seen in these conditions. (*Mitchell, J. R.: Radiology of Pulmonary Change During the Postoperative Period, Amer. J. Surg. 104: 54 (July) 1962.*)

HYPOXIA Oxygen uptake of four normal subjects was studied at several levels of exercise while breathing air and again while breathing a mixture of 11 per cent oxygen in nitrogen. Each subject took up less oxygen while breathing the low-oxygen mixture despite the accomplishment of similar work loads. Greater utilization of anaerobic metabolic sources while hypoxic was excluded as an explanation by measurement of oxygen debt after exercise. Muscular efficiency seems to be enhanced under conditions of induced arterial hypoxia. (*Cronin, R. F. P. and MacIntosh, D. J.: Effect of Induced Hypoxia on Oxygen Uptake During Muscular Exercise, Canad. J. Biochem. Physiol. 40: 717 (June) 1962.*)

PEAK FLOW RATES Good correlation exists between the one-second forced expiratory volume and the peak flow rate. The test is easily performed even by young children and provides objective evidence of disease and remission in those patients who cannot perform other tests. For example, the peak flow rate is greatly decreased in asthmatic children. (*Heaf, P. J. D., and Gillam, P. M. S.: Peak Flow Rates in Normal and Asthmatic Children, Brit. Med. J. 1: 1595 (June 9) 1962.*)

RESPIRATION Transesophageal electromyographic studies showed that active contraction of the diaphragm is the factor that limits a maximum exhalation. This mechanism prevents marked reductions in lung volume during maximum exhalation. Afferent impulses originating in lung and airway are the most probable stimuli to reflex diaphragmatic contraction. (*Agostoni, E., and Torri, G.: Diaphragm Contraction as a Limiting Factor to Maximum Expiration, J. Appl. Physiol. 17: 427 (May) 1962.*)

DEAD SPACE Changing from supine to sitting position increased anatomic dead space and physiologic dead space by corresponding amounts. Alveolar-arterial carbon dioxide gradients and alveolar dead space were unaffected by change in posture. This suggests that the change from supine to sitting caused no significant change in the number of nonperfused alveoli. Changing from air to oxygen breathing, regardless of posture, increased alveolar-arterial carbon dioxide gradients without significant alteration in the other variables. This is interpreted as diversion of blood to dependent portions of the lung, owing to vasodilating properties of oxygen on pulmonary vasculature, leaving non-dependent portions of the lung relatively underperfused. (*Larson, C. P., Jr., and Severinghaus, J. W.: Postural Variations in Dead Space and Carbon Dioxide Gradients Breathing Air and Oxygen, J. Appl. Physiol. 17: 417 (May) 1962.*)

HIGH PRESSURE OXYGEN Exposure of asphyxiated rats to 100 per cent oxygen at three atmospheres pressure without hypothermia increased survival times about 55 to 80 per cent over those rats breathing 100 per cent oxygen at atmospheric level. Oxygenation at three atmospheres pressure with hypothermia at 20° C. resulted in maximal prolongation of survival. However, this survival time was not significantly greater than that with hypothermia alone. Carbon dioxide added to the inspired oxygen under pressure gave additional protection even in the absence of hypothermia. The actions of oxygen at high pressure and hypothermia are additive rather than synergistic. (*Levy, J. V., and Richards, V.: Effect of Oxygen at High Pressure on Asphyxial Survival Time of Rats, Proc. Soc. Exp. Biol. Med. 109: 941 (Apr.) 1962.*)

TRACHEOSTOMY COMPLICATIONS Complications occurred in eight of 19 emergency tracheostomies, and in 11 of 61 elective tracheostomies, illustrating the value of the early operation. Hemorrhage at the operative site, with aspiration of blood, occurred seven times. Recurrent obstruction occurred four times. Ulcerative tracheobronchitis occurred three times, pneumothorax occurred twice, and tracheo-esophageal fistula occurred twice. Massive gastric distention due to aerophagy occurred twice. Attention is called to the sudden shift that occurs in blood gases when respiratory obstruction is relieved. Because of