

oxygen, in the range of 61.5 to 72.3 per cent. With both makes of machine, each ventilator provides different inspired oxygen levels under comparable circumstances. This type of equipment should be driven by compressed air, oxygen being added as required. (Fairley, H. B., and Britt, B. A.: *Adequacy of the Air-Mix Control in Ventilators Operated from an Oxygen Source, Canad. Med. Ass. J.* 90: 1394 (June 20) 1964.)

OBSTETRIC ANALGESIA The Central Midwives Board are considering approving the use of premixed nitrous oxide and oxygen in equal parts, stored in tanks under pressure, by midwives on their own responsibility in domiciliary deliveries rather than the presently used gas and air. The mixture will not deliver hypoxic mixtures unless cooled to minus eight degrees centigrade when the cylinder is to be warmed or inverted three times. (Gale, C. W., Tunstall, M. E., and Wilton-Davies, C. C.: *Premixed Gas and Oxygen for Midwives, Brit. Med. J.* 1: 732 (Mar. 21) 1964.)

POSTOPERATIVE HYPOXEMIA Of 32 subjects undergoing partial gastrectomy, 18 developed atelectasis. Of these, 14 were cigarette smokers and 12 had chronic bronchitis. Seven bronchitis developed broncopneumonia. All subjects had shallow, more rapid respiration postoperatively and decreased, though improving, ventilation and hypoxemia for five days. Those subjects with atelectasis were more hypoxic probably due to impaired ventilation-perfusion relationships. In the nonatelectatic cases, the hypoxemia was relieved by 30 per cent oxygen, but only partially relieved in the atelectatic cases. (Palmer, K. N. V., and Gardiner, A. J. S.: *Effect of Partial Gastrectomy on Pulmonary Physiology, Brit. Med. J.* 1: 347 (Feb. 8) 1964.)

CHEST INJURY Following chest injury arterial oxygen desaturation may be present even though the arterial carbon dioxide tension is normal. In the absence of mechanical causes, hypoxemia may be caused by alveolar hypoventilation, disturbance in ventilation-perfusion relationships and right to left shunts. If oxygen administration does not always fully

correct the hypoxemia, a considerable amount of shunting is probably present. (Whitwam, J. G., and Norman, J.: *Hypoxaemia after Crush Injury of the Chest, Brit. Med. J.* 1: 349 (Feb. 8) 1964.)

HYPOTHERMIA During accidental hypothermia, arterial oxygen tensions were low and the alveolar-arterial oxygen tension gradient increased. Due to the shift in the oxygen-hemoglobin dissociation curve with fall in temperature, arterial desaturation was not so marked. Oxygen breathing does not always raise these tensions appreciably, some subjects requiring mechanical assistance to ventilation. Probably severe hypoxia at the cellular level occurs. (McNicol, M. W., and Smith, R.: *Accidental Hypothermia, Brit. Med. J.* 1: 19 (Jan. 4) 1964.)

INCISIONAL HERNIA Studies of respiratory changes were carried out during repair of large epigastric hernias. Conventional closure was shown to interfere with respiration by reducing the intra-abdominal space for the viscera. Respiratory movements, static lung volume, and functional ventilatory capacity were reduced, thus predisposing the patients to pulmonary complications. A technique is described for closing the hernia with flaps of fascia from the rectus sheath. The wound repair is more satisfactory, since there is less tension on the tissues. The new technique, which reduces intra-abdominal space only moderately, does not cause any impairment of respiratory function. (Arner, O., Eriksson, F., and Sundblad, R.: *Epigastric Incisional Hernia, Acta Chir. Scand., Suppl.* 320, 1963.)

CARDIAC AUGMENTATION A pump-driven circulation assistor is proposed for the treatment of hemorrhagic shock. It would lower the work of the left ventricle, improve coronary perfusion, increase systemic blood pressure and flow, reduce blood viscosity, and improve tissue perfusion and oxygenation. A pump and timing device were built so that the pump stroke augments the cardiac output. When used in dogs, metabolic and physiologic functions were improved. Mortality from a standard hemorrhage declined from 70 per cent to 32 per cent. (Callaghan, P. B., Wat-