

waves. Hyperventilation with rapid or slow breathing caused identical ECG changes. Only "some occasional" showed lowering of the T waves and depression of the RS-T segment. (Scherf, D., Vildiz, M., and Jody, A.: *Electrocardiographic Changes During Hyperventilation Tetany*, *Am. J. Med. Sc.* 236: 369 (Sept.) 1958.)

HYPOTHERMIA Hypothermia was produced 18 times in 11 dogs. Intra-gastric cooling alone was used in 4 dogs; in the remaining 7 cooling and warming was by intra-gastric balloon and thermic blankets. With the latter method, the rate of temperature change was two to three times more rapid than with blankets alone. Studies of the gastric mucosa showed no damage. (Holt, M. H., Benvenuto, R., and Lewis, F. B.: *General Hypothermia with Intra-gastric Cooling*, *Surg., Gynec. & Obst.* 107: 251 (Aug.) 1958.)

PROLONGED HYPOTHERMIA Hypothermia (30-40 C.), maintained up to 72 hours, was employed in 4 patients with cardiac arrest occurring outside the operating room, in whom cardiac massage was instituted within 4-6 minutes and all of whom had exhibited signs of severe neurological injury. Three patients recovered completely; the fourth patient showed residual neurologic damage of moderate severity. It is believed hypothermia was effective in reducing cerebral edema and hence a beneficial effect. (Williams, G. R., and Spencer, F. C.: *The Clinical Use of Hypothermia Following Cardiac Arrest*, *Ann. Surg.* 148: 462 (Sept.) 1958.)

PROLONGED HYPOTHERMIA Lethal pneumococcal peritonitis in mice has been treated with prolonged hypothermia at 19 C. for 24 hours. This increased the percentage of survivals by 24 per cent compared to normothermic controls. There appeared to be no additional benefit in combining hypothermia with penicillin. (Wotkyns, R. S., Hirose, H., and Eiseman, B.: *Prolonged Hypothermia in Experimental Pneumococcal Peritonitis*, *Surg. Gynec. & Obst.* 107: 363 (Sept.) 1958.)

HYPOTHERMIA PLUS BYPASS The advantages of combining hypothermia and a

low flow pump oxygenator have been studied experimentally in dogs. Blood has been re-cooled prior to its return to the animal. Marked reduction in the temperature of the heart, brain, liver, and kidney is easily produced. The result is an oxygen saving due to depression of metabolism by the cooling. Metabolic acidosis is avoided. No irreversible effects of the cooling have been discovered. (Pierce, E., and others: *Reduced Metabolism by Means of Hypothermia and the Low Flow Pump Oxygenator*, *Surg. Gynec. & Obst.* 107: 339 (Sept.) 1958.)

BYPASS The use of the dispersion type bubble oxygenator and total cardiopulmonary bypass following two hours of extracorporeal circulation resulted in the survival of 14 of 15 consecutive dogs. Seven animals showed signs of temporary neurologic damage. Only a mild metabolic acidosis developed and no consistent abnormalities were seen in electrocardiograms or electroencephalograms. (Reed, W. A., and Kittle, C. F.: *Survival Rate and Metabolic Acidosis After Prolonged Extracorporeal Circulation with Total Cardiopulmonary Bypass*, *Ann. Surg.* 148: 219 (Aug.) 1958.)

CARDIOPULMONARY BYPASS Total cardiopulmonary bypass using the Lillehei-deWall heart-lung machine has been performed in 42 dogs. The periods on the machine varied from 0 to 75 minutes at flow rates up to 1500 ml. per minute. In 28 of the dogs, elective potassium arrest or ventriculotomy or both were performed. (Abrams, L. D., and others: *Total Cardiopulmonary Bypass in the Laboratory*, *Lancet* 2: 239 (Aug. 2) 1958.)

EXTRACORPOREAL CIRCULATION The Section of Anaesthetics of the Royal Society of Medicine (Great Britain) presents a superb review of the current status of intracardiac surgery. Subjects discussed include: history, types of bypass machines, techniques, general physiological considerations, central nervous system damage and electroencephalography (with illustrative examples) and anesthetic management. An abstract could not do justice to the original, which should be studied in its entirety. (*Discussion on the*