ABSTRACTS

Editorial Comment: Material for this section is not abstracted in a uniform style. Many employ direct quotations only. Others are written in the more conventional form. At times there may be included a few opinions, personal to the abstractor, which, where they appear, will be bracketed or labeled "Comment." The Editorial Office continues in its desire to receive correspondence from readers relative to the management of this section.

MOUSEL, L. W., and WEISS, W. A.: *Comments on Anesthesia.* The S. Clin. North America, Nationwide Number: 1072–1082 (Oct.) 1945.

"It is the contention of many surgeons that open-drop ether is the safest of all anesthetic procedures. This contention is false. It immediately invites laxity in the selection of properly trained anesthetists. If one is interested only in getting his patient off the operating table alive, then perhaps open-drop ether is the safest of all anesthetic methods. This agent does have a rather wide range of safety between anesthetic concentration in the blood stream and the concentration which will produce complete respiratory rest. However, many patients who survive anesthesia and operation develop postoperative complications which can be directly attributed to their anesthesia. Most patients under open-drop ether anesthesia, particularly if the anesthesia is carried deep into the third plane of the third stage, develop definite clinical signs of anoxia. . . .

"Ether, given with a high concentration of oxygen through a modern anesthesia machine, can be given in such a manner as to prevent anoxia from developing during the course of operation and maximum relaxation can be obtained using a minimum amount of the anesthetic agent. There are very few patients requiring operation who cannot be anesthetized safely with ether and oxygen. Cardiac patients requiring surgery tolerate ether anesthesia better than any other agent or method available. . . . It is somewhat difficult for most patients to go through an ether-oxygen induction. However, the choking and coughing sensation experienced by these patients can be completely eliminated by starting all anesthetic inductions with nitrous oxide and oxygen. . . . It is the custom of many anesthetists to start nitrous oxide, oxygen and ether anesthesia by using pure nitrous oxide for the first one or two minutes of anesthesia. This is a very dangerous procedure. . . . Nitrous oxide should never be given in concentrations which prohibit the simultaneous administration of 20 per cent oxygen. . . . A mixture of 20 per cent oxygen and 80 per cent nitrous oxide is capable of producing early first plane, third stage anesthesia in most individuals who have been properly premedicated. It is not capable of producing surgical anesthesia except at the expense of oxygen. . . . It is our practice to run a flow of 4 liters of nitrous oxide and 1 liter of oxygen per minute with the expiratory valve open. This flow is maintained until the nitrogen in the patient's lungs has been diluted and removed from the system. After the patient is breathing the nitrous oxide and oxygen freely, ether is added to the system in small amounts. After approximately 1 dram of ether has been added to the re-

breathing system, the nitrous oxide is turned off completely and oxygen is metered into the system at a rate of flow sufficient to keep the anesthetic bag filled with gas. This flow will vary from 350 to 500 cc. per minute. The amount of ether delivered to the anesthetic machine is now increased gradually until the patient passes into third stage, second plane of anesthesia, at which time the operation may begin. This induction period consumes from ten to twelve minutes' time. If the system is kept completely closed and all carbon dioxide is removed through a soda lime filter, most operations can be completed using less than 3 ounces of ether. Prolonged operations lasting as long as five or six hours are frequently carried out using less than 5 ounces of ether. . . . We believe that almost all general anesthesia should be administered through an endotracheal airway. . . .

"If a patient is carried into deep third plane, third stage anesthesia for an abdominal operation, the intercostal muscles become paralyzed. After intercostal paralysis has taken place, the diaphragm attempts to take over the entire function of respiration and in so doing becomes very vigorous in its movements. Instead of the smooth, even movement of normal diaphragmatic action, the diaphragm will develop a forceful piston-like action. This force is transmitted to the abdominal viscera, the intestines will start bulging from the wound and the surgeon frequently attributes the condition to light anesthesia. If the surgeon orders the anesthetist to deepen the anesthesia, the condition will become progressively worse until respiration ceases entirely. Unless proper and immediate resuscitative measures are carried out, another anesthetic death of unknown cause may be recorded in the files of the laboratory department. . . . Phonation during anesthesia usually results in poor abdominal relaxation. The introduction of an endotracheal catheter during phonation will prevent the patient from closing his vocal cords and contracting his abdominal muscles in an attempt to ventilate his lungs. Most upper abdominal operations should be carried out using gas, oxygen and ether anesthesia by the endotracheal technic. . . . We have just stated that most upper abdominal operations should be carried out under inhalation anesthesia. The one exception is operation for perforated peptic ulcer. . . . It is our policy to use spinal anesthesia in all cases of perforated peptic ulcer unless some definite contraindication to the use of this method exists. . . . We believe that most major gynecologic operations should be carried out using gas, oxygen and ether by the endotracheal technic. . . .

"Pentothal anesthesia is contraindicated for surgery about the neck or throat, especially in the presence of infection. It should not be used on patients who are being operated in the prone position and it should be used very judiciously in patients suffering from hemorrhage or extreme debility. The widespread use of this drug for prolonged major surgical operations, even in the hands of those experienced in its use, will result in an increased rate of mortality. . . . Cyclopropane is one of the most dangerous anesthetic agents in use today. . . . The anesthetic death rate during the administration of cyclopropane anesthesia is high, even in the hands of those who are said to be competent. . . . The prolonged administration of cyclopropane is in itself dangerous because it conceals the true clinical condition of the patient, tending to elevate blood pressure and reduce pulse rate. . . . Soon after the administration of the anesthetic is discontinued, the patient may show a marked fall in blood pressure and elevation of pulse rate and go

into a condition of cyclopropane shock. Once this condition develops, it is extremely difficult to combat. . . . Many patients develop postoperative psychosis following the administration of cyclopropane. . . . Anesthetists who deny that such things happen following the administration of cyclopropane, simply have not followed their patients to the postoperative wards. . . . Nitrous oxide-oxygen induction with oxygen-ether maintenance by the endotracheal method is the safest of all anesthesias for major thoracic operations. . . . If the patient is suffering from suppurative disease of the lung, extreme vigilance must be maintained at all times to prevent respiratory obstruction from developing. . . . The patient must be draped in such a manner that the anesthetist can see into the open chest at all times. He can gain more information regarding the patient's condition by watching the diaphragm than he can in any other manner. . . . Spinal anesthesia is contraindicated in all thoracic operations, regardless of the ability of the anesthetist. . . . Patients undergoing operation on the heart and pericardium . . . should be handled the same as patients undergoing any other major thoracic surgical operation. . . .

"Spinal anesthesia may be used for most operations below the diaphragm provided the patient is a good operative risk and a safe dose of the anesthetic agent is used. . . . Most major surgical operations outside of the chest can be carried out using regional methods provided the anesthetist and surgeon are extremely careful and painstaking in their technic and provided complete cooperation can be obtained from a well premedicated patient. Procaine has many uses other than for nerve blocks preceding surgical operations. Simple infiltration for pleurisy is one of the most gratifying of all procedures, especially to the patient. . . . Sympathetic nerve block is of great value, both from the diagnostic and therapeutic viewpoints."

J. C. M. C.

JARVIS, F. J.: BYERS, W. L., AND PLATT, E. V.: *Experience in the Management of the Abdominal Wounds of Warfare.* Surg., Gynec. & Obst. 82: 174–193 (Feb.) 1946.

"In somewhat over a year since the Salerno landings, during the Italian and French campaigns, we have been privileged to operate upon 128 patients with abdominal wounds as a general surgical team of an auxiliary surgical group. During the early months of 1943 the senior author reviewed a series of 346 cases of the same type representing the early experience of the large group of surgeons of his organization. From these experiences, guided by the mature opinions of consultants in two theaters of war, and influenced constantly by close association with surgeons sharing the problems of forward surgery, we have evolved a plan of management. . . . In those cases not exhibiting clinical shock mortality is less than 10 per cent, while in those in profound shock mortality is more than 60 per cent. . . . Regardless of the shock state, operation is not begun without a cannula in a vein and blood or plasma running in. . . . Resuscitation is continued throughout the operation. No patient died during anesthesia, nor has it been necessary to curtail operative procedures or to adopt compromise procedures in deference to the precarious condition of the patient. . . . Ether has been selected as the anesthetic agent in every case. Since these patients have not received the preparation of abstinence from eating and morphinization usual to elective surgery, as thorough as possible lavage of the stomach has been done routinely. Additional preoperative morphine has rarely been necessary,