the gravimetric method. (Dilute glucose solutions are used instead of saline to moisten laparotomy pads.) (*Le Veen, V. H., and Rubricius, J. L.: Continuous, Automatic, Electronic Determinations of Operative Blood Loss, Surg. Gynec., & Obst. 106: 368 (Mar.) 1958.*)

BLOOD TRANSFUSION Labelled plasma protein molecules were obtained and used in the study of protein metabolism in dogs. It was found that after a blood transfusion renewal of the proteins of plasma, liver, kidneys, hemopoietic organs and brain is accelerated. The proteins of the transfused plasma leave the vascular bed faster in the case of posthemorrhagic transfusion than in the presence of plethora. By intravenous administration of labelled plasma it was shown than transfusion increases the permeability of the vascular wall. Blood transfusion substantially increases the rate of absorption of labelled proteins from the peritoneal cavity (after intraperitoneal introduction of labelled plasma). (*Messinera, N. A.: Use of Tracer Elements in Study of Processes Following Blood Transfusion, Trud. Pervoi Zakavk. Konferentsii po Med. Radiol. p. 197, 1956.*)

BLOOD TRANSFUSION Although the transfusion of blood may prove life-saving to the surgical patient, its casual or indiscriminate use should be avoided. The mortality rate attributable to transfusion is about one per five thousand units. Major complications include bacterial contamination, transmission of disease, hemolytic reactions, allergenic reactions, circulatory overload, and hemorrhagic disorders. (*Dripps, R. D.: Physician's Responsibilities Toward Blood Transfusion, South. M. J. 51: 141 (Feb.) 1598.*)

BLOOD TRANSFUSION Blood transfusions prepared without buffer (but using ion exchanging adsorbents) have a higher replacement value than citrated blood. In addition they have a beneficial influence on hemopoiesis even in those cases in which repeated transfusions of citrated blood do not produce the desired therapeutic effect. (*Abdullaev, G. M.: Experience in Clinical Use of Blood Transfusions Prepared Without Buffer But with Use of Ion Exchangers, Azerbaidzh. Med. Zh. 9: 64, 1956.*)

TRANSFUSION The great hazards of blood transfusions lie in their excess or inadequate use; in their being used in lieu of proper diet; in their being used to support a patient who presents a clear-cut indication for surgical intervention to arrest bleeding. The problems of metabolic hazards such as those of citrate intoxication and of potassium or ammonium retention assume real significance in the face of a failing liver or kidney. The initiation of additional clotting problems, especially those associated with activation of fibrinolysins, must be constantly borne in mind. (*Guynn, V. L., and Reynolds, J. T.: Use and Abuse of Blood Transfusions, S. Clin. North America 38: 19 (Feb.) 1958.*) Editor's note: The authors recommend that a house officer be assigned to manage blood replacement in the operating room. Since the anesthesiologist knows more about the patient than anyone else, it would seem logical for the house officer to be supervised by the anesthesiologist.)

CITRATE IN TRANSFUSION Overloading and failure of the dog heart during rapid intravenous transfusion is not a function of transfusion *per se*, but of the amount of citrate simultaneously given. Blood without citrate can be safely transfused at rates many times greater than can citrated blood, not only intravenously but also intra-arterially. The advantage of intra-arterial transfusion in the treatment of shock and hemorrhage lies only in the increased rate of citrate filtration into the interstitial fluid compared with the rate in intravenous infusion. The effect of citrate during transfusion can be safely counteracted by the simultaneous intravenous administration of calcium and procaine. (*Firt, P., and Hejhal, L.: Treatment of Severe Haemorrhage, Lancet 2: 1132 (Dec. 7) 1957.*)

PLASTIC BLOOD BAGS Plastic bags manufactured for the purpose of storing and transfusing blood were in no respect superior to conventional glass bottles.

Certain minor advantages such as freedom from the danger of air embolus at the time of transfusion was abolished. The post-transfusion survival of red cells was not improved by storage in plastic bags. (*Dudley, H. A. F., and others: Plastic Bags for Storing and Transfusing Blood, Lancet 1: 294 (Feb. 8) 1958.*)

DEXTRAN It has been found that extracts and homogenates of spleen are capable of splitting dextran; this proves the possibility of enzymatic splitting of dextran in the animal body. Prepared protein fractions from liver, kidneys, lung, brain, and muscle possessed also enzymatic activity against dextran, but were slightly different from each other. The most active preparations are obtained from spleen and liver, then from kidneys, lung, and muscle. The enzyme is absent from blood. Chromatographic examination showed that the only product of dextran breakdown is glucose. The obtained breakdown of dextran with production of glucose indicates that the precipitated protein fraction is capable of disrupting the 1:6-glucoside bond of the dextran molecule. (*Rozenfeld, E. L., and Lukomskaya, I. S.: Splitting of 1,6-Bonds of Dextran by Animal Tissue, Biokhimiia 21: 412 1956.*)

POLYCYTHEMIA An increase in hematocrit reading from 40 to 60 per cent was achieved by repeated transfusions in a volunteer. Minute volume and oxygen consumption during exercise decreased when air and 14 per cent oxygen was being breathed, but not for 100 per cent oxygen breathing. The classical concepts of carotid and aortic chemoreceptor activation are not adequate to explain this ventilatory effect of polycythemia. (*Hornbein, T. F., and Roos, A.: Effect of Polycythemia on Respiration, J. Appl. Physiol. 12: 86 (Jan.) 1958.*)

IRREVERSIBLE SHOCK Recent experimental work related to the importance of the liver in shock is summarized. The liver is not of great importance in the early phases of hypovolemic shock but gains in significance with diminution of oxygen supply to the tissues. The liver does not share in the protective reflexes of the body and the anoxia that results leads to significant metabolic alterations. Experimental work suggests that death from shock can be prevented by increasing the circulation of oxygenated blood through the liver. (*Erskine, J. M.: Relation of Liver to Shock, International Abstracts of Surgery (S. G. & O.) 106: 207 (Mar.) 1958.*)

VENTRICULAR FIBRILLATION Many factors which may and probably do play a part in the production of ventricular fibrillation during hypothermia are discussed. Prolongation of the refractory period and differences in the refractory period in various parts of the ventricular musculature due to temperature gradients in the muscle set the stage for ventricular fibrillation. Other causative factors may include: Changes in blood *p*H, myocardial calcium-potassium imbalance, mechanical stimuli, overactivity of cardiac sympathetic nerves, increased amounts of catechol amines, insufficient coronary flow, and anesthetic agents and other drugs. (*Badeer, H.: Ventricular Fibrillation in Hypothermia. A Review of Factors Favoring Fibrillation in Hypothermia With and Without Cardiac Surgery, J. Thoracic Surg. 35: 265 (Feb.) 1958.*)

HEART BLOCK The acute effects of heart block on the cardiac output and systemic and pulmonary blood pressure of the dog have been investigated. The left atrial pressure increased promptly, but returned to normal within an hour. There was a prompt and sustained fall in cardiac output, heart rate and peripheral blood pressure. (*Mowlem, A., and Campbell, G. S.: Acute Effects of Complete Heart Block on Pulmonary Circulation, Surg. Gynec. & Obst. 106: 333 (Mar.) 1958.*)

REOPERATION AFTER CARDIAC ARREST Between 1949 and 1956, 28 patients had 42 operations after successful cardiac resuscitation. Death occurred in only one patient of this series. The anesthetic agents used or the method utilized appeared to have little bearing on the outcome of the operation. Skill in management appeared to be the factor of paramount importance. (*Howland, W. S., and*