetics. . . These drugs are used more often, however, for their sleep-producing qualities. It should be remembered that they are not analgesic and that therapeutic amounts usually increase the sensations of pain. . . . Excepting when regional anesthesia is employed, they are more useful from the standpoint of the patient's comfort than his safety. . . . The serious toxic effects of barbiturates are those of depressed functions but these are not pronounced with therapeutic doses. . . .

"Paraldehyde has enjoyed the reputation of a safe hypnotic without serious toxic effects, that is rapidly eliminated by the lungs. Respirations are stimulated and human tolerance seems high. Now there are accumulated data that impose extreme caution when paraldehyde is given intravenously

since alveolar damage may follow with pulmonary hemorrhage and edema. . . .

"Avertin in amylene hydrate has gained a merited popularity for use before complemental anesthesia is induced. Given in aqueous solution by rectum, it is absorbed quickly (95 per cent in twenty-five minutes) and produces two effects unlike most other depressant drugs. Intracranial pressure and intraocular tensions are reduced. . . . Objections to its use are many but more particularly are associated with liver or kidney damage since the drug interferes with normal functioning of these organs. . . .

"This discussion properly should include the role of many other drugs, foods, fluids and inhalation therapy in the pre-anesthetic preparation of patients. . . . Some common examples are insulin for the diabetic, iodine for the thyrotoxic, blood for the anemic and fluids for the dehydrated patients. Such preparation should be considered also in the role of prophylaxis for the complication of anesthesia. . . .

"Another significant interest in pre-anesthetic preparation is the mental and physical comfort of the patient. . . . The influence of emotional factors upon physiologic processes is better understood now but the specific effects these may have in determining the morbidity and mortality from anesthesia are still speculative. . . .

"The pre-anesthetic visit of the anesthetist is an integral part of preparation. Such a visit is not made with the surgeon or internist to discuss the case or plan the procedure. That should be done elsewhere. The visit is made to become acquainted, gain confidence, learn the anesthetic history and to observe the patient in an environment other than the operating room. . . . Pre-anesthetic preparation must be rigidly individualized." 9 references.

J. C. M. C.

MORTON, H. J. V.: *An Anaesthetic Facepiece for Use in Thoracic Surgery.* Brit. M. J. 1: 16 (Jan. 6) 1945.

"The modified McKesson type mask with a special outlet tube over the mouth, together with preferably Magill's flexible connector, is used in the ordinary way during induction. . . . Direct laryngoscopy is performed and a wide-bore Magill's tube passed through the mouth. . . . After the tube has been passed a London Hospital airway is threaded over it to give protection against the teeth. . . . The mask is put on again. With the aid of a Spencer Wells forceps a sorbo washer is threaded over the end of the tube and pushed down until it rests on the flange. Magill's connector is then plugged in. The outlet tube of the mask is of such a length that the end of the connector when pushed right home presses the washer firmly against the flange and seals off the joint between intratracheal tube and connector from the cavity of the facepiece and makes it air-tight. A Clausen's harness and chin-strap hold the whole assembly firmly in position. With the patient's head extended the intratracheal tube should be long enough to reach from just below the larynx to just above the outlet tube of the mask." 5 references.

J. C. M. C.