and a physician to resuscitate the baby cannot be found. . . . Even under the best of circumstances many instances of asphyxia of the baby occur. . . . Local anesthesia does not affect the baby and if the operation could be done under local anesthesia it would have another advantage. The surgeon can act as his own anesthetist.... . Two years ago I began to do Caesarean sections under local anesthesia. To date 37 cases have been done. If possible, nembutal gr. III are given two hours before the operation, scopolamine gr. $\frac{1}{150}$ one hour before operation, and morphine sulfate gr. $\frac{1}{6}$ at the time the local infiltration is begun. The bladder is emptied per catheter. . . .

"The drug used was one per cent novocaine with three drops of 1-1000 adrenalin hydrochloride added to each ounce of novocaine. The amount used varied from 40 cc. to 110 cc., the average being 60 cc. . . . The success of the local anesthesia depends upon careful technique—the injection being done as follows: 1. A series of contiguous intra-dermal wheals the entire length of the proposed incision. 2. Radial block of the tissues between the skin and anterior rectus sheath, the injection carried to the edge of the rectus muscle. 3. Radial blocking of the tissues between the anterior and posterior rectus sheaths. At the lower angle of the wound, if it is a mid-line one, anesthesia is frequently incomplete, unless great care is exercised in placing a sufficient amount of novocaine into the pyramidalis muscle and in the region of the underlying transversalis fascia. 4. Injection of the peritoneum of the anterior wall, if the previous radial blocking has not given complete anesthesia. 5. If a classical section is to be done, the uterus does not need to be anesthetized. If a low cervical section is to be done 10 cc. of solution are injected beneath the bladder peritoneum about 1 cm. above the bladder, 5 cc. being placed on each side of the mid-line in such a way that the length of the proposed peritoneal incision is anesthetized. This also facilitates the dissection of the bladder flap. Pressure on the wheals produced will disperse the fluid over a larger area. 6. When using retractors, or sponges, gentleness is imperative or pain may be easily produced in unaffected areas, and pressure sense creates discomfort. 7. Pituitrin 1 cc. is given intramuscularly as the uterus is incised and Ergotrate gr. $\frac{1}{320}$ as the baby is delivered. The uterus contracts promptly with quick separation of the placenta and a moderate amount of bleeding. Local anesthesia does not interfere with contractions of the uterus. 8. Supplemental anesthesia was employed in only one case. Delivery of the child was accomplished with local anesthesia. It was then found that the placenta could not be separated as it was a placenta acreta. Nitrous oxide anesthesia was used for the hysterectomy. . . . The patients have very little post operative discomfort and are able to take fluids and food on return from surgery."

J. C. M. C.

FREIHEIT, J. M., AND MAGNANO, JOSEPH: *Anesthesia in Cesarean Section with Special Reference to the Prevention of Atelectasis of the Newborn.* Connecticut State M. J. 8: 748–756 (Nov.) 1944.

"Cesarean section is usually performed today in the interest of the infant in order to give it a better chance for life than it would have if delivered through the birth canal. . . . In the past twelve years, out of 311 cesarean operations 23 babies at autopsy were apparently perfectly formed and showed death due to congenital atelectasis. . . . A great many theories have been given to explain the production of atelectasis—intrauterine respira-

tory movements—pressure phenomenon, anesthesia effect, etc. We have nothing to add except to say that minus the effect of uterine contractions inhalation anesthesia has a tendency to irritate the respiratory mucous membranes of an intrauterine infant with formation of excessive mucus which may block whole areas of alveoli and gradually cause massive atelectasis incompatible with life. It is obvious, therefore, that the ideal anesthesia for cesarean section is one which gives the anesthesia entirely to the mother and none to the infant. Those who advocate local anesthesia alone for the operation were very much on the right track. . . . Spinal anesthesia also offsets the effect of inhalation anesthesia on the cesarean infant. However, for a long time the danger of one-shot injection into the spinal canal has been a hindrance to its use in the operation and several instances of sudden death on the table have occurred in various clinics. . . . With the development of the continuous spinal after the method of Lemmon our interest was revived. . . . We are considering in this paper continuous spinal after the method of Lemmon and we are convinced after ninety such anesthesias in cesarean operations under all kinds of circumstances that in expert hands this provides the ideal method of assuring safety to both mother and infant. . . . We believe that continuous spinal is the anesthetic of choice in cesarean section because: 1. The mother alone gets the anesthesia and the baby gets none. 2. One can withdraw the anesthetic if the patient should show signs of toxicity. 3. The abdominal muscles are relaxed. 4. The intestines are contracted. 5. The baby cries immediately after delivery from uterus. 6. Uterus contracts well after delivery of the child because the nerve control of the uterus, coming to it by means of vagus and sympathetic chain, is not blocked. Bleeding is thus minimal. We have now, over a period of four years, performed about ninety cesarean sections with continuous spinal. In these ninety cases we record 88 living children. Two cases only spoiled the record. Both these cases on autopsy had congenital heart lesions. One other child almost died. This child was an eight pound baby that suddenly turned cyanotic eight hours after delivery. The usual atelectatic stridor was absent and x-ray showed a collapsed lung from a congenital lung cyst. With O_2 inhalations, the lung expanded and the child recovered." 7 references.

J. C. M. C.

MALLINSON, F. B.: *Apparatus for Preparing Pentothal in Bulk.* Lancet 2: 473–474 (Oct. 7) 1944.

"The apparatus described here may be constructed from any suitable bottle obtainable from the dispensary (such as a 500 c.cm. 'Vacoliter,' 'Sterivac' or Woulfe's bottle) which has a rubber bung. The glass tube passing through the rubber bung of such a vessel was replaced by a wide-bore spinal needle complete with stilette. Into another hole in the bung was inserted a metal stop-cock. A short length of capillary-bore rubber tubing was attached to the lower end of the spinal needle so that its distal end reached to the bottom of the vessel. Into the distal end of the capillary tube was inserted a short piece cut from the shaft of the spinal needle tc act as a sinker. The apparatus was then filled with 500 c.cm. of pyrogen-free distilled water and the whole sterilized in the autoclave. When the apparatus was required for use the bung was removed and 25 g. of pentothal added to the water. . . . When the stop-cock is open and the stilette withdrawn, the exact amount of pentothal required can be drawn up into a syr-