thal Sodium anesthesia in neurologic surgery. Since this kind of anesthesia was first used in this [Cleveland] clinic for pneumoencephalography, its use has been extended to include all neurosurgical procedures, regardless of length, in patients over ten years of age. Although this report is based on a planned study of 101 unselected cases in which Pentothal Sodium was the anesthetic agent, we have employed it in several hundred additional major neurosurgical procedures. No death could be attributed to the anesthetic. . . . The night before operation a cleansing enema and 0.1 gm. of Seconal Sodium are given. The meal before operation is omitted and 0.1 gm. of Seconal Sodium is given two hours before operation. Forty-five minutes before operation adults receive 0.65 mg. of atropine and children a proportionately smaller dose. When the patient is extremely nervous or upset, morphine is given with the atropine. After the patient has been placed in position and the operative site has been prepared, a suitable vein in the hand or forearm is selected for the intravenous administration of 5 per cent dextrose in saline solution. A three-way stopcock is interposed between the intravenous needle and the dextrose solution. Rubber tubing leads from the stopcock to a 20-cc. syringe containing the Pentothal Sodium. For the last few years we have used nothing but a 2.5 per cent solution of this anesthetic agent. After the patient has been anesthetized and draped, the line of the incision is thoroughly infiltrated with 1 per cent novocain solution and the operation is begun. A Guedel airway is usually placed in the patient's mouth for the administration of oxygen if necessary. . . . Intravenous Pentothal Sodium anesthesia has been found to be extremely satisfactory and safe for neurologic surgery." 2 references.

J. C. M. C.

McLAUGHLIN, C. W., JR.: *Procaine Infiltration in the Treatment of Acute Sprains.* Mil. Surgeon. **97**: 457–460 (Dec.) 1945.

"An unusually high incidence of acute ankle sprains occurs aboard carriers with their multiple deck levels connected by steep ladders and the necessity of many men negotiating these on the run, often in semi-darkness, while going to battle stations. Many men so injured were key personnel and in an effort to keep every possible individual ambulant and at his station the following procedure was adopted when such injuries were seen in the Sick Bay. . . . Those individuals who were found to have fractures were treated by standard methods, this discussion concerning only those who showed no roentgen evidence of bone injury. The maximum points of tenderness about the ankle joint were carefully determined and marked with dye. It is particularly important to place the foot in various positions to find all the points requiring infiltration, and experience demonstrates that these areas can be very sharply localized. The skin was prepared with an antiseptic solution and the injection carried out under aseptic conditions. Through a skin wheal using a long intramuscular needle all tender areas were thoroughly infiltrated. We have usually used 20 ccs. of a 1% procaine solution without adrenalin at each site. It has not been necessary to introduce the procaine into any hematoma which may be present, a general diffusion of the involved area being entirely satisfactory. On completion of the injections the ankle is gently massaged for a moment or two and manipulation of the joint is undertaken. The foot is carried into all positions and if any discomfort persists the injection is considered inadequate and repeated. It has been our experience that a satisfactory result cannot be expected in

those patients who do not obtain complete relief from pain or manipulation of the foot after injection. No supportive dressings have been used other than a band-aide over the injection sites. Patients were instructed to replace their shoes which were tightly laced and observed while they walk, stoop and carry out various exercises putting the ankle into different positions. With a satisfactory injection the individual experiences immediate and complete relief of pain. It has been most interesting to observe the expression of surprise which is evidenced by the patient who after painfully limping into the Sick Bay and being injected finds it possible to resume full activity without the slightest discomfort. Patients were always advised to keep active for a period of several hours after treatment, carrying out their full duties. . . . It was always explained that after twelve hours some stiffness or discomfort might return. . . . After twenty-four hours all patients were instructed to return to the Sick Bay for re-examination. If symptoms had recurred the ankle was reinjected. . . . Excellent immediate and permanent results were observed following primary procaine infiltration in 90% of the fifty-one cases seen within 24 hours after their injury occurred." 7 references.

J. C. M. C.

HEWSON, G. F.: *Procaine Toxicity with Report of a Near Fatal Case.* Mil. Surgeon. **97**: 489–492 (Dec.) 1945.

"All pharmacologists agree that procaine is the least toxic of all drugs used in the production of local anesthesia. Thousands of injections are given yearly and reports of toxic reactions are rare. . . . The observance of a nearly fatal reaction prompted a perusal of the available literature for information on the toxicity of the drug and for case reports of toxic reactions. . . . [A] patient suffered a severe reaction characterized by coma and convulsions following the administration of a small quantity of procaine. We do not think the solution was given intravascularly or intrathecally. Allergy was not a factor. The only conclusion we can draw is that procaine proved to be toxic when given in a normal amount to this particular patient at that particular time." 8 references.

J. C. M. C.

HESSER, F. P., AND GOLLAND, MAURICE: *The Effects of Procaine on the Inhibitory Factor of Penicillin.* Mil. Surgeon. **98**: 47–48 (Jan.) 1946.

"Many complaints have been received from patients of the painful and burning sensation upon intramuscular injections of penicillin. It has been suggested that if some anaesthetic agent could be used with the administration of penicillin, it would eliminate some of this discomfort to the patient. In this particular procedure, the penicillin solution was prepared by using a 1% sterile procaine solution instead of the usually sterile distilled water or saline. The purpose of this work was to ascertain where the procaine solution affected the inhibitory factor of the penicillin upon the growth of a particular strain of staphylococci. . . . The higher concentrations of penicillin dissolved in both distilled water and 1% procaine produce zones of inhibition practically equal in size. . . . The discrepancies in the results of the higher dilutions were probably due to inaccuracy of obtaining identical volumes in the loop emphasizing the very low dilutions." 1 reference.

J. C. M. C.

DAVIDSON, N. R.: *The Use of Sodium "Vinbarbital" in Obstetrics.* South. M. J. **38**: 790–793 (Dec.) 1945.

"Notwithstanding the great strides that have been made in medical practice and the remarkable advances along the lines of obstetrics, the alleviation of