curely into the hub of the caudal needle. The injection of metycaine into the caudal canal brings us to Step 4: A 30 cc. syringe with a 1 inch, 22 gage needle is filled with 1½ per cent metycaine. The flat end of the rubber adapter is wiped with iodine or alcohol and the sterile syringe needle pushed through the flat rubber end into the lumen of the tubing. Slight negative pressure is exerted, which exhausts the air in the tubing and also determines whether there is any spinal fluid leakage. If none, 8 cc. of the metycaine solution is injected, with very little pressure needed. The syringe and the needle may now be withdrawn or left in place and held for a period of ten minutes to check on the possibility of spinal cord entry. After the ten-minute wait the remainder of the metycaine in the syringe (22 cc.) is slowly injected and the syringe with its needle is removed. The immobilizing of the caudal needle and adapter constitutes Step 5: The rubber adapter and the caudal needle hub are packed with sterile cotton so that only the flat end of the rubber tubing is left accessible. The whole is then pushed gently between the gluteal folds and strapped immovably to the buttocks. For added security a metal arch may be placed over this whole and strapped."

J. C. M. C.

VAUX, N. W., AND MITCHELL, R. M.: *Influence of Continuous Caudal Analgesia and Anesthesia; on the Blood Loss During the Third Stage of Labor.* J. A. M. A. **124**: 549–554 (Feb. 26) 1944.

"One of the outstanding benefits to a patient who is delivered under caudal analgesia is the prompt termination of the third stage of labor and the amazingly small amount of blood lost. . . . The average blood loss in our series of 1,000 obstetric cases of delivery under inhalation anesthesia was 192.62 cc., the average blood loss in our series of 1,000 obstetric cases of delivery under continuous caudal analgesia and anesthesia was 110.75 cc. . . . The blood loss determinations were estimations made by measuring the blood lost from termination of the second stage of labor up to and including the first hour post partum. The blood loss during the third stage of labor has been decreased decidedly since the adaptation of continuous caudal analgesia and anesthesia. No patient under caudal anesthesia had a blood loss of 501 cc. or more as compared with 28 patients who had a blood loss of 501 cc. or more under inhalation anesthesia. Of the patients delivered under continuous caudal analgesia 97.4 per cent fall into the blood loss group 0–250 cc. as compared with 79.1 per cent of the patients delivered under inhalation anesthesia. The duration of the third stage of labor in patients under continuous caudal analgesia and anesthesia has been definitely shortened as compared with the third stage of labor in patients under inhalation anesthesia. . . . The incidence of 'trapped' placenta in the 1,000 cases delivered under continuous caudal analgesia was 0.1 per cent. There were 6 instances in which manual removal of the secundines was needed in the inhalation anesthesia group. The observation [was made] that the uterine myometrial bleeding on incision at the time of cesarean section is decidedly diminished. It is believed that continuous caudal analgesia and anesthesia in obstetrics enables the uterus to approach its normal mechanisms more closely." 36 references.

J. C. M. C.

ANONYMOUS: *Local Anesthesia Treatment of Sprains.* Nebraska M. J. **29**: 15 (Jan.) 1944.

"Although a sprain is classed as a minor injury, distinct losses may be in-

curred because of the resulting disability. . . . Comparison of various methods of treatment led to the conclusion that the best results were obtained by the injection of procaine hydrochloride into the involved areas. Ten to 20 cc. of a 2 per cent solution were generally injected into the injured ligaments. All tender points and the adjacent areas were anesthetized. Injections were continued until motion disclosed the absence of all pain. Preliminary x-ray studies were made to exclude fractures or injuries other than ligamentous ones. It was quickly discovered that strapping, applications, heat, and brief or prolonged rest were all unnecessary. Instead of immobilization, normal use of the joint hastened recovery." 4 references.

J. C. M. C.

KELLY, MICHAEL: *Pain in the Chest: Observations on the Use of Local Anesthesia in Its Investigation and Treatment.* M. J. Australia 1: 4–7 (Jan. 1) 1944.

"In the majority of cases of pain in the chest, no signs of visceral disease are found, and the physician will make a diagnosis of pleurodynia, or intercostal neuralgia. The pain is made worse by breathing or coughing, and sometimes by movements of the arm or the trunk. The pain as a rule is unilateral, and may shoot from the back around to the front; in every case it is diffuse and difficult to locate, seeming to spread over an area variable in extent. Often the patient will complain that the chest is tender, and examination by palpation will confirm this. In other cases tenderness of the chest wall is not easily demonstrable, though the pain may be severe. . . . According to the orthodox authorities, pleurodynia is an intramuscular fibrositis. . . . It is generally accepted now that the essence of fibrositis is a circumscribed lesion situated in muscular tissue, which can be recognized as a strictly localized point of tenderness. Such a minute lesion often will be responsible for a poorly localized pain referred to a wide area. In addition, secondary tenderness of the deep structures may be demonstrable over a greater or lesser area surrounding the lesion. That this tenderness is secondary to the main lesion is proved by the fact that the injection of local anaesthesia into the lesion abolishes, not only the spontaneous pain, but the referred tenderness as well. . . . Because of the ease with which movements of the ribs can be reduced to a minimum with adhesive plaster, pleurodynia is particularly amenable to relief by strapping. In many cases the pain disappears in a day or two with or without treatment. If the pain shows no signs of abating after a few days, the lesion should be infiltrated with a few cubic centimetres of a local anaesthetic agent. Because of the presence of referred tenderness, the error of injecting the wrong spot will sometimes be made; but the practitioner should persevere until the true lesion is discovered and treated. The signs of successful treatment are unmistakable; all pain on movement or on coughing suddenly vanishes, and the referred tenderness is observed to disappear. In the majority of cases the relief is permanent, but in some a second injection is found to be necessary after four to seven days. . . . When pain in the chest is associated with physical signs of disease of the lungs or pleura, the pain can often be relieved in the same fashion." 9 references.

J. C. M. C.

STEWART, R. A.: *The Use of Naphthocaine as a Local Anesthetic in Ophthalmology.* Am. J. Ophth. 27: 178–179 (Feb.) 1944.

"Naphthocaine is the mono-hydrochloride of beta-diethylaminoethyl