

Anesthesiology  
48:79, 1978

## Fifty Years of Intravenous Anesthesia

*To the Editor:*—As the year 1977 represents the 50th anniversary of the first use, by the German obstetrician E. Bumm, of the barbiturate "Pernocton" as an intravenous anesthetic agent, it appears to be a suitable time to reconsider one of the most important papers ever written on the subject of intravenous anesthesia, namely that by a surgeon, F. J. Halford. In this paper, Dr. Halford decried the use of barbiturate anesthesia because of the high incidence of respiratory failure and death that followed its use in patients who were wounded in the fateful December 7, 1941, attack of Pearl Harbor. Would today's anesthetist agree with Dr. Halford's conclusions?

Consider the anesthetic practice during the Vietnam war as a comparable situation. Severely injured men received an average of 3–4 l lactated Ringer's solution and 20 units of blood during the initial surgical treatment. Part of this volume was given before induction of anesthesia to ensure adequate resuscitation. At the 1st Australian Field Hospital, thiopental was used as the induction agent for all general anesthesia. The average induction dose used was 5.5 mg/kg body weight, which is not greatly different from the dose commonly used in healthy patients.

Dr. Halford's paper contains the statement, "These patients were prepared with perhaps a minimum of plasma, and whole blood transfusions." It is hard to see

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## Estimation of Vital Capacity

*To the Editor:*—Doctor Greenhow describes a simple method for determining "modified vital capacity" in unconscious patients.<sup>1</sup> I believe that this method measures a volume that approximates the maximal inspiratory capacity rather than vital capacity. Without discarding the practical value of the method, one can obtain more accurate assessment of the true vital capacity in unconscious patients by provoking a cough by moving the tracheal tube and measuring the inspiratory volume that follows the forced expiration induced by the maneuver.

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## Hazards of Blind Wiring of a Facial Fracture

*To the Editor:*—Stabilization of a displaced and unstable zygomatic fracture by placement of a transanal

how it could have been otherwise when one considers the quantities involved. No casualty figures are given in Dr. Halford's paper, presumably for reasons of security. However, based on the Vietnam experience, for each 100 severe casualties, 400 l of electrolyte solution and 2,000 units of whole blood would have been needed. The basic fact, which is known to today's anesthetists, is that there is no anesthetic agent, or method of administering any anesthetic agent, that will obviate the need for maintenance of circulating blood volume. It would appear, then, that the foremost problem confronting an anesthetist concerned with a badly injured man is not what anesthetic agent to use, but how resuscitation is to be achieved in the quickest, most efficient manner. When that has been done the anesthetist has virtually a free choice of anesthetic agents, and methods.

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1. Halford FJ: A critique of intravenous anesthesia in war surgery. *ANESTHESIOLOGY* 4:67–69, 1943

(Accepted for publication August 29, 1977.)

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1. Greenhow DE: Estimation of vital capacity without patient cooperation. *ANESTHESIOLOGY* 45:447, 1976

(Accepted for publication August 22, 1977.)

Kirschner wire is a rapid but blind technique. An annoying complication of this technique was managed by