to a heart-lung machine to measure oxygen tension and regulate the mixture of air oxygen and carbon dioxide to which the blood in the machine was exposed. The polarograph measures oxygen tension, which provides a better estimate of high oxygen values than does the measurement of oxygen content or of oxygen saturation. (*Ito, Iwao, Kolff, W. J., and Effler, D. B.: Prevention of Overoxygenation During Treatment with Heart-Lung Machine in Cardiac Operations, Cleveland Clin. Quart. 25: 9 (Jan.) 1958.*)

BLOOD OXYGENATION IN ANEMIA Patients with sickle cell anemia show a reduced arterial oxygen saturation, low arterial oxygen tension, increased alveolar-arterial oxygen tension gradients and low arterial carbon dioxide tensions. Breathing 16.5 per cent oxygen reduced the increased alveolar-arterial oxygen tension gradients in these patients to normal. The increased alveolar-arterial oxygen tension gradients and an abnormal oxyhemoglobin dissociation curve cause the low arterial oxygen saturation. (*Fowler, N. O., Smith, O., and Greenfield, J. D.: Arterial Blood Oxygenation in Sickle Cell Anemia, Am. J. M. Sc. 234: 449 (Oct.) 1957.*)

FIBRINOLYSIS The fibrinolytic activity of plasma from 110 thoracic surgery patients and 40 general surgery patients was investigated before, during, and after surgery. A slight increase in postoperative lysis was noted with the general surgery patients, while a significant increase was found in the thoracic surgery patients. (*Lincoln, A. F., Moorman, J. A., and Schultz, R. L.: Fibrinolysis Following Thoracic Surgery, Surg., Gynec. & Obst. 105: 541 (Nov.) 1957.*)

CARDIAC OUTPUT The direction of cardiac output change with varying conditions can be gauged accurately in individual subjects from changes in pulse pressure. (*Brotmacher, L.: Evaluation of Derivation of Cardiac Output from Blood Pressure Measurements, Circulation Res. 5: 589 (Nov.) 1957.*)

BALLISTO-CARDIOGRAPHY Progressive deterioration of the ballistocardiogram of the anesthetized dog reflects anesthetic induced cardiocirculatory depression resulting in extra-thoracic blood pooling plus decreased venous return, cardiac output and arterial pressure. The improvement in the b.c.g. when abdominal compression is applied suggests that this procedure improves circulatory function by diverting splanchnic bed pooling into general circulation enhancing venous return and cardiac output. (*Scarborough, W. R.: Some Circulatory Effects of M. S. Barbiturate Anesthesia, Artificial Respiration and Abdominal Compression Based on B.C.G. Observations in Dogs, Am. Heart J. 54: 651 (Nov.) 1957.*)

VASCULAR REFLEXES When the legs of a recumbent subject are passively raised, the bloodflow in the forearms increases owing to reflex dilatation of skeletal muscle vessels. This dilatation is probably brought about by release of vasoconstrictor tone. Receptors concerned in the reflex dilatation lie in a low pressure area of the intrathoracic vascular bed. (*Roddie, R. C., Shepherd, J. T., and Whelan, R. F.: Reflex Changes in Vasoconstrictor Tone in Human Skeletal Muscle in Response to Stimulation of Receptors in Low-pressure Area of Intrathoracic Vascular Bed, J. Physiol. 139: 369 (Dec. 31) 1957.*)

VASOMOTION Utilizing cutaneous nerve blocks and blood flow measurements, it is shown that blood flow in the skin of the human forearm is regulated mainly by a vasodilator mechanism and not, as in the skin of the hands and feet, mainly by the release of vasoconstrictor tone. (*Edholm, O. G., Fox, R. H., and Macpherson, R. K.: Vasomotor Control of Cutaneous Blood Vessels in Human Forearm, J. Physiol. 139: 455 (Dec. 31) 1957.*)

CAROTID REFLEX Compression of one or both common carotid arteries in man caused tachycardia, stimulation of respiration and an increase in brachial artery pressure. Experimental evidence shows that this pressor response is probably not due to increased vascular resistance in the limbs. Conjecture points either to increased cardiac output or increased peripheral resistance in other vascular beds as a cause of the pressor reaction. (*Roddie,*

I. C., and Shepherd, J. T.: Effects of Carotid Artery Compression in Man with Special Reference to Changes in Vascular Resistance in Limbs, J. Physiol. 139: 377 (Dec. 31) 1957.)

PULMONARY BLOOD VOLUME By volume measurements of the blood in the pulmonary and systemic circulation it was determined that the average pulmonary and left heart blood volume was 10.3 ml./kg. ± 1.9 S.D. In acute right heart failure this was reduced to 5.3 ml./kg. ± 1.0 S.D. This is a reduction of 48 per cent. Acute left heart failure increased the volume to 17.5 ml./kg. ± 2.8 S.D., a 70 per cent increase. (*Lindsey, A. W., and others: Pulmonary Blood Volume of Dog and Its Changes in Acute Heart Failure, Am. J. Physiol. 190: 45 (July) 1957.*)

FIXED COUPLING Strong central sympathetic nervous system stimulation produced by intracisternal injection of potassium phosphate causes increase in blood pressure, pulse rate and cardiac arrhythmias. The predominant arrhythmia is a normal sinus beat alternating with an abnormal ventricular beat. This fixed coupling or bigeminy is similar to the Wolff-Parkinson-White syndrome, except in the latter the two impulses are dependent on the auricular impulse. (*Walker, S. M.: Fixed Coupling and Short P-R Interval Induced in Dog by Stimulation of Sympathetic Nervous System, Am. J. Physiol. 190: 41 (July) 1957.*)

CARDIAC ARREST Common causes of cardiac arrest, the effects of which may be reversed (and the patient successfully resuscitated), are: (1) deep anesthesia, (2) obstructed airway, and (3) neurologic reflex mechanisms. Major complicating causes, the effects of which may be irreversible (and lead to failure of resuscitative measures), are: (1) aspiration of vomitus, (2) decreased respiratory function from advanced pulmonary disease, (3) impaired cardiovascular function from disease and trauma, and (4) diminished circulating blood volume from overwhelming shock or massive hemorrhage. (*Cole, S. L., and Corday, E.: Clinical Factors Affecting Cardiac Resuscitation, West. J. Surg. 65: 351 (Nov.–Dec.) 1957.*)

DEXTRAN PROLONGS BLEEDING TIME In a study concerning the effect of dextran on bleeding time, 257 normal adult humans were infused with 1,000 ml. of 6 per cent dextran solution. Three post-infusion abnormalities were recorded (spontaneous epistaxis, excessive bleeding from minor razor nicks and spontaneous hematoma). No adverse symptoms were noted in a control group who received either albumin or povidone (polyvinylpyrrolidone). In 42 per cent of subjects the dextran infusion measurably prolonged the bleeding time; in 8 per cent of subjects, bleeding time after infusion exceeded 30 minutes. There was a direct relationship between the molecular weight of the dextran infused (5 preparations were tested) and the incidence of prolongation of bleeding time. The maximum incidence did not occur immediately after the infusion, but rather three to nine hours later. The effect cannot be explained on the basis of simple increase in circulating blood volume, thrombocytopenia or fibrinogenopenia; rather, the phenomenon appears to be due to interference with platelet activity. The use of large infusions of dextran carries a risk of serious failure of the hemostatic mechanism. (*Langdell, R. D., and others: Dextran and Prolonged Bleeding Time, J. A. M. A. 166: 346 (Jan. 25) 1958.*)

HEPARINEMIA TESTS Concentrated aqueous heparin given intramuscularly or hypodermically (100 mg. every 8 hours) prolonged the Lee-White clotting time to therapeutic levels in every patient. The elevated clotting time occasionally persisted for more than 17 hours after heparin was stopped. The partial thromboplastin time was found to be a poor indicator of heparinemia. The thrombin time of platelet-poor plasma proved a sensitive indicator of heparinemia. (*Rapaport, S. I., and Ames, S. B.: Clotting Factor Assays on Plasma from Patients Receiving Intramuscular or Subcutaneous Heparin, Am. J. M. Sc. 234: 678 (Dec.) 1957.*)

SATIATED BLOOD At the height of digestion the blood acquires some special biological characteristics. Such "satiated" blood is characterized by a lower concentration of hydrogen ions, a larger alkaline reserve and a high sugar and chloride con-