

SCHAEFFER, W. C.: *Preoperative Management of the Child Patient*. J. Missouri M. A. 37: 287-288 (July) 1940.

"All surgeons are sympathetic with the highly apprehensive child going to the operating room. It frequently excites the operating room staffs to hear a screaming child being anesthetized, and it completely unnerves the anesthetist when he is required to anesthetize a little tot with ethyl chloride or ether. But the more serious phase is the impression left with the child after the operation. Years afterward he remembers the ordeal and will often delay giving consent to operations when the delay may jeopardize his successful recovery. The psychic reaction of a normal child can be compared to that of an adult suffering from a toxic thyroid gland. . . . The psychic reaction accelerates the metabolic processes to a high rate of speed and the carbohydrate reserve is often depleted and acidosis follows. This changes a child considered a good risk before entering the hospital to a bad risk the morning of operation. Barbiturates which are metabolic depressants will prevent the acceleration of metabolic processes if they are used in adequate doses as soon as the apprehensive child is admitted to the hospital. If the child has been crying or vomiting, fluids should be given under the skin. . . . Because of the high metabolic rate of children and infants more than 1 year of age, they are able to take safely relatively larger doses, per pound of body weight, of sedatives than adults; these sedatives are catabolized and excreted more rapidly in children than in adults.

"The barbiturate which seems to have the most consistent effect in my experience is nembutal and the dose may be calculated according to Young's and Cowling's rule. . . . If preferred the nembutal can be given rectally by dissolving the powder in about a half

ounce of water and inserting well up into the rectum, guarding against its expulsion for a few minutes after its administration. If barbiturates cannot be taken orally or rectally they can be given hypodermically in the form of sodium luminal in the same dosages as nembutal orally. This will usually insure a good night's rest before operation and keep the physiological processes nearer normal. On the morning of operation . . . nembutal is administered one hour before operation and . . . morphine sulphate twenty minutes before the patient goes to the operating room. If this preoperative medication is followed the child will not be apprehensive and will often require less than half the usual amount of anesthetic to produce the desired level of anesthesia. The postoperative course is much smoother, there is less nausea and vomiting and less abdominal distention. It is now known that morphine motivates the bowel and is more helpful than detrimental in abdominal distentions.

"Children between the ages of 1 and 4 years, according to Robson, should not receive barbiturates; he recommends codeine gr.  $\frac{1}{4}$  hypodermically for children between the ages of 2 and 4. The 1-year-old child should receive codeine gr.  $\frac{1}{8}$  one half hour before operation. No sedatives are used in children under 1 year of age. Much has been written about basal anesthesia in children and it has been accepted readily in large pediatric centers. The agents most frequently used are nembutal, evipal soluble and avertin rectally."

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MADAN, K. E.: *Means of Decreasing the Toxicity and Complications of Anesthesia*. Brit. J. Anaesth. 17: 65-73 (July) 1940.

"The toxicity of anesthetic agents depends upon various factors, viz. the

quality of the drug, method of storing, method and quantity in which they are administered, the state of the patient's health, the presence of intercurrent complications, the nature of preliminary preparation and premedication, the duration of operation, and the means employed for elimination of the drug. As regards the preliminary treatment, the patient should be made as fit as possible to undergo the anesthesia. . . . In a healthy patient who has been properly prepared and suitably premedicated, the administration of pure anesthetic drugs should not cause toxic effects provided that the minimum quantity of anesthetic compatible with satisfactory muscular relaxation is not exceeded. Overdose, even with the use of weak anesthetics like  $N_2O$ , is harmful. To prevent overdose of any one particular anesthetic agent, the method of synergistic anesthesia is recommended, i.e. a combination of several hypnotic drugs which, according to Burg's law, causes a summation of effects and so results in a greatly enhanced narcotic effect than the mere use of one anesthetic agent alone even in a large dose. . . . For premedication, morphia has several disadvantages as it sometimes causes complications, viz. respiratory depression, vomiting, troublesome constipation, abdominal distention, headache, and interference with kidney secretion. Hence, recently other drugs have replaced morphia for pre-medication. . . . The use of suitable premedication lessens the dose of inhalational anesthetic, and so anesthetic toxicity is decreased. . . .

"To save the patient from the toxic effects and complications of anesthetics, the planes of the different stages of anesthesia should be skilfully regulated by deepening or lightening the anesthesia as required. According to 'the law of diminished resistance' the vitality of the patient is decreased as the anesthesia progresses, and therefore the amount and percentage of an

anesthetic vapor must be also proportionately decreased, otherwise there may be great depression of the vaso-motor and other centers with fall of blood-pressure. . . . To lessen toxicity of inhalational anesthetics, it is necessary that they should be quickly eliminated from the system. Pulmonary ventilation should therefore be carried out, as soon as the operation is over, by the interrupted administration of  $CO_2$  gas for a few minutes. . . . To safeguard against the occurrence of pneumonia, the use of heated anesthetic vapors is recommended particularly on cold days. Shipway's apparatus is quite useful. Care should be taken that when the patient is removed from the heated theater to his room he does not catch a chill in the escalator or through the cold corridors. Tight bandaging of the abdomen and over the lower ribs, intercostal paralysis after high spinal analgesia, conditions in which deep breathing or coughing gives pain to the patient, are apt to cause pneumonia and should be remedied. . . . Proper selection of the anesthetic and the method of its administration greatly decrease the risks of anesthesia, whereas any fault or irregularity may become manifest by any one of the danger signs of anesthesia as regards breathing, pulse, pupils, color, etc. To prevent complications, the anesthetist should never wait for all the classical signs of the fourth or toxic stage to be present, but should be able to understand the significance of any single abnormality that may arise during conduction of anesthesia."

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LIVINGSTONE, HUBERTA M., LIGHT, GERALDINE A., HEIDRICK, A. FAUSTEENA, AND KABLE, VERA N.: *Further Experience with Divinyl Ether (Vinethene) Anesthesia; Report of 2,050 Administrations*. J. A. M. A. 115: 1353-1357 (Oct. 19) 1940.

"Since vinethene has, in our experience, become increasingly popular, a