transfusion of donor-blood during perfusion. Freshly collected donor-blood is preferred for perfusion. The patient perfused for 2½ hours developed abnormal bleeding due to fibrinogen destruction, but was successfully treated by the infusion of human fibrinogen. Plasma hemoglobin after perfusions of less than 1 hour was 50 mg. per cent or less. (*Rothnie, N. G., and others: Changes in Blood-Coagulation Due to Perfusion for Cardiac Surgery, Brit. J. Surg. 48: 272 (Nov.) 1960.*)

SHOCK Several factors which may contribute to circulatory collapse following cardiovascular surgery are blood loss, airway obstruction, partially relieved valvular obstruction, hemopericardium, ball valve thrombosis, dehydration, cardiac arrhythmias, reactivation of rheumatic carditis, myocardial infarction, and infection. Adequate management is dependent entirely on the correct diagnosis of the cause. (*Redo, S. F., and Arditi, L. I.: Causes and Treatment of Arterial Hypotension, Circulatory Collapse and Shock Following Cardiovascular Operations, Surg. Clin. N. Amer. 41: 309 (Apr.) 1961.*)

HEMORRHAGIC SHOCK Hepatic metabolism and hemodynamics have been studied in a series of unanesthetized dogs whose major hepatic vessels had been previously catheterized. Two types of hemorrhage were studied. Blood was suddenly or acutely withdrawn in one group of dogs in amounts sufficient to lower blood pressure to 60 to 40 mm. of mercury. These findings were compared with those from another group of dogs following slow, protracted hemorrhage. After hemorrhage there was a progressively increasing hepatic glucose output, hepatic potassium output, and hepatic sodium uptake, and an increased hepatic venous resistance. The latter was intensified after retransfusion of the withdrawn blood. In previous studies, the authors had found that comparable conditions were produced by the infusion of epinephrine to unanesthetized dogs and also that the adrenal gland output of catechol amines was increased by hemorrhage. This suggests that many of the hepatic, metabolic, and hemodynamic effects that follow hemorrhage are mediated by epinephrine. (*Shoemaker, W. C., Walker, W. F., and Turk, L. N.: Role of Liver in Development of Hemorrhagic Shock, Surg. Gynec. & Obstet. 111: 327 (Mar.) 1961.*)

TRANSFUSION THERAPY If a transfusion reaction is suspected 20 ml. of venous blood should be drawn, and a specimen of urine collected. The blood should be utilized in the following tests: (1) complete blood grouping and cross-matching using pretransfusion and post-transfusion samples from the recipient and the donor blood from the container; (2) direct Coomb's test on the red cells of the recipient; (3) testing of the recipient serum against the panel of known group 0 cells to determine the presence and specificity of any antibody; (4) estimation of free hemoglobin and serum bilirubin in the post-transfusion sample from the recipient and the recipient's urine; (5) Gram stain and culture from the original container if available. (*Grove-Rasmussen, M., Lesses, M. F., and Anstall, H. B.: Transfusion Therapy (concluded), New Engl. J. Med. 264: 188 (May 25) 1961.*)

HYPOTHERMIA Ventricular fibrillation occurring during the combined use of extracorporeal circulation and hypothermia in dogs is easily reversible when controlled by a pump oxygenator. Its occurrence does not necessarily indicate anoxemia or myocardial damage. Recovery of normal ventricular function is not altered by cold combined with 10 to 60 minutes of myocardial ischemia at temperatures of 7 C. Studies reveal that effective heart action ceases at 25 C. Others reveal that potassium-magnesium-prostigmine cardioplegia appears to be a safe technique. (*Sealy, W. C., and others: Observations on Heart Action during Hypothermia Induced and Controlled by Pump Oxygenator, Ann. Surg. 153: 597 (May) 1961.*)

HYPOTHERMIA Observations on the distribution of infused potassium in dogs in moderate hypothermia (mean temperature 27.9 C.) indicate that there is probably no remarkable alteration in the exchange of potassium in the hypothermic state. Probably there is a net loss of potassium from the cells as hypothermia progresses. Although the se-