severe and intractable, and therefore requires more radical treatment than is necessary for most other patients. General anesthesia has a tendency to produce or increase acidosis. If real anesthesia can be obtained by means which will not disturb the diabetic patient’s delicate metabolism, a great advantage is obtained. Thus, for major surgery of the abdomen, pelvis and lower extremities, or for perineal surgery, spinal anesthesia is usually easy and safe if one understands its limitations. If such procedures are imperative on diabetic patients with marked cardiovascular disease, field block and splanchnic nerve block are preferable for the abdomen and a combination of caudal and sacral block for the perineum.

“...It is best in all patients, and particularly important in those with diabetes, to obtain anesthesia with the least trauma, without over-distention of tissue or the use of excessive fixative in the solution, either of which may produce avascularity with its attendant ill. It is important to avoid injection in the proximity of infection, and it is preferable to use field block at an adequate distance from this area. These objects are accomplished best with the 1 per cent. solution of novocain containing 1 m. of pituitrin to each ounce, or 1 cc. to each 500 cc. of solution. Pituitrin is preferable to adrenalin because of its lessened constricting effect upon the coronary arteries which becomes very important in older patients or those with cardiac disease.

“...It is wise to make a slow, gentle approach using very fine needles, at least for the original injection, and progress from anesthetized areas by subcutaneous advance of the needle to produce additional wheals from beneath the skin by means of which painless administration can be made; to inject slowly, since rapid injection of itself is painful and to use adequate amounts for the areas to be blocked. ... It is important to consider the nerve pattern of special regions where minor surgery is frequently indicated.”

J. C. M. C.


“Whole blood for conservation can be obtained from three sources, the living donor, the human placenta, and the human cadaver. The living donor is the most frequent source... Whatever the source of the blood, its collection and storage must be carried out with rigidly aseptic precautions... Each of the solutions which can be utilized for the conservation of whole blood has certain advantages. Glucose-citrate solutions, for instance, preserve blood more effectively than simple citrate solution... Although the status of heparin in relation to the conservation of blood is still in doubt, its use for this purpose has been recommended by Sköld... The changes which occur in blood during conservation are influenced by a variety of factors, the most important of which are contamination, trauma to the blood during collection, the form of the container, the type of preservative solution and the source of the blood. Blood may be conserved for longer periods of time in tubular flasks than in wide-bottomed flasks... The glucose-citrate mixture... is probably the most effective preservative, but it is difficult to sterilize. Blood from the living donor can be kept for longer periods than placental blood, and placental blood can be kept longer than cadaveric blood...

“The conserved blood should be administered directly from the flask in which it has been stored, after its compatibility with the blood of the prospective recipient has been determined... The amount of blood to be adminis-
tered depends upon the indications for the transfusion. Patients suffering from shock may be given 500 to 1,000 cc. Judine has given as much as 1,500 cc. at a single transfusion. The use of placental blood is less practical when large amounts are required. The pooling of blood from several placentas may be considered, but this method increases the incidence of post-transfusion reactions.

"The indications for transfusion with conserved blood do not differ from the indications for transfusion with fresh blood. . . . The experiences of observers in widely scattered areas would seem to indicate that the clinical results of transfusion with conserved blood do not differ greatly from those of transfusion with fresh blood. There are, however, distinct disadvantages to the use of conserved blood, including: 1. Great dilution of the blood, associated with the use of certain preservative solutions. 2. A less effective augmentation of the number of red blood cells and hemoglobin content of the blood of the recipient, due to the changes in these respects in the conserved blood. 3. A higher incidence of post-transfusion reactions. . . . Considerable difficulty is encountered in attempting to evaluate the statistical incidence of reactions following transfusion with conserved blood, chiefly because of the variation of criteria used by different workers."

Bibliography—15 references.

J. C. M. C.


"Approximately one year ago one of us (W. E. B.) reported on some experimental work carried out in the Department of Pharmacology at the University of Toronto on the anesthetic properties of ethyl normal propyl ether. The results led us to believe that ethyl normal propyl ether was a safe anesthetic and might be used on the human subject without any ill effect. During the past two or three years the problem of the explosibility of anesthetic mixtures has again come to the fore, and any step which would reduce this danger would seem worth while. With this in view approximately 50 anesthetics have been administered for various operative procedures in which nitrous oxide mixtures were reinforced with a sufficient quantity of ethyl normal propyl ether to allow at least 20 per cent. of oxygen to be used and at the same time to produce adequate anesthesia. As this was the first series of human anesthesia it was naturally felt that one must proceed with considerable caution in spite of the apparent safety which our experimental work had shown. The cases for this reason have therefore been of a nature which did not require any particular degree of relaxation, and sufficient anesthesia could be obtained for the operative procedures by carrying the patients in the lighter phases of the third degree of anesthesia.

"A follow-up was made of all the cases done. This showed that immediately on awakening from the anesthetic, which frequently occurred on the operating table or upon being moved to the carriage, 7 per cent. showed slight vomiting. In the following twelve hours 11 per cent. had some vomiting, and after this period of time 2 per cent. still showed vomiting. Eighty per cent. showed no vomiting. For the shorter anesthesia of from 15 to 20 minutes, the quickness with which the patient awoke was quite noticeable, very comparable to the recovery from nitrous oxide itself. In the entire series there were 2 cases only which showed any appreciable fall in blood pressure.

. . . A comparison of diethyl ether and ethyl normal propyl ether in regard to