the expense of operation and installation of such units. (*Research Council Urges Low-Pressure Approach to High Pressure Therapy, Mod. Hosp. 100: 5 (May) 1963.*)

HYPOTHERMIA Maintenance of renal circulation results in improved maintenance of blood pressure and circulation below 22° C. in rats. When renal contribution to the maintenance of blood pressure is removed, either by hypothermia or by ligation of renal vessels, cardiac performance is impaired and blood pressure falls. Infused renin or angiotensin II maintains blood pressure during deep hypothermia more effectively than epinephrine or norepinephrine. (*Hunter, J., and Hurley, D. A.: Influence of Respiratory and Renal Factors on Cardiac Activity During Deep Hypothermia, Canad. J. Biochem. 41: 551 (Mar.) 1963.*)

HYPOTHERMIA In normothermic dogs, thoracotomy decreased renal circulation but systemic circulation remained unchanged. Extracorporeal circulation was followed by decreased systemic blood pressure, but renal circulation increased. In hypothermia with extracorporeal circulation, systemic blood pressure decreased but renal vascular resistance increased five-fold. (*Albrecht, K. F.: Renal Hemodynamics in Extracorporeal Circulation Under Normothermic and Hypothermic Conditions of 10 Degrees Centigrade, Bruns Beitr. Klin. Chir. 206: 145 (Mar.) 1963.*)

HYPOTHERMIA Ventricular fibrillation during deep hypothermia can be overcome in dogs by controlling respiratory chemical balance. Clamping the aorta and vena cava causes cardiac standstill before ventricular conductivity is lost, which greatly facilitates the spontaneous resumption of ventricular contractions after deep hypothermia. Using this method of deep hypothermia alone in a series of dogs it has been possible to perform intracardiac surgery for intervals up to 75 minutes without evidence of neurologic damage. Such a method, if applicable to humans, should have many advantages over extracorporeal bypass techniques. (*Comar, K. D.: Open-Heart Surgery in Hypothermic Dogs Without an Extracorporeal System, Western J. Surg. 71: 55 (Mar.–Apr.) 1963.*)

HYPOTHERMIA Using the technique of separate perfusion of the systemic and pulmonary circulations, by means of two extracorporeal pumps and separate heat exchangers, the hemodynamic effects of changing the temperature of the blood in the pulmonary circuit selectively was investigated while the temperature of the blood perfusing the systemic circulation was kept constant at body temperature. A rise in pulmonary artery pressure was due to changes in the pulmonary vascular resistance caused by the direct effect of cold on the pulmonary vasculature; a drop in systemic blood pressure was due to a reflex decrease in total systemic vascular resistance caused by arteriolar dilatation. The drop in systemic pressure could be abolished by sectioning both vagi and injecting dihydroergocarnine into the systemic circulation. It was not affected by the administration of atropine. (*Goetz, R. H., and others: Hemodynamic Effects of Selective Pulmonary Hypothermia, J. Thor. Cardiov. Surg. 45: 574 (May) 1963.*)

HYPOTHERMIA Venous oxygen saturation has been considered a critical index of the efficiency of extracorporeal circuits. Oxygen consumption decreases under hypothermia but still continues, as evidence by reduction in venous oxygen saturation following cardiac arrest. Oxygen saturations of 45 per cent developed after 45 minutes of arrest at 10° C. Metabolic acidosis will develop if oxygenation is insufficient for the tissue needs. In several patients, vasoconstriction developed with marked increase in perfusion pressures and decrease in flow rates. Cooling should be started with blood at room temperature using as large blood flows as compatible with venous return. The blood pressure is maintained well above the "critical capillary opening pressure" allowing the acid metabolites to be washed out and buffered at the onset of bypass. (*DeGasperis, A., and others: Profound Hypothermia and Cardiocirculatory Arrest For Intracardiac Surgery, J. Thor. Cardiov. Surg. 45: 353 (Mar.) 1963.*)

HYPOTHERMIA Combined internal and external heat exchange for the induction and rewarming of profoundly hypothermic animals greatly reduced the severity and duration of