

infection, but having seen the way the spinal drugs are prepared and the care taken in sterilization both of the ampoules and of the drug itself, the likelihood of contamination with organisms is very small indeed. . . . There is some evidence in favour of 'chemical meningitis,' but I would not overstress this. . . . With proper technique spinal anaesthesia is safe and is the method of choice for certain operations. The risk of infection is spinal analgesia, if performed in suitable surroundings and with adequate precautionary technique, is negligible. But if there is any deviation from this, then infection can occur, sometimes with disastrous consequences." 15 references.

J. C. M. C.

HUNTER, A. R.: *Spinal Anaesthesia; Variations in Dosage Required.* Lancet 1: 380-381 (Mar. 16) 1946.

"Last year I described a new volumetric technique of spinal anaesthesia based on the use of the minimal effective subarachnoid concentration of an anaesthetic. Further experience has shown that this quantity is not the same for all persons. However, the limits of the variation are not wide enough to invalidate the method, since it is a simple matter to forecast what dose of a drug will be required for any particular patient. . . . It is necessary to increase the dosage in youthful, athletic, and robust subjects, because much of the drug is lost by absorption into the blood-stream in these people before it can affect the nerve-roots in the subarachnoid space. As with all other techniques of spinal anaesthesia, adequate premedication is essential. A few apprehensive subjects require supplementary pentothal hypnosis, which is also given as a routine during major abdominal operations. The technique is applicable to spinal anaesthesia with stovaine and monoacaine. The incidence of headache after spinal anaesthesia by

this method is independent of the drug used." 2 references.

J. C. M. C.

OLDHAM, JOHN: *Spinal Analgesia.* M. J. Australia 1: 432-435 (Mar. 30) 1946.

"This article has been written to present the technique used and the observations made in a series of 500 cases of spinal anaesthesia, and to offer some suggestions resulting from this experience. The cases occurred at an Australian military hospital from October 1, 1944, to November 1, 1945. The majority of subjects were in the twenty to forty years age group, and were mostly well-trained, healthy men. The anaesthetic agent used was a hyperbaric solution of 'Nupercaine,' that is, 1 in 200, or 'heavy solution.' . . . There were approximately forty cases of high spinal anaesthesia in the series, including anaesthesia for cholecystectomy, pyelolithotomy and nephrectomy. This type of anaesthesia is much more difficult to manage than low and mid-spinal anaesthesia, and requires constant full anaesthetic supervision at certain stages. . . . Low spinal anaesthesia comprises analgesia for the sacral area. . . . Mid-spinal analgesia is used for lower abdominal operations and lower limb operations, and also for operations such as that for hydrocele, in which tugging on the cord is necessary. . . . High spinal analgesia is used for the upper part of the abdomen—cholecystectomy et cetera; the cutaneous level of analgesia usually rises as high as the second dorsal vertebra. . . .

"For low spinal anaesthesia, puncture is carried out with the patient in a sitting posture in the 'attitude of prayer,' the elbows on the knees and the lower part of the spine well flexed. The needle is introduced between the third and fourth lumbar vertebrae, and the patient is laid supine after one-quarter of a minute to one minute. Op-