

breathing aid (PBA) which provides lower thoracic compression resulting in an increased expiratory volume. The PBA is controlled by a sensing device activated by the transfer of a small volume of air from a tube placed beneath the patient's nostrils. The control provided by this apparatus prevents hyperventilation and its consequences. (*Barach, A. L., and Beck, G. J.: Effect of a Patient-Cycled Breathing Aid on Ventilatory Efficiency in Pulmonary Emphysema in Poliomyelitis, J. Chron. Dis. 8: 615 (Nov.) 1958.*)

MECHANICAL RESPIRATOR Hyperventilation with a mechanical respirator to produce alkalotic apnea is useful in patients with badly crushed chests or large chest wall defects. As the patient's chest wall heals, assisted respiration is indicated. (*Sako, K., and others: Use of Demand-Flow-Respirator for Large Defect of Chest Wall, Am. J. Surg. 97: 307 (March) 1959.*)

RESUSCITATION In a study of 29 curarized, anesthetized adults treated with the conventional back pressure, arm lift method of artificial ventilation, the average tidal volume was no more or less than dead space in 12 of 15 subjects studied. The failure was mainly due to pharyngeal obstruction by the relaxed tongue occurring when the neck was flexed and the mandible was not supported. With mouth-to-mouth methods, better pulmonary ventilation is produced than with any method which relies upon compression and expansion of the chest. This allows the operator to support the mandible and maintain the neck extended. Furthermore, high inflation pressures are available to overcome partial air-way obstruction and reduced lung-thorax compliance. (*Safar, P.: Failure of Manual Respiration, J. Appl. Physiol. 14: 84 (Jan.) 1959.*)

CLINICAL TESTING The approach of a clinical anesthetist to the problems of testing drugs is somewhat different from that of the pharmacologist, for the former must face ethical considerations. Before human experimentation is permissible with new compounds, screening in animals must be as thorough as possible. Subjective side effects which may be important in clinical use cannot be measured in

animals. (*Woolmer, R.: Clinical Tests of New Drugs, Proc. Roy. Soc. Med. 52: 98 (Feb.) 1959.*)

TESTING ANESTHETIC AGENTS

Whereas many drugs vary in their action in different animals, this is not true of anesthetics. Both inhalation and injectible general anesthetics have the same action in all species, and in many species the anesthetic concentration is the same (6 to 8 per cent ether produces anesthesia in mice, dogs, and men). Mice are useful animals for the initial testing of anesthetics and have the great advantage that they require but small quantities of drug. If a thorough investigation on mice shows that the new substance compares favorably with ether, the substance should then be taken directly to the dog for trial under conditions of a full-scale surgical operation. If the drug allows prompt and satisfactory recovery under these conditions, and if it can be shown to be free of toxic action on the liver, kidney and other organs, the new anesthetic should be tested in man. The initiation of clinical trials after the completion of a full investigation in animals is justified and finds precedent in many specific remedies which have been worked out on animals and then shown to be effective in man. (*Burn, J. H.: Pharmacological Testing of Anesthetics, Proc. Roy. Soc. Med. 52: 95 (Feb.) 1959.*)

METHYLPHENIDATE The effect of methylphenidate (Ritalin) as compared with other centrally acting drugs was studied in rats subjected to forced muscular exercise. Methylphenidate increased the performance while amphetamine was inefficient. All the central nervous depressants tested (mephrobamate, chlorpromazine, and perphenazine) diminished the performance of animals at the dose used. This depressive action was counteracted by methylphenidate. (*Jasmin, G., and Bois, P.: Effect of Centrally Acting Drugs upon Muscular Exercise in Rats, Canad. J. Biochem. Physiol. 37: 417 (March) 1959.*)

NUMORPHAN This new synthetic morphine-like drug with increased analgesic potency proved free of many side effects in the management of postoperative pain in a dos-