

of some patients to return to more normal exercise tolerance postoperation. Determination of oxygen ventilatory equivalent is thought to provide objective method of classing severity of mitral stenosis and a means of assessing results of surgical therapy. (MacIntosh, D. J., and others: *Some Aspects of Disordered Pulmonary Function in Mitral Stenosis*, *Ann. Int. Med.* 49: 1294 (Dec.) 1958.)

AIRWAY RESISTANCE The effect of added airway resistance on ventilation and respiratory muscular activity was studied in decerebrate cats before and during anesthesia. Inspiratory air flow resistance initially reduces the tidal volume and frequency of respiration. This reduction in tidal volume is aggravated by pentobarbital, nitrous oxide, or ether. If the flow resistance persists, there is a gradual recovery in the volume of ventilation, but even in the unanesthetized state this is not complete at the end of five minutes. Ventilation is reduced with increased airway resistance in spite of augmented muscular activity. The reduction of ventilation is proportional to the magnitude of the resistance, and the impairment becomes progressively worse with deeper anesthesia. (Fink, B. R., and others: *Effect of Air Flow Resistance on Ventilation and Respiratory Muscle Activity*, *J.A.M.A.* 168: 2245 (Dec. 27) 1958.)

RESPIRATORY CONTROL The factors involved in the control of respiration during exercise were studied in normal man. Arterial pO_2 does not decline significantly during heavy exercise and thus, cannot be responsible for the hypernea. There is no significant increase in arterial pCO_2 . Likewise, changes in arterial pH do not bear a predictable relationship to changes in ventilation during exercise and recovery. Changes in mixed venous pCO_2 and in "central" blood volume may be factors involved in the production of hypernea during heavy muscular exercise, but these possibilities cannot be designated with assurance as the cause of the phenomenon at the present time. (Mitchell, J. H., Sproule, B. J., and Chapman, C. R.: *Factors Influencing Respiration During Heavy Exercise*, *J. Clin. Invest.* 37: 1693 (Dec.) 1958.)

RESPIRATORY ACIDOSIS In the rat, the hypochloremia which develops during exposure to carbon dioxide in air is the result of a loss of chloride in excess of sodium in the urine. This increased loss of chloride is associated with an increased excretion of ammonia, potassium and phosphorus. This occurred in animals maintained on a sodium-free diet as well as those ingesting and excreting liberal amounts of sodium. This suggests that expansion and dilution of extracellular fluid with reabsorbed sodium bicarbonate are not responsible for the increased urinary excretion of chloride. It is suggested that an increase in pCO_2 may induce the observed renal losses of chloride by direct interference with the tubular reabsorption of the chloride ion. (Levitt, H., Branscome, W., and Epstein, F. H.: *Pathogenesis of Hypochloremia in Respiratory Acidosis*, *J. Clin. Invest.* 37: 1667 (Dec.) 1958.)

RESPIRATION IN OBESITY A case history of a 42 year old male weighing 364 pounds is presented. He was admitted in cardio-respiratory failure due to alveolar hypoventilation, explained on the basis of: (a) extra work needed to maintain alveolar ventilation by moving fat-laden abdomen and thorax; (b) the diaphragm pushed up by masses of fat in the abdomen; and (c) mediastinal fat deposits encroaching on the lungs. A 47 per cent arterial oxygen saturation was found. (Berlyne, G. M., and Manc, M. B.: *Cardiorespiratory Syndrome of Extreme Obesity*, *Lancet* 2: 939 (Nov. 1) 1958.)

ARTIFICIAL VENTILATION Two methods of ventilation were compared in alternate cases in a series of 21 young male patients with minimal lung disease—the first group being ventilated automatically with positive-negative pressure as delivered by the Jefferson ventilator and the second group was ventilated manually with intermittent positive pressure. The preoperative pulmonary elastic recoil or compliances of the two groups were not significantly different. After lung resection, the compliance generally was lower in both groups. The magnitude of fall, however, was greater in the group ventilated with automatic positive-negative respiration. (Gled-