

distensible, small bore rubber tubing is used and provided the internal volume is accurately measured. A Luer-lok connection to the needle end of this tubing is necessary. A simple rubber-to-glass connection is sufficient on the syringe end. An artery clamp can be used in place of a pet cock for temporarily blocking the lumen. No compromise, however, can be made with the third original feature of this method—the special malleable spinal needle. . . .

“With the advent of the continuous technic it seemed possible to put the problem of toxic absorption from the subarachnoid space to critical examination. If diffusion could be kept minimal by using a technic of injection aimed at that purpose (fine bore needle, low tap, minimal pressure injection), perhaps a considerable amount of procaine could be injected before anesthesia developed to the level necessary for operation. . . . Utilizing this slow diffusion method, we found that really large amounts of procaine could be, and frequently had to be, injected before anesthesia developed in the operative field and blood pressure began to fall. The first patient under this technic required 825 mg. of 5 per cent procaine dissolved in spinal fluid and physiologic saline solution before anesthesia progressed high enough on the cord to permit the performance of an inguinal herniorrhaphy and before the blood pressure started to fall. . . . Several patients of necessity received over 500 mg. procaine in the early minutes before adequate anesthesia was established. . . . This to us indicates a wide margin of safety—considering only toxic effects from absorption into the blood stream—when anesthetic drugs are injected into the subarachnoid space. . . . A more detailed study of human tolerance for the subarachnoid injection of procaine will subsequently be reported.” 3 references.

J. C. M. C.

LEE, W. E.; KING, O. C., AND FARRELL, H. L.: *Controlled Fractional Spinal Anesthesia*. South. Surgeon 11: 28-34 (Jan.) 1942.

“There is no doubt that a cross section of present day surgical literature gives one the feeling that in America spinal anesthesia is generally considered as an unjustifiable risk, which is in marked contrast to the attitude in Europe. . . . There is a real need for all of us to admit and discuss the dangers, for because of the latter the procedure is still under duress, and its general use in America remains limited. . . . Our thesis . . . may be stated as follows: If the type and degree of anesthesia which can be obtained by spinal anesthesia cannot be produced in any other way, it would seem justifiable, at least, to try to overcome the unusual hazards and disadvantages which all agree may attend its use when massive single doses are employed. . . . We have found controlled fractional spinal anesthesia to be of peculiar value when used as a supplement to local regional infiltration anesthesia, in substandard surgical risks. . . . During the two years we have used this type of spinal anesthesia, in 594 cases we have not had a fatality to occur within 24 hours after its administration. Dr. Lemmon has had 1100 with no deaths. We arbitrarily use this period of 24 hours because we consider it eliminates the question of death being due to the anesthetic. However, during the same period we have had 10 fatalities from the use of single massive doses of the drug in 6313 cases.”

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RUIGH, W. L.: *Analysis of Divinyl Ether in Blood*. Inst. & Engin. Chem. (Analytical Edition) 14: 32-34 (Jan. 15) 1942.

“The iodine pentoxide method of analysis for volatile organic substances in blood originated by Henderson and