

baric oxygen was of no value. (MacLean, L. D., and others: *Alkalosis in Septic Shock, Surgery* 62: 655 (Oct.) 1967.)

### Respiration

**PULMONARY MECHANICS** Measurements of lung compliance and total pulmonary resistance were made in ten women in the last trimester of pregnancy and two months postpartum, employing an esophageal balloon and recording spirometer. Compliance was unaffected by pregnancy, but resistance was 50 per cent below normal during pregnancy. Serial measurement of airway conductance using a constant-pressure body plethysmograph in 14 nonpregnant and 13 pregnant women indicated a progressive increase, beginning at about six months of gestation and returning to normal by two months postpartum. The mechanism of the increased airway conductance during pregnancy is not known. It may be related to changes in bronchial smooth muscle tone and conceivably explains the tolerance of certain patients with lung resections to pregnancy. (Gee, J. B. L., and others: *Pulmonary Mechanics during Pregnancy, J. Clin. Invest.* 46: 945 (June) 1967.)

**RESPIRATORY WORK** The effect of corrective cardiac surgery on respiratory work was determined pre- and postoperatively in 20 adult patients with acquired valvular heart disease. In all patients the work of breathing measured from pressure-volume loops was twice normal before operation. Thirteen surviving patients had physiologically-insignificant increases in the work of breathing on the first or second postoperative day. In seven patients who subsequently died respiratory work increased to ten times normal. In such patients, postoperative controlled mechanical ventilation is indicated to reduce the demand which excessive work of breathing makes on cardiac output. (Garzon, A. A., and others: *Influence of Open-Heart Surgery on Respiratory Work, Dis. Chest* 52: 392 (Sept.) 1967.)

**PULMONARY CRIPPLE** Most patients with respiratory insufficiency can be carried through any general surgical procedure and many thoracic procedures with proper manage-

ment. Adequate preoperative preparation of the patient simplifies management during anesthesia. Nasotracheal intubation is preferred since it permits supportive ventilation post-operatively. Clinical appearance is not a good indication of satisfactory oxygenation. Arterial blood gases should be monitored and an arterial cannula may as well be inserted pre-operatively. If bronchospasm, cyanosis and hypotension during induction of anesthesia do not respond immediately to therapy, preparation probably has been inadequate and operation should be postponed. (Nealon, T. F., and McNeil, A. C.: *Management of Operations in the Pulmonary Cripple, Surg. Clin. N. Amer.* 47: 1223 (Oct.) 1967.)

**CAPILLARY  $P_{O_2}$**  Direct measurements of  $P_{O_2}$  and oxygen saturation were performed on "arterialized" capillary, peripheral venous and arterial blood samples obtained from 26 children during cardiac catheterization. Prior to capillary sampling, the extremities were wrapped in a pack and immersed in a 39 to 40° C water bath for five to ten minutes. There was close correlation between capillary and arterial  $P_{O_2}$  values, as well as excellent correlation between capillary or arterial  $O_2$  saturation and corresponding  $P_{O_2}$  measurements. These results demonstrate the reliability and simplicity of "arterialized" capillary blood sampling for  $P_{O_2}$  and  $O_2$  saturation measurements. (Stamm, S. J.: *Reliability of Capillary Blood for the Measurement of  $P_{O_2}$  and  $O_2$  Saturation, Dis. Chest* 52: 191 (Aug.) 1967.)

**HYPERBARIC OXYGEN** Oxygen toxicity limits the tolerated exposure to hyperbaric oxygen to less than 3 atmospheres of oxygen pressure for no more than five hours. Major therapeutic successes have been achieved in cases of decompression sickness and air embolism, carbon monoxide poisoning and gas gangrene. Sensitivity of certain tumors to radiotherapy is increased by hyperbaric oxygen. Improvement after hyperbaric oxygen therapy has occurred in cases of cerebral ischemia, ischemia of skin grafts, and osteomyelitis; and in palliative surgical management of congenital cyanotic heart disease in infants. (Saltzman, H. A.: *Hyperbaric Oxygen, Med. Clin. N. Amer.* 51: 1301 (Sept.) 1967.)