

safer than closed methods. Prolonged use of this anaesthetic presents much the same dangers as does chloroform, unless careful dosage is adopted.

Spinal and Local Analgesia. Broadly speaking, injection above the lumbar region is far more dangerous than at the place of election between the spines of the second and third, or third and fourth, lumbar vertebrae. Experience points to the danger of the method being increased if adrenine is combined with the analgesic, and to the absence of any commensurate benefit from prolongation of the period of insensibility to pain. The relative dangers of heavy or light fluids in the use of intrathecal injection has hardly been worked out. It is assumed that the drug used is 'fixed' in the tissues in 15 to 20 minutes, and so the inverted or Trendelenburg posture is reputed to be safe, provided the head is flexed forward. The prognosis is, however, less favourable when this position is allowed in cases of spinal analgesia.

In local or regional analgesia, on the other hand, adrenine together with novocain lessens the dangers, provided the quantity of adrenine is strictly limited. That adrenine is a dangerous drug has been shown by Goodman Levy and others, especially when used in conjunction with cocaine in nasal surgery. This is peculiarly the case when chloroform is also used and light narcosis is maintained: cardiac fibrillation appears to occur, with a fatal result.

3. *The Administrator.* This factor has been already dealt with in the first part of the article. It may be added, however, that the modern methods of producing anaesthesia have become complicated by the introduction of somewhat intricate apparatus, familiarity with the employment of which needs special and prolonged training. The administrator whose armamentarium is restricted to the older methods may be competent in their use, but his inexperience in present-time methods makes for the disadvantage of the patient and a bad prognosis in two ways. The character of the operation may demand for its ultimate and complete success that an unusual method of producing anaesthesia should be adopted. If the inexperienced man undertakes the administration, his chances of mastering the intricacies of the method are poor, while if he prefers to employ an older and less satisfactory method, he may hamper the work of the surgeon, and so produce a condition of things which does not improve the prognosis of the case.

4. *The Physical and Mental State of the Patient.*

Extremes of Life. The rule of giving chloroform to persons up to six years of age and to those over sixty is a survival of the myth that children and women in labour enjoy immunity from danger from that anaesthetic. As a matter of fact, children are peculiarly liable to danger, owing to their proneness to lymphatism and to post-operative toxæmia (delayed chloroform poisoning, or acidosis).

As regards old age, two points have to be carefully weighed. A person advanced in years must have considerable stamina to have attained this age, and so is usually a good subject. Indeed, age and