

nerves is obtained. Postoperatively, there are no gastrointestinal upsets due to anesthesia, and large amounts of sedation are not necessary. Drainage is promoted because agglutination is delayed, and the danger of embolism is greatly diminished. Because of these factors this method is especially useful in the aged, in patients with toxic, gangrenous and diabetic conditions with arteriosclerosis, and in those suffering from severe trauma with shock. . . . [Three] cases demonstrate well the advantages of this type of anesthesia. In . . . two diabetic patients no interruption of the regimen was necessary. . . . Anesthesia was successfully obtained in each case. There was lack of any evidence of shock. Infinitesimal loss of blood occurred, and quick recovery followed the operation. In 2 of these cases infection of the wound followed the amputation. . . . It is not believed that infection in these cases can be attributed to the form of anesthesia." 43 references.

J. C. M. C.

NELLER, J. L., AND SCHMIDT, E. R.: *Refrigeration Amputation*. Wisconsin M. J. 43: 936-941 (Sept.) 1944.

"The purpose of this paper is to discuss the subject of refrigeration amputation as applied to cases exhibiting severe peripheral vascular disease of the lower extremity with gangrene, to summarize the experience gained by the surgical staff of the Wisconsin General Hospital in using this technic and to present certain new concepts and modifications suggested by the knowledge so obtained. . . . Our initial attitude was skeptical; consequently, refrigeration was first applied to a patient in whom, because of his extremely poor condition, no other therapy seemed to present any reasonable chance of success. . . . The remarkable survival in this severe case served to increase our interest in, and respect for, the refrigeration method. In the

period from June, 1942, to September, 1943, the method has been used in 20 additional instances. Statistics reveal that all of these patients were poor risks, all had established gangrene. 66 per cent has gross infection and general sepsis, 61 per cent were diabetic, and the average age was 68 years. In a group of patients with such an obviously poor prognosis, it is noteworthy that there were only 3 deaths, 2 of which we do not feel were attributable to the method. The 1 admitted fatality was due to a gas gangrene infection of the stump. . . . In contrast to the low mortality encountered, morbidity was high. There were 6 transient genito-urinary infections. Two patients developed gas bacillus infections, one of which apparently was true gas gangrene, and accounted for a death. The other cleared with conservative treatment and exhibited a good end result. There was one patchy bronchopneumonia, which readily responded to sulfonamides. One small pulmonary infarction occurred which resolved without further difficulty. Five stumps failed to heal primarily due to insufficient blood supply at the level selected for amputation. . . . It is believed that many of these transient complications can be eliminated by more careful attention to technic. . . . There are two types of refrigeration; namely, Control Refrigeration and Surgical Refrigeration. These may be used singly or in combination. Proper use of these different technics will give best results. The level of amputation should be carefully determined prior to inauguration of treatment. This level should rarely be below the knee." 40 references.

J. C. M. C.

BUCH, I. M.; NEWTON, LOUIS, AND POSNER, A. C.: *Continuous Caudal Analgesia in Obstetrics*. Am. J. Surg. n.s. 66: 68-79 (Oct.) 1944.

"In a preliminary report we described our modification of the original