

BRIEFS FROM THE LITERATURE

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RESPIRATORY DEPRESSION End-expiratory carbon dioxide tension and respiratory minute volumes were measured in 100 patients following operation as they were admitted to a recovery room. Twenty-five per cent had carbon dioxide tension above 45 mm. Hg. This retention was a result of previous hypoventilation or drug depression. The elevated tension was most commonly seen in patients who had been anesthetized with nitrous oxide and intravenous nonvolatile substances. (*Hamilton, W. K., and Devine, J. C.: Evaluation of Respiratory Adequacy in Immediate Postoperative Period, Surg. Gynec. & Obst., 101: 229 (Aug.) 1957.*)

OXYGEN A small increase in ventilation volume, carbon dioxide output, and respiratory rate was noted in human volunteers breathing 100 per cent oxygen. A decrease in these values occurred on transfer back to room air. This was attributed to a partial loss of the "dual function" of hemoglobin resulting in an increase in body carbon dioxide tension, decreased pH and consequent stimulation of the medullary respiratory centers. Storage of about 600 cc. oxygen occurs following ten minutes of breathing 100 per cent oxygen. (*Baker, S. P., and Hitchcock, F. A.: Immediate Effects of Inhalation of 100 Per Cent Oxygen at One Atmosphere on Ventilation Volume, Carbon Dioxide Output, Oxygen Consumption and Respiratory Rate in Man, J. Appl. Physiol., 10: 363 (May) 1957.*)

HYPOXIA Beside its better known effects on the central nervous, cardiac, respiratory and hemopoietic systems, acute anoxia can cause functional renal and hepatic failure which are reversible if the

anoxia is relieved. Oxygen should be administered to hypoxic, hypercapnic emphysematous patients even though oxygen apnea occurs. (*Simpson, T.: Anoxia in Emphysema: Its Relief by Oxygen, Lancet 2: 105 (July 20) 1957.*)

AIR-FLOW RESISTANCE In 11 unanesthetized human volunteers increasing air flow resistance resulted in extra work associated with breathing and reduced pulmonary ventilation and caused an alveolar carbon dioxide rise and oxygen tension fall. (*Zechman, F., Hall, F. G., and Hull, W. E.: Effects of Graded Resistance to Tracheal Air Flow in Man, J. Appl. Physiol., 19: 356 (May) 1957.*)

HEAT PRODUCTION When the oxygen intake of newborn infants is reduced by exposure to an atmosphere containing 15 per cent oxygen, body heat production drops significantly. (*Brodie, H. R., Cross, K. W., and Lomer, T. R.: Heat Production in Newborn Infants under Normal and Hypoxic Conditions, J. Physiol., 138: 156 (Aug. 29) 1957.*)

PULMONARY BLOOD FLOW Experiments in the cat subjected to positive pressure inflation of the lungs have shown that pulmonary vascular resistance is increased by pulmonary inflation, pulmonary arterial pressure and left atrial pressure often rises, pulmonary blood flow is reduced when peak intratracheal pressures exceed 7 to 12 mm. Hg, and vascular capacity of the lung is diminished by positive pressure inflation. (*Barer, G. R., and Nusser, E.: Pulmonary Blood Flow in Cat; Effect of Positive Pressure Respiration, J. Physiol., 138: 103 (August 29) 1957.*)