

HUMIDIFIED OXYGEN Low water temperatures in the devices used for humidifying or moistening oxygen during the course of inhalation therapy reduce the efficiency of these devices. Use of heating elements that permitted the maintenance of a water reservoir temperature sufficient to provide a supply of water vapor at or near body temperature after its passage through a standard length of large-bore tubing increased the water vapor content of the gas issuing from the heated nebulizer. The large-bore tubing is necessary in order to prevent condensation of the water on the lining of the tubing so as to avoid blocking or impeding the flow of gas to the patient. Care must be taken in constructing these devices to obtain a temperature at the entrance to the patient's airway at or slightly below body temperature. (Wells, R. E., Jr., Perera, R. D., and Kinney, J. M.: *Humidification of Oxygen During Inhalational Therapy*, *New Engl. J. Med.* 268: 644 (Mar. 21) 1963.)

HYPERBARIC OXYGENATION Case reports are presented from 26 patients suffering from *Clostridium welchii* infections and treated with hyperbaric oxygenation. The treatment was effected in a chamber with atmospheric air compressed to 3 atmospheres and continued for one and a half hours during which time the patient breathed oxygen through a mask at a flow-rate of 8-10 liters per minute. Patients received seven such treatments in three days. Surgical procedures were not undertaken before treatment and antibiotics were not used routinely. Only one of the 26 patients died from the gas-gangrene, and possibly one other as well. Three other patients died from causes not directly related to the clostridial infection. (Brummelkamp, W. H.: *Treatment of Clostridial Infections with Hyperbaric Oxygen Drenching*, *Lancet* 1: 235 (Feb. 2) 1963.)

POSTOPERATIVE HYPOXEMIA Arterial oxygen saturation determined after regaining consciousness from halothane anesthesia and while the subjects were breathing room air had a mean value of 89 per cent (range 75 to 94 per cent). Mean P_{CO_2} values were 38.24 mm. of mercury. After breathing oxygen from a mask at flows of two liters per

minute (38 per cent oxygen) the mean blood saturation was 94 per cent. No significant increase followed the raising of oxygen flow to 4 liters per minute nor did P_{CO_2} change significantly at either flow rate. Withdrawing oxygen caused a fall in percentage saturation to control values. This was at least 2 to 3 hours after the end of operation. This desaturation also occurs with cyclopropane, chloroform and ether. Most patients had only intubation doses of suxamethonium, if any relaxant was used at all. This hypoxemia appears due to disturbed ventilation perfusion relations since it is improved by oxygen breathing. (Conway, C. M., and Payne, J. P.: *Post-operative Hypoxaemia and Oxygen Therapy*, *Brit. Med. J.* 1: 845 (Mar. 30) 1963.)

GASTRIC CONTENTS In 100 children for elective surgery, a naso-gastric tube was passed shortly after the induction of anesthesia. Measurements of respiratory minute volume and gastric contents were made before operation began and near the end, while surgical stimulation was minimal. There was no significant difference in volume of gastric contents before and after operation but gastric emptying greatly improved minute ventilation. Controlled ventilation during induction was associated with a greater amount of air in the stomach, but gentle assisted respirations during anesthesia did not contribute to the accumulation of gastric air. (Smith, N. T., and Lilly, E. J.: *Changes in Ventilation in Pediatric Patients after Removal of Gastric Contents*, *J.A.M.A.* 183: 1078 (Mar. 30) 1963.)

HYPERBARIC OXYGEN CHAMBERS

Caution is urged upon hospitals contemplating installation of hyperbaric oxygenation equipment for the treatment of hypoxemia due to various medical and surgical conditions. Such a unit must be shown to be uniquely beneficial, practical in its use, and applicable to a reasonable number of patients before installation. Clinical problems to which hyperbaric oxygen therapy has been employed include carbon monoxide poisoning, anaerobic infections, radiation therapy, and cardiac surgery. Problems concerned with hyperbaric oxygen chambers are oxygen toxicity, arterial gas embolization, decompression sickness, barotitis, and finally