

EDITORIAL

ANESTHESIOLOGY, if viewed according to our present concept of the term, is being subjected to its first test under conditions of war. During World War I the number of qualified anesthetists in service was so small that relatively little was contributed to the general knowledge of anesthesia. Thus this branch of medicine has practically no backlog of experience from which to draw and apply to battle conditions. Despite this handicap, there is ample evidence that the speciality is meeting its share of the responsibility facing the medical profession in the care of sick and wounded.

We are engaged in warfare of unprecedented magnitude and complexity. Three dimensional combat in widely separated geographical areas presents difficulties hitherto unknown. These problems relate not only to supply of men and matériel, but to the medical welfare of the participants as well. The effect on the human organism of conversion from peacetime activities to a course of destruction cannot be underestimated. Added thereto, in many and increasing instances, the necessity of exposure to diseases unknown at home, to extremes of temperature, humidity, and barometric pressure. As the problems are solved, our knowledge of physiology, pharmacology, and pathology increases. Some good comes from evil.

We are fortunate in having in the various services at the present time sufficient numbers of anesthesiologists to develop a fund of information long needed to include in our general knowledge of anesthesia. Skill in anesthetic management is an important factor in reducing surgical grief. Their first duty, then, is to keep high the standards of anesthesia for the combat injured and thereby reduce morbidity and mortality accompanying the required surgical care. At the same time we trust that the military portion of our membership will not be satisfied merely with providing safe anesthesia. They have an opportunity of adding much to our knowledge that cannot be learned from the application of anesthetics under the more standard operating conditions of a modern stationary, civilian hospital. Temperatures of operating rooms at home are kept remarkably constant despite external climatic conditions. Humidity is usually controlled. Elevation is rarely a factor. While no effort has been spared to provide the best of medical care to our armed forces, battle conditions often require surgery in the absence of many of the remedial agencies common to noncombat locations. This opportunity to gain knowledge of anesthesia through its application under conditions of war we fervently pray will not again be presented for many years to come. The incentive then is clear. The effects of the application of various agents and methods under

abnormal conditions should be diligently and intelligently observed, and accurately recorded. Our concepts of the comparable safety of the various anesthetic agents and methods may be reversed or confirmed by such data. New practices may evolve through application of intelligent thought. The reactions of the body to anesthesia under extremes of temperature, humidity, or at high altitudes, in addition to being of academic interest, may well lead to a line of deductive reasoning, which in turn, may provide for us the solution to the many as yet unexplained phenomena accompanying anesthesia. Thus, even though we must wait for future leisurely armchair philosophizing to crystallize its value, the structure of new thought may be laid in the present.

For the information of anesthesiologists who are contemplating application for certification by the American Board of Anesthesiology, Inc., or who are training physicians for the specialty, the following questions have been employed for Part I (written) examinations in the past in *Physiology*:

1. *a.* Why is shallow breathing said to be disadvantageous when anesthesia is being induced with diethyl ether given by the semi-open drop method?
b. What is the usual cause of laryngospasm when nitrous oxide, oxygen and ether are being administered by the closed system?
c. If an endotracheal tube is used during inhalation anesthesia, what are some of its advantages?
d. If an endotracheal tube is used as in (*c*), what are some of its disadvantages?
2. *a.* If a patient has been overdosed with an oil-ether mixture given by rectum, how would you proceed to support the patient?
b. How could you remove some of the ether and how hasten elimination of some of the remainder of it?
3. *a.* What factors determine the concentration of inhaled gases in the blood?
b. What factors determine the concentration of inhaled gases in the tissues?
4. What factors may (*a*) increase or (*b*) decrease blood pressure during anesthesia?
5. What are the signs of anoxia of increasing severity during general anesthesia with diethyl ether given by the semi-open drop method?
6. *a.* What is your choice of anesthetic agent and method for operations performed for acute septic conditions of the throat or neck, or both?
b. Why do you choose this agent and method?
c. Why do you avoid some of the other agents and methods?
d. Would preoperative tracheotomy alter your choice of anesthetic agent and method, and why?