ducing anesthesias by intravenous injection for surgical procedures of short duration. . . . The importance of pentothal sodium as a combat anesthetic cannot be overestimated. The mortality statistics with pentothal sodium are favorable and this agent appears to have warranted a permanent and enviable position among the anesthetic agents. . . .

"The use of local anesthetic agents in the spinal fluid to produce anesthesia dates back to the turn of the century. . . . In more recent years, with more skillful technique and more numerous new synthetic local anesthetic agents to select from, this type of anesthesia has received a new impetus and is at present enjoying much popularity. . . . Future researches are certainly to be directed toward the end of developing a better volatile anesthetic agent than ether. It appears indeed to be possible. Intravenous anesthesia needs to be made safer. Other agents need to be investigated further and better antidotes than are now available must be found. The future must investigate further and understand more clearly from the point of view of cellular physiology, what is meant by that profound hiatus in consciousness, so glibly referred to as surgical anesthesia." 6 references.

J. C. M. C.

MALLINSON, F. B.: *Modern (Non-volatile) Anaesthesia. Observations on 1000 Cases.* Lancet **2**: 729–731 (Dec. 11) 1943.

"The patient's comfort and rapid convalescence, which should be the anesthetist's major care after safety, have been largely neglected until lately. Many anesthetists have thought that the only way to safety lies in adhering to the old and uncomfortable ways. Chloroform and ether are the chief offenders against the patient's comfort, and it is unsound to judge their safety without following the patient's progress after leaving the theatre. Chloroform has already been widely discarded because of its toxicity, and evidence is quoted to show that ether is so toxic and so liable to produce post-operative pulmonary complications that it should also be given up. Nitrous oxide, pentothal and cyclopropane, combined with spinal or field blocks where deep relaxation is needed, can cover the whole field of surgery, including air-raid and front-line work. Inexperienced anaesthetists can acquire sufficient skill to be much safer with these modern methods than if they use chloroform or ether. In 1000 cases anaesthetised by modern non-volatile drugs the incidence of postoperative vomiting was only 20 per cent, and the total postoperative pulmonary morbidity was 0.8 per cent, compared with 11.9 per cent in a comparable gas-chloroform-ether series." 30 references.

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MARTIN, S. J.: *Current Consideration of the Army Anesthesiologist.* New England J. Med. **229**: 893–898 (Dec. 9) 1943.

"The present-day military anesthetist is no longer the glorified medical technician of World War I, nor is he a superman of the present conflict. . . According to the present scope of anesthesia per se, his primary obligations to his patient and surgeons concern adequate preoperative preparation; relief of pain; muscular relaxation, prophylaxis and therapy for adverse cardiorespiratory derangements during surgery; and prompt and effective postoperative care to prevent or minimize complications of circulation or respiration. In addition, he may be of some aid to the internist with the use of diagnostic or therapeutic blocks in treating peripheral vascular disease, the intractable pain of cancer, angina

pectoris or status asthmaticus, or with the help of resuscitative measures in combating gas or drug poisonings. These duties constitute the minimal requirements of a competent anesthetist, military or civilian. . . . Notwithstanding their successful professional background, civilian anesthetists entering military service go through a period of orientation. Quite apart from adapting themselves to Army regulations, they become impressed early with the fact that favorite agents and pet technics are not always popular or possible to employ. . . . The Army supplies a variety of agents and equipment—a policy that meets not only the demands of the physical status of all patients but also the necessities of surgeons. Furthermore, such a plan may better facilitate the activities of an anesthetist in a mobile surgical hospital whose armamentarium and supplies are affected by combat situations. Accordingly, many anesthetists have had to relearn their technics of open-drop ether and chloroform as well as the advantages and limitations of both. . . . In named general and station hospitals, which also serve as training centers, the complement of the Section on Anesthesia and Operating Pavilion may be as large as twenty persons, consisting of two officers, four nurses and fourteen enlisted men. In small units, such as surgical teams, there may be only one officer anesthetist and an enlisted man trained by him. The anesthetist supervises the activity of his personnel, making them available for surgery on a twenty-four-hour basis. This includes not only anesthesia but also the preparation of the entire operating pavilion, the latter duty being totally foreign to the average civilian anesthetist. . . . He must incorporate in the local hospital regulations certain definite, clear-cut and fundamental policies referable to the interrelations of his section with the surgical service as well as with medical, dental and laboratory services. The regulations should include comment on the matter of scheduling operations and preparing and premedicating patients, transporting them to and from the operating pavilion and prescribing the first postoperative treatment. In this general plan of organization, attention must be given to Army regulations and to the many helpful suggestions of the commanding officer and chief of the surgical service. . . .

"Once the period of organization has ended and the Section on Anesthesia and Operating Pavilion is performing satisfactorily, the anesthetist or section chief can assume additional duties. . . Those of professional character may include not only the scheduling of all surgical procedures and the administration and supervision of anesthesia but also the sterilization and autoclaving of equipment and laundry of all wards of the hospital as well as of the operating pavilion, the administration of plasma and whole blood and finally, the centralization and supervision of inhalation therapy. . . . The tabulation and maintenance of records are prerequisites of successful administration. The section chief of anesthesia has his share of the paper work to take care of. . . . One of the most important duties of the chief of Section on Anesthesia and Operating Pavilion concerns the instruction of his personnel. . . . Injuries may be those of the thorax, abdomen, extremities, central nervous system or maxillofacial region, or any combination of these. They require different technics and agents, and the choice of these by the anesthetist may play a significant part in the surgeon's program. . . Injuries should be classified and separated according to their major or minor character to expedite prompt and effective treatment of the more serious

casualties. . . . Major surgery may often be handicapped by delays in diagnosing and providing early treatment for patients showing asphyxia, variable degrees of peripheral vascular collapse, physical exhaustion, inanition, and exposure to extremes of temperature, sandstorms or snowstorms or tropical diseases.

"[The] time interval between injury, diagnosis and treatment . . . is admittedly of more importance to the surgeon than to the anesthetist, although its appreciation by the latter will favor a satisfactory anesthetic management. . . . Medical units, as in World War I, will either be in a state of readiness or be deluged with mass casualties. This latter situation will profoundly affect the anesthetic management in that individual considerations will be outweighed by those of the entire group. . . . Patients exposed to gas attacks or suffering from blood loss may require resuscitation or shock therapy. Others showing tissue trauma will need surgery. A knowledge of the weapon causing the injury will aid the anesthetist in his plan of action. . . . Of all factors enumerated, the availability of medical service in the Army is of the greatest interest to the patient, the surgeon and the anesthetist. . . . To the anesthetist, among others, it is imperative to understand the general plan of organization, the anesthetic armamentarium available at the various medical echelons and the probable anesthetic management at these locations. The medical service of the Army is divided into five echelons, the first three of which are mobile and attached to tactical troops, and the last two of which are stationary or relatively fixed. The unit medical services, located some three hundred to eight hundred yards behind forward-moving infantry, receive wounded by litter and provide emergency treatment, given in addition to the first aid administered on the battlefield. The divisional medical services, some twelve hundred to thirty-five hundred yards back, continue emergency treatment and sort out patients to be retained or to be evacuated to the rear. Several miles back may be found installations of the Army medical service, where surgeons, anesthetists and other medical specialists may be found. All types of emergency surgery may hence be performed. Some of these installations, such as surgical teams, may be sent forward in divisional areas for duty to facilitate early and prompt treatment. Thus the surgeons and the anesthetists are brought to the patient. This procedure obviates the necessity of transporting the seriously wounded, who can ill afford added physical strain. Units of the theater of operations may be one hundred to five hundred miles from combat areas and those in the zone of interior are located in this country. In both these echelons, medical specialists are available to perform elective or definitive surgery or both. In the named general hospitals, both the personnel and the equipment are not unlike those found in leading hospitals of this country. All types of medical services are adequately equipped with an anesthetic armamentarium for the duties that they are expected to carry out. . . The anesthesiologist is first found in installations of the Army medical service. . . . Owing to dynamic elements of combat, it is not possible to carry out in forward areas the anesthetic program that may be desired any more than it is possible to do ideal surgery in the battlefield. Safe and adequate anesthetic management, however, can be provided for the surgery that can and must be done." 15 references.

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