3. No change in the respiratory rate or volume and no alteration in pulse rate or blood pressure should occur in the well conducted anesthesia.

4. On return of the anesthetized patient to bed a competent and well instructed person should be delegated to remain constantly at the bedside. The patient *must* be protected against aspiration of mucus and vomitus and from asphyxia from a relaxed tongue.

5. It is recommended that patients exhibiting any of the signs of hypoxia in the operating room receive high oxygen concentrations on return to bed.

6. As regards spinal anesthesia it is recommended that its use should not become a routine matter. Patients for spinal anesthesia should be selected from those whom we classify as good risks. Seevers and Waters have shown that a "decrease in alveolar as well as arterial and venous blood oxygen occurs in spinal anesthesia." McClure and his associates have demonstrated a decrease in oxygen saturation of arterial blood of approximately 10 per cent under spinal anesthesia. Such hypoxia is ordinarily attributed to relaxation of the peripheral vascular bed, decreased tonus of the skeletal muscles, diminished respiratory excursion from intercostal paralysis and inactivation of the medullary centers. No spinal anesthesia should ever be undertaken unless adequate means of providing oxygen are instantly available.

The problem of hypoxia in the delivery room is both intricate and interesting. During anesthesia ordinarily accompanying the second stage of labor, an oxygen intake of less than 20 per cent must not be permitted. It is interesting to note than even in cases in which cyclopropane was administered with 75 per cent oxygen the oxygen of the fetal arterial blood ranged from 45 per cent saturation with forceps delivery to 50 per cent in normal deliveries. This means that even with a very potent agent like cyclopropane the fetus suffers to some extent from hypoxia. 21 references.

A. W. F.

SMITH, CALEB H.: *Regional Anesthesia for High Ligation of the Internal Saphenous Vein.* Am. J. Surg. **55**: 141–142 (Jan.) 1942.

The anterior crural nerve is first blocked. A skin wheal is raised just below Poupart's ligament 1 cm. lateral to the femoral artery. With a finger holding the femoral artery medially, a needle 5 cm. long is attached to the syringe, introduced through the skin wheal in a direction perpendicular to the surface of the skin and advanced until the resistance offered by the fascia iliaca is overcome. The needle is then gently advanced about 1 cm. farther until paresthesias, which radiate toward the knee or inner side of the thigh or leg, are induced. Without moving the needle the syringe is connected and 5 cc. of a 2 per cent procaine hydrochloride solution containing adrenalin hydrochloride 1:100,000 is injected. . . . If the point of the needle does not reach the nerve by the first puncture, the needle is partly withdrawn and its direction slightly changed outward, then inward, care being exercised to keep the finger on the femoral artery retracting it medially if necessary to protect it from the point of the needle. If paresthesias are not induced, the anesthetic solution is distributed fanwise beneath the fascia iliaca. . . .

Next the obturator nerve is injected. With the thigh slightly abducted the pubic spine is defined and a skin wheal raised just below and lateral to it. A needle 8 cm. in length, unattached to the syringe, is introduced through the skin wheal in a direction perpendicular to the skin surface and advanced toward the horizontal ramus of the pubis. When the needle impinges on the bone,

it is partially withdrawn, its direction changed by inclining its shaft a little inward and downward, and re-introduced until its point again comes in contact with the bone. The upper wall of the obturator canal is then felt and the needle is passed beneath it and advanced 2 cm. further, keeping close contact with the upper wall of the canal and following its direction outward, backward, and upward. An injection is then made of 10 cc. of a 1 per cent solution of procaine hydrochloride containing adrenalin hydrochloride 1:100,000 while the needle is slightly moved to distribute the solution along the obturator canal. . . .

A skin wheal is now raised at the apex of Scarpa's triangle. Intradermal and subcutaneous injections are now made from this wheal along the sartorius and adductor longus muscles up to Poupart's ligament and along the ligament. These injections require about 60 cc. of the 0.5 per cent solution of procaine hydrochloride containing adrenalin hydrochloride 1:100,000. 3 references.

A. W. F.

SNYDER, F. F., AND KHA TI LIM: *Effect of Morphine on Labor.* Proc. Soc. Exper. Biol. & Med. **48**: 199 (Oct.) 1941.

The question has arisen many times as to the mechanism whereby the administration of morphine to the mother in labor may result in injury of the fetus. There must be considered first the effect of the drug upon the fetus directly; and second, the effect of the drug on the labor mechanism. The present experiments were undertaken to determine whether or not the effect of morphine upon the fetus is of greater consequence than the effect of the narcotic upon the course of labor.

Rabbits were studied. Morphine in dosage of 13 mg. per kilogram was given intravenously to the maternal animal at the onset of labor. This dose resulted in well marked analgesia of the mother without loss of consciousness. In 8 liters containing 45 fetuses, all of the fetuses except one were born alive and survived when delivery was carried out by hysterotomy, at intervals varying from twelve minutes to fifteen hours after injection. In litters delivered at twelve and twenty minutes after injection, fetal narcosis was marked.

In 13 animals the same dose was given at the same time, and the mothers allowed to deliver spontaneously. Here, in striking contrast to delivery by hysterotomy, the incidence of stillbirths amounted to 70 per cent of the litters. Prolongation of labor was noted and gave evidence of impairment of the expulsion mechanism.

It would seem that the chief damage of morphine is on the labor mechanism rather than directly on the fetus. In so far as the experiments reveal the etiology of respiratory failure at birth following the administration of morphine during labor, it is evident that injury of the fetus is largely a consequence of injury of the birth mechanism rather than of fetal narcosis.

R. D. D.

OWENS, L. B.; WRIGHT, JACKSON, AND BROWN, EDNA: *The Efficacy of Intravenous Sodium Bicarbonate Therapy in the Treatment of Diabetic Ketosis.* Arch. Int. Med. **68**: 1066 (Dec.) 1941.

The intravenous administration of sodium bicarbonate in diabetic ketosis was first used in 1886, but there is still disagreement as to its efficacy. Evaluation of a single procedure is difficult because there are so many different prognostic and therapeutic factors.

Disturbed carbohydrate metabolism results in excessive fat metabolism and excessive formation of intermediary break-down products, ketones. These