

anesthesia in these forward units because of its relatively wide range of safety and its other advantages. [In the] Army Medical Service . . . major thoracic surgery can be accomplished. Anesthetic supplies include, in addition to those noted above for smaller medical units, nitrous oxide, oxygen, sodium pentothal, chloroform, needles for subdural anesthesia, pharyngeal airways, and apparatus for closed-system inhalation anesthesia. Modified suction apparatus has been improvised. Laryngoscopes and endotracheal tubes have been used and are either of recent issue or have been donated. For extrapleural procedures of short duration unaccompanied by shock or respiratory dysfunction, local infiltration with procaine, nitrous oxide, ethyl chloride, ether, or sodium pentothal may be employed to obtain anesthesia.

"Open-drop ether has been and will be the method of choice in field units. If cardiorespiratory complications, such as shock and bronchitis, are present in extrapleural cases, the anesthetic management, other than alleviation of such disturbances, will depend chiefly upon the severity of the patient's complications and his state of consciousness. Little or no premedication may be adequate; regional anesthesia with procaine solution after premedication may suffice; open-drop ether in incipient cases of shock has been employed with success. Nitrous oxide-oxygen or ethyl chloride should not be used because of their respective hypoxic and myocardial effects. Sodium pentothal given intravenously may be used in these cases but only if oxygen can also be administered by the closed system with controlled respirations to facilitate ventilation. Such oxygen administration may be given for the alleviation of complications per se, but it is not practical with mass casualties. Spinal anesthesia should not be em-

ployed for any thoracic procedure. Cases requiring intrapleural surgery whether short or prolonged, with or without shock or other severe complications, the use of an endotracheal tube with an inflatable cuff with the Water carbon-dioxide absorption system of inhalation anesthesia is ideal if not imperative. . . . Often endotracheal intubation is not possible in field medical units in which case the use of a pharyngeal airway will have to suffice. . . . It must be emphasized that field anesthesia, like field surgery, may not be ideal but it is often a matter of necessity.

"[In the] . . . medical service of the theater of operations . . . thoracic surgery . . . is more elective but not entirely definitive. . . . The selection of agent and technic will be essentially the same as that noted in the Army Medical Service, except for the addition of block technics for extrapleural procedures and more frequent use of nitrous-oxide oxygen-ether sequences with the closed-system endotracheal technic. . . . [In the] . . . medical service of the zone of interior . . . equipment and the supply of agents are adequate in all organized units, and modern and complete anesthetic management will be possible." 36 references.

J. C. M.

CLENDON, DOUGLAS, AND KRAUS, STEPHEN: *Chloralhydrate as a Pre-medication for Anaesthesia*. Brit. Anaesth. 18: 112-118 (Jan.) 1943.

"Chloralhydrate premedication has the advantage of allaying anxiety without depressing respiration or delaying the return of the cough reflex; furthermore, it is reliable in its clinical effects. It reduces the amount of ether required, is cheap and easily obtainable. As disadvantages must be mentioned its nasty taste (which can be mitigated by dilution and flavouring with synthetic lemon) and the occa-

sional postoperative restlessness which can be controlled by a small injection of morphine (gr. 1/6) immediately after the operation. This is the more advisable as chloral is not an analgesic. Our experience with chloralhydrate leads us to believe that it deserves to be used more widely as premedication. . . . In about 160 cases—chloralhydrate with atropine proved to be a safe and satisfactory preoperative medication. . . . The effect of chloralhydrate on the blood-pressure has been more closely studied and found to be far short of the danger line." 14 references.

J. C. M. C.

HIMMELSBACH, C. K.: *Further Studies of the Addiction Liability of Demerol (1-methyl-1-phenyl-piperidine-1-carboxylic acid ethyl ester hydrochloride)*. *J. Pharmacol. & Exper. Therap.* 79: 5-9 (Sept.) 1943.

"Demerol possesses the liability of producing physical dependence similar to that caused by morphine. . . . In clinical doses the addiction liability of Demerol is less than that of morphine. . . . As an addiction preventive measure, caution and restrictions similar to those involved in the clinical use of morphine should be applied to Demerol." 8 references.

J. C. M. C.

FORBES, J. C., AND EVANS, E. I.: *Protective Action of Sulfanilamide Against Hepatic Damage from Chloroform Inhalation*. *War Med.* 4: 418-421 (Oct.) 1943.

"The exigencies of modern warfare often require the use of materials and methods in medical practice which are not altogether those that one would choose in a more leisurely civilian practice. This is particularly true in the case of anesthetic agents and methods. Most such agents now available for

civilian use are somewhat bulky and require more or less elaborate apparatus for their administration. It is particularly for these reasons that chloroform is being used to such a great extent as an anesthetic by certain armies at the present time. . . . Chloroform fulfils many of the requirements of an anesthetic for use during battle action, by Navy medical groups. However, experience in the past has shown that, although it possesses some of the characteristics of the ideal anesthetic agent, it unfortunately in a certain percentage of cases seems to produce definite secondary damage to the liver. . . . Since the chief purpose of the investigation was to determine whether sulfanilamide exerts any protective action against the damage to the liver from chloroform, it was decided to kill the animals [rats] about twenty-four hours after the time of acute poisoning and examine the livers histologically. . . . Since many of the rats anesthetized with chloroform apparently died of causes other than hepatic damage, it was decided to study rabbits in the hope that this complication could be avoided. . . .

"Only in [one] experiment . . . did a treated animal show hepatic damage comparable to that of the least affected corresponding control animal. . . . With the increasing local use of sulfanilamide powder in wounds received in combat, it does not appear that a recommendation that sulfanilamide (or other sulfonamide compound) be given preoperatively to wounded men who are to be anesthetized with chloroform is out of order. . . . It would seem wise to give the sulfanilamide soon enough so that a 'therapeutic' level of the drug will be attained in the blood stream and liver before the chloroform is administered. The interval may be very short with sulfanilamide because of its rapid absorption, but it may have to be prolonged if one of the less soluble