shows no abnormality in erythropoiesis. The erythroblast population of the marrow is maintained. Although the plasma iron turnover is reduced, it is significantly higher than in the nephrectomized group and Fe^{59} incorporation into red cells is of the same magnitude as in the controlled group. In one bilaterally nephrectomized dog maintenance of marrow erythroblasts was observed after injection of erythropoietic factor. These data indicate that the cessation of erythropoiesis after nephrectomy cannot be accounted for by urea intoxication and that the kidney is probably the source of an erythropoietic factor. (*Naets, J. P.: The Role of the Kidney in Erythropoiesis, J. Clin. Invest. 39: 102 (Jan.) 1960.*)

PULMONARY CIRCULATION The effect of alveolar and blood carbon dioxide tension changes on the pulmonary vascular dynamics was measured in 12 dogs using an isolated lung lobe which was mechanically ventilated and perfused. Corollary observations were made for alveolar and blood oxygen tension changes. Increase in alveolar and pulmonary venous carbon dioxide tension, whereby the P_{CO_2} gradient between pulmonary arterial and pulmonary venous blood was lowered, resulted in a local elevation of pulmonary vascular resistance, probably from pulmonary arteriolar constriction. No significant hemodynamic variation occurred with high or low carbon dioxide tensions in the pulmonary artery, vein or alveoli of the explored lung segment as long as the pulmonary arteriovenous gradient for P_{CO_2} was maintained. Decreases in alveolar and pulmonary venous oxygen tension, whereby the oxygen tension gradient between pulmonary arterial and venous blood was lowered, resulted in local elevation of pulmonary vascular resistance. Perfuson of the isolated lobe with hypoxic blood produced no change in local pulmonary vascular resistance. It is postulated that a local homeostatic mechanism exists, probably similar to the one described for oxygen, which can divert blood from poorly ventilated alveoli that retain carbon dioxide to adequately ventilated segments of the lung. (*Manfredi, F. and Sieker, H. O.: The Effect of Carbon Dioxide on the Pulmonary Circulation, J. Clin. Invest. 39: 295 (Feb.) 1960.*)

PULMONARY EMBOLUS Pulmonary embolism may result in three types of disturbance in gas-exchange. One is the development of arterial oxygen unsaturation. A second abnormality is the development of hyperventilation. Hyperventilation serves the purpose of assisting normal arterialization of pumonary capillary blood. The exact mechanisms subserving hyperventilation are not known. The third abnormality is the development of significant differences between the carbon dioxide tension of arterial blood and end-tidal air. This is produced by dilution of alveolar air by the newly formed dead space. (*Robin, E. D., and others: Alveolar Gas Exchange in Clinical Pulmonary Embolism, N. E. J. Med. 262: 283 (Feb. 11) 1960.*)

CENTRAL BLOOD VOLUME The effect on central blood volume of ten minutes of moderately heavy leg exercise in the supine position was studied in ten normal subjects. Central blood volume was calculated from arterial dye-dilution curves following superior venacaval or right atrial injection. There was an increase of 141 to 745 ml. in eight subjects with an average for the entire group of 284 ml. During the 20 minutes of recovery the central blood volume declined in all ten subjects by an average of 375 ml. with a range of 127 to 782 ml. The optimal cardiovascular response to exercise is characterized by an augmentation of central blood volume accompanying an elevation of cardiac output commensurate with the increased peripheral oxygen requirements. The augmentation of pulmonary diffusing capacity during exertion is accompanied by an elevation of the volume of blood within the capillary bed. This and other studies would tend to support the view that a redistribution of circulating blood volume occurs during muscular exercise. (*Braunwald, E., Kelly, E. R., and Bullock, F. A.: The Effects of Exercise on Central Blood Volume in Man, J. Clin. Invest. 39: 413 (Feb.)* 1960.)

BLOOD COAGULATION The phospholipids of human platelets have been identified and measured utilizing a chromatographic technique. Platelet phospholipids are very similar to the phospholipids of human red cells.

Only one of these, phosphatidyl serine, which is present in both platelet and red cells but not in plasma, is able to substitute for the whole platelet lipid extract *in vitro* coagulation systems. The coagulant activity of phosphatidyl serine is enhanced by the presence of lecithin. Phosphatidyl ethanolamine, inactive alone, displays some coagulation activity when combined with lecithin and a lesser activity when combined with sphingomyelin. The coagulant activity of the complete platelet lipid extract can be reproduced by employing only the amounts of phosphatidyl serine and lecithin contained in the whole lipid extract. (*Troup, S. B., and others: Thromboplastic Factors in Platelets and Red Blood Cells: Observations on Their Chemical Nature and Function in "In Vitro" Coagulation, J. Clin. Invest. 39: 342 (Feb.) 1960.*)

THROMBOLYSIS Determination of the release of radioactivity from isotopically-labeled human plasma clots immersed in unaltered plasma is a sensitive measure of plasma thrombolytic activity. Using the isotopic clot assay, thrombolytic activity was determined in plasma from healthy adults, adults following stress and following the administration of drugs and from individuals with disease. The results indicate that plasma from normal adults contains a plasminogen activator capable of lysing human plasma clots under conditions similar to those seen *in vivo*. The quantity of this material varies in response to stress, drug administration and disease. (*Sawyer, W. D., and others: Studies on the Thrombolytic Activity of Human Plasma, J. Clin. Invest. 39: 426 (Feb.) 1960.*)

FIBRIN Fibrinogen concentration of adequately heparinized blood is unchanged by severe degrees of agitation for periods approximating surgical cardiopulmonary bypass times. The amorphous material deposited in the extracorporeal circuit is not fibrin removed from heparinized blood by mechanical trauma. The clot-like material occasionally seen on filter screens during experimental extracorporeal circulation is made up chiefly of fragmented red blood cells. (*Gadboys, H. L., and others: The Effect of Mechanical Trauma on Fibrinogen in Heparinized Blood, Ann. Surg. 151: 399 (March) 1960.*)

PAIN Analgesia in humans increases phagocytic activity of leucocytes during severe pain and decreases it in dull pain. These changes are mediated via the influence of the central nervous system. (*Pelts, D. G.: Influence of Pain on Basic Immuno-Reaction. IV. Influence of Pain and of Analgesia on Phagocytosis in Humans, Zh. Mikrob. Epid. i Immunobiol. 10: 70, 1958.*)

CEREBRAL ISCHEMIA Total arrest of cerebral circulation in 55 dogs revealed that all animals subject to periods of cerebral ischemia up to ten minutes recovered completely. Certain transient neurological damage was noted in dogs subjected to a ten-minute period of cerebral anoxia. All dogs died in the immediate postoperative period without awakening after a 14-minute period of circulatory arrest. A greater tolerance to cerebral hypoxia than had previously been reported was accomplished by this method for two reasons: (1) The heart was very well oxygenated during the period of arrest of cerebral blood flow; and (2) A high venous pressure in the brain was prevented by allowing a small venous return through the azygos vein during the period of anoxia. (*Brockman, S. K., and Jude, J. R.: The Tolerance of Dog Brain to Total Arrest of Circulation, Bull. Johns Hopkins Hospital 106: 74 (Feb.) 1960.*)

VENTRICULAR FIBRILLATION Ventricular tachycardia and fibrillation were terminated by externally applied electric countershock more than 532 times in eight patients; five having survived for one month to two and a half years. Prevention of recurrent ventricular tachycardia and fibrillation in patients with complete heart block remains an unsolved problem. Drugs are largely ineffective; indeed, quinidine and procaine amide are contraindicated. External electric cardiac stimulation at rates above the basic idioventricular rate has been effective in preventing these recurrent ventricular arrhythmias, but long-term stimulation is difficult. (*Zoll, P. M., Linethal, A. J., and Zarsky, L. R.*