phylline improves the ventilatory status of the patient with emphysema, it causes deleterious effects on the cardiovascular system. (*Christensen, R. C., and others: Effects of Aminophylline on Coronary and Peripheral Circulation in Patients with Emphysema, J. Clin. Invest. 37: 884 (June) 1958.*)

WATER DIURESIS The role of anesthetic agents in diuresis inhibition was studied in 19 female patients. Diuresis was induced prior to preanesthetic medication by the rapid infusion of 5 per cent dextrose and water. Atropine was given without effect on the diuresis. Induction with ether, nitrous oxide or cyclopropane regularly caused abrupt and long lasting inhibition of the established diuresis. Induction with thiopental was without effect. Patients anesthetized with the latter agent continued diuresis during the addition of any one of the three inhalation agents. Water diuresis during thiopental anesthesia could be inhibited by intravenous vasopressin and subsided spontaneously when water loading was terminated. These data suggest the possible use of thiopental to avoid susceptibility to water intoxication in the surgical patient during and after operation. (*Aprahamian, A. H., and others: Effect of Anesthetic Agents on Water Diuresis, J. Clin. Invest. 37: 875 (June) 1958.*)

BARBITURATES A comparative study of the rate of penetration into the brain of thiopental, pentobarbital, barbital, and phenobarbital was made in dogs. Thiopental passed more readily into the brain than did the other three barbiturates. This was correlated with the onset of hypnotic effect and also with the difference in relative lipid solubilities between the barbiturates. (*Mark, L. C., and others: Passage of Thiobarbiturates and Their Oxygen Analogs into Brain, J. Pharmacol. & Exper. Therap. 123: 70 (May) 1958.*)

PENTOBARBITAL ANESTHESIA The effect of acetylsalicylic acid, aminopyrine, morphine, phenylbutazane and prednisone on duration of hypnosis and brain barbiturate concentrations in pentobarbital anesthesia in mice has been determined. Only aminopyrine and phenylbutazane significantly increased the brain barbiturate concentration and prolonged pentobarbital hypnosis. (*Eckhardt, E. T., Grelis, M. E., and Tabachnick, I. I. A.: Effect of Some Analgesic and Anti-inflammatory Agents on Sodium Pentobarbital Anesthesia, Proc. Soc. Exp. Biol. and Med. 98: 423 (June) 1958.*)

HYPOTHERMIA The use of hypothermia induced by a continuous flow of cold water through an intragastric balloon is described in two patients undergoing neurosurgical procedures. In one patient, the body temperature was lowered to 31.5 C. in 90 minutes. The method proved simple, easy to manage, and very effective. Rewarming can be begun more promptly than with any other method. (*Khalil, H. H.: Hypothermia By Internal Cooling in Man, Lancet 1: 1092 (May 24) 1958.*)

HYPOTHERMIA Dogs cooled as long as four hours (23–24 C.) and then rewarmed showed a prompt return of hematocrit to precooling control levels. After 8–12 hours of cooling the hematocrit and blood and plasma specific gravity continued to fall below normal levels. Prolonged blood clotting time occurred during hypothermia of 2–4 hours, and promptly returned to normal clotting time upon rewarming. However, the blood clotting time is considerably prolonged after 8–12 hours of cooling. No significant changes occurred in the prothrombin time. Rewarming after hypothermia of 2–12 hours did not result in any significant changes in electrolytes, acid-base balance, blood sugar and amino acids or lactate/pyruvate ratio. It is concluded that six hours of hypothermia and subsequent rewarming is not clinically hazardous for the danger of ventricular fibrillation. (*Fisher, B., Fedor, E. J., and Lee, S. H.: Rewarming Following Hypothermia of Two to Twelve Hours, Ann. Surg. 148: 32 (July) 1958.*)

HYPOTHERMIA IN ASPHYXIA A study of the effects of deep hypothermia on the cardiac activity of a premature human fetus showed: (1) The full-term human infant can tolerate lower temperatures than the adult, and the premature infant is even more resistant to cold. (2) Carbon dioxide has several physiological effects

which are beneficial in hypothermia: It reduces oxygen uptake and heat production, thereby aiding in cooling. It suppresses shivering, which elevates the oxygen requirements as much as 400 per cent. It is a vasodilator, particularly of the cerebral arteries, and as such may counteract the severe vasoconstriction of deep hypothermia. (3) Hypothermia protects both the life and the brain of the asphyxiated newborn human infant. There appears to be no rational basis for the use of heat as part of the treatment of asphyxia. (*Miller, J. A., and Marini, A.: Cardiac Activity in Apneic Five Hundred Eighty Gram Human Fetus, J. A. M. A. 167: 976 (June 21) 1958.*)

HYPOTHERMIA Increased tolerance of a cold dog heart to bypass and asystole produced by potassium, magnesium or neostigmine was postulated and recovery after 52 minutes was demonstrated. Increased tolerance to bypass during hypothermia was demonstrated as compared to a comparable group of normothermic dogs. (*Scaly, W., and others: Potassium, Magnesium and Neostigmine for Controlled Cardioplegia, A. M. A. Arch. of Surg. 77: 33 (July) 1958.*)

HYPOTHERMIA A marked increase in cooling time, decrease in incidence of ventricular fibrillation or ease of resuscitation occurred when fluids containing dextran, glycine, dextrose and fat emulsion in saline were administered during the cooling period in dogs. It is postulated that this effect may be due to buildup of glycogen reserves in the myocardium and reserves of phosphate bond energy. The prolongation of cooling time and rapid rewarming occur when nutrient solutions are supplied and appear not to be attributable to the glycine alone. (*Caranna, L., Telmosse, F., and Swan, H.: Effect of Intravenous Nutrient Solution on Ventricular Fibrillation in Hypothermic Dog, A. M. A. Arch. of Surg. 76: 394 (Mar.) 1958.*)

RENAL HYPOTHERMIA After experimental removal of the right kidney in dogs, the blood supply to the left kidney was occluded and that kidney was cooled. In the control group with no cooling the mortality was 100 per cent. Percentage of survival in the animals with kidneys cooled to 20–25 C. was 30 per cent, and those cooled to 10–15 C. was 80 per cent, and those cooled to 0–5 C. was 100 per cent. In the dog regional renal hypothermia protects against lethal ischemia. (*Stueber, P., and others: Regional Renal Hypothermia, Surgery 44: 77 (July) 1958.*)

MEDICAL HYPOTHERMIA In a study involving 26 critically ill patients, 13 were cooled from 40 C. or above to 35–36 C. while the control group of 13 were not cooled. There were 3 survivors and 8 improved patients in the cooled group. There were no survivors and 3 improved patients in the group that was not cooled. Neurosurgical patients seemed to benefit most from the cooling. (*Reeves, M., and Lewis, F.: Total Body Cooling in Critically Ill Febrile Patients, Surgery 44: 84 (July) 1958.*)

ATROPINE-LIKE DRUGS After graded subcutaneous doses of atropine, methanthelinium (Banthine), proantheline (Pro-Banthine), oxyphenonium (Antrenyl) and hyoscine in humans observations were made on heart rate, salivary secretion, pupil size, near point of accommodation, micturition, and palmar sweating. Small doses which depressed salivary secretion and palmar sweating did not necessarily accelerate the heart or slow micturition. Atropine and hyoscine, tertiary amines, had a greater effect than the other drugs, quaternary amines, on the iris and ciliary muscle compared with the effects on the other end organs studied as the dose of a drug was increased, the peak effect on the heart rate and salivary secretion tended to occur sooner, but the peak effect on the iris and ciliary muscle always occurred later. (*Herxheimer, A.: Comparison of Some Atropine-Like Drugs in Man, with Particular Reference to Their End Organ Specificity, Brit. J. Pharmacol. 13: 184 (June) 1958.*)

ANTIHISTAMINES The objective of an extensive series of experiments was to measure the antihistaminic, anticholinergic and local anesthetic potencies of 17 drugs in current clinical use. On the basis of the potency values obtained the drugs were compared in regard to their selectivities.