cerebrospinal fluid. The author does not recommend this practice, and deliberately omits a detailed description of it.

The author discusses fully the preparation of the patient, the details of lumbar puncture, and the management and observation of the patient during operation. He has used the synthetic vasopressor "Phedracin" (Ciba 2020), but believes that, to prevent a fall of blood-pressure, "faith should be placed in the 'Trendelenburg' position rather than in drugs." The administration of oxygen during operation is stressed: if oxygen is not available he recommends "mouth-to-mouth respiration" as a resuscitative measure. He agrees with the view that the drug becomes "fixed," and that within ten minutes of the injection the patient may safely be placed in the "Trendelenburg" position for operation.

In this series of cases the incidence of nausea during operation was 2.8 per cent, and that of retching 1 per cent. One case of circulatory collapse occurred, but it was probably due to a sudden change of position and the patient recovered at once. After operation the patients were encouraged to drink as much fluid as possible, but were not allowed to lift their heads from the pillow, nor to smoke. Six inch blocks were placed under the foot of the bed for six hours after operation. The incidence of postoperative headache in this series was 7.1 per cent; of atelectasis, 0.5 per cent (both cases occurred after upper abdominal operations, and this means an incidence of 5.4 per cent for these operations); and of residual patches of analgesia 2.1 per cent. Some of the latter persisted for two weeks. The author feels that this method is particularly suitable in patients of good physical condition and for the operations of haemorrhoidectomy and herniorrhaphy.

N. A. G.

WOLFF, E. C. AND STEWART, H. B.: *Clinical Conclusions on High Spinal Anesthesia.* South. M. J. 35: 274–280 (Mar.) 1942.

"This is an attempt to dispel some of the convictions and prejudices against high spinal anesthesia by clinical observations and experiences. Some of the remarks by necessity apply to spinal anesthesia generally. The term high spinal is used in this instance to apply to anesthesia for upper abdominal surgery. Also in very acute lower abdomens we have found that the best results are obtained with anesthesia well above the diaphragm. In lower surgery, where it is desired to explore the upper abdomen, high anesthesia is frequently indicated, for palpation of the upper abdominal viscera without anesthesia is a very shocking procedure. . . . A routine discussion of the anesthetic will lead into many unnecessary difficulties and frequently the patient feels that the burden of decision is his. We reserve persuasion only for those who have definitely said that they would not 'take a spinal block'. . . . Total spinal anesthesia has been produced clinically and experimentally since perhaps 1900. Fatal results are probably due to anoxemia or anemia of the vital centers rather than to direct action. This can be controlled under high spinal as long as there is cardiac activity. A second fear of high spinal is respiratory paralysis. If the anesthetist is aware of this impending complication it can be dealt with uneventfully by intermittent oxygen under gentle pressure. This has occurred in our experience and has never presented a distressing circumstance, even from the patient's viewpoint. There is so little change in the patient's condition and attitude that even the surgeon is usually unaware of this condition. Permanent neurologic damage is another frequent conviction of those who oppose spinal

anesthesia in any form. In our experience this has never occurred, to our knowledge. . . .

"Increased peristalsis due to spinal anesthesia has been quoted as a contraindication to its use in perforated ulcers. We have observed that spinal is particularly effective in this condition. Babcock said that clinically increased peristalsis does not occur. . . . Anemic, hypo- and hypertensive patients have not developed objectionable complications when managed expectantly. In fact, experience with hypertensive cases has led us to regard it as a specific indication for spinal anesthesia. . . . It has been mentioned that basically the patient's main objections to spinal anesthesia is that he will be keenly aware of the surgery. Ample sedation usually removes this objection. . . . General alertness, activity, reflexes and size all contribute to the evaluation of the dosage. But any of these must be considerably below average before we decrease our dosage from pentobarbital sodium grains 3, morphine grain ¼ and scopolamine grain $\frac{1}{200}$, given in the routine manner. Size is the least reliable factor. With this dosage the patient is rarely over-sedated, but frequently it is too little. . . . With adequate sedation only a small percentage of patients requires supplementary anesthesia. . . . Additional anesthesia is only on definite indications, which are interpreted as uncontrollable mental or physical distress which is detrimental to the patient's condition or the surgical procedure. . . . The term, blood pressure, is misleading and is not the true criterion of the patient's condition. We are clinically concerned with physiologic function of vital factors and blood pressure may only terminally portray dysfunction. Such symptoms as pulse rate and pressure, condition and color of skin and mucous membranes, volume and rate of respiration and capillary fillings must all be evaluated. Low blood pressure itself may occasionally be insignificant. 'Neo-synephrine' is used routinely and is perhaps more effective when given above the zone of anesthesia. . . . Repeated use of hypertensive drugs diminishes the duration of the anesthesia and may rapidly terminate its effect if given in the latter third of its expectancy. We depend largely upon fluid, plasma or blood, as indicated after the initial injection, especially if the time element is involved. . . . Resourceful management of apprehensive conditions will greatly reduce the need of supplementation. . . .

"In our own experience there has been no immediate high spinal death. In a critical analysis of 202 surgical deaths, in which spinal was always the anesthetic, it 'might have contributed to 5.' . . . To those familiar with the procedures, it should be evident that the mortality of high spinal anesthesia is insignificant compared with that of upper abdominal surgery. It offers conditions favorable for a reduction in the surgical mortality which far overcompensates its hazard as an anesthetic. . . . We know that the surgeons with whom we are closely associated believe in this combined safety factor, that is, upper abdominal surgery under high spinal anesthesia. They not only insist upon it for their patients, but also for themselves and their relatives. We have been clinically convinced of its value and safety, and we use it as the anesthetic of choice for upper abdominal surgery." 9 references.

J. C. M. C.

MOORHEAD, J. J.: *Surgical Experience at Pearl Harbor.* J. A. M. A. 118: 712–714 (Feb. 28) 1942.

"The attack on Pearl Harbor began about 7:50 a.m., on Sunday, Dec. 7,