HYPOTHERMIA The dog will tolerate total cerebral ischemia for eight minutes at 37 C., for 25 minutes at 28 to 30 C., and for 60 minutes at 19 to 21 C. without evidence of permanent brain damage. The animal studies were further confirmed in two cases requiring neurosurgical intervention in man. In one instance the brain was cooled to approximately 20 C., with the body remaining at normal temperature and total cerebral occlusion being used for approximately ten minutes. The second patient was selectively cooled to a minimal level of 16 C. and circulation to the brain was completely occluded for 30 minutes. Both of these patients have recovered with no evidence of brain damage from either the brain cooling or the period of total cerebral ischemia. (Boyd, R. J., and Connolly, J. E.: The Effect of Hypothermia in Experimental Cerebral Ischemia, Geriatrics 17: 522 (Aug.) 1962.)

POSTOPERATIVE HYPOTHERMIA Reduction of body temperature may be of value for critically ill patients. Hypothermia is mild at 31 to 36 C., moderate at 28 to 33 C., deep at 17 to 27 C., and profound from 1 to 16 C. Bleeding from the gastrointestinal tract is reduced or stopped. Tachypnea is diminished, but effective coughing is impaired and tracheal suction is required. Renal function is satisfactory. Metabolism, cardiac output, cardiac rate, and blood pressure diminish. Defense mechanisms remain intact, but bacterial enzymatic processes and proliferative capacity are reduced. Hypothermia is a useful adjuvant in therapy. (Hitchcock, C. R., and others: Use of Prolonged Moderate Hypothermia in Postoperative Care, Arch. Surg. 83: 519 (Oct.) 1962.)

HYPOTHERMIA Because of the beneficial effect on the character and mortality of experimental brain injury, 21 patients with critical brain injury (thought to be incompatible with life, using standard methods of treatment) were subjected to artificial hypothermia (28 to 36 C.) for two to ten days. Nine died and 12 survived, but six of the survivors are permanent invalids with dementia. The hazards are staphylococcal pneumonitis, which occurred in eight cases and contributed to all the deaths, and gastrointestinal ulceration with bleeding and perforation, which was fatal in another instance. The results in patients with clots did not differ from those without clots. Youth was the only common factor in the successful cases. Prognosis was hopeless in the presence of large fixed pupils. About one in four of these critical cases will fare well, but it is evident that a large proportion have such gross or microscopic tearing of deep cerebral structures that in the event of survival there will be severe mental and physical handicaps. (Drake, C., and Jorg, T.: Hypothermia in the Treatment of Critical Head Injury, Canad. Med. Ass. J. 87: 887 (Oct. 27) 1962.)

CURARE AND HYPOTHERMIA Influence of lowered muscle temperature on maximal amplitude of the gastrocnemius muscle in cats was examined. Hypothermia above 23 C. had no influence; below this temperature, the maximal muscular tone shows linear reduction of about 10 per cent per degree centigrade to a temperature of 13 to 14 C., when total paralysis occurs. This course of events is reversible on rewarming. Halothane anesthesia under normothermic conditions, up to 3 volumes per cent, does not influence the reaction of muscle. Effect of d-Tubocurarine was enhanced tenfold by increasing the halothane concentration from 1.5 volumes per cent to 3 volume per cent. Lowering the muscle temperature increases and prolongs the effect of succinylcholine. Maximal amplitude decreases in direct proportion to the lowering of temperature at a rate of 5 per cent per degree centigrade. (Kucher, R.: Influence of Hypothermia on Neuromuscular Effects of Succinylcholine and d-Tubocurarine in the Cat. Der Anästhesist 11: 317 (Oct.) 1962.)

ACUTE PANCREATITIS Hypothermia is suggested for the treatment of acute hemorrhagic pancreatitis. The rationale is to reduce pancreatic activity. After producing the disease in dogs, 18 were kept normothermic, and 22 were made hypothermic (25 to 30 C.) for 12 to 24 hours. All other therapy was identical for both groups. Blood enzymes and electrolytes were similar in both groups. Con-