and (5) ease of operation. (*Cordell, R. A., and Spencer, M. P.: Electromagnetic Blood Flow Measurement in Extracorporeal Circuits, Ann. Surg. 151: 71 (Jan.) 1960.*)

EXTRACORPOREAL CIRCULATION Significant depression of kidney function in the dog, as measured by renal plasma flow, glomerular filtration rate, and electrolyte excretion, occurs during extracorporeal circulation even at high flow rates. There was a more severe depression at low flow rates than at high flow rates. These existing rates of flow or arterial pressure affect renal function during extracorporeal circulation. The prior flow rates, however, do not influence it significantly except when the flow rate enhances an already existing susceptibility to renal damage such as from hemolysis. (*Senning, A., and others: Renal Function During Extracorporeal Circulation at High and Low Flow Rates, Ann. Surg. 151: 63 (Jan.) 1960.*)

EXTRACORPOREAL CIRCULATION The Clark bubble pump-oxygenator was used for fifty patients during operations for correction of cardiac defects. Blood volume studies were carried out, in addition to the usual observations. In the post-perfusion period, a salutory effect on arterial and venous pressures was noted when calcium gluconate was given to those patients who had received a large amount of citrated blood. Five hundred mg. of calcium gluconate were given for each 500 cc. of transfused blood. (*Kaplan, S., and others: Blood Volume During and After Total Extracorporeal Circulation, A. M. A. Archives of Surgery 80: 39 (Jan.) 1960.*)

HEMOLYSIS FROM PUMPS To test in vitro the hemolytic properties of pumps used in extracorporeal circulation, a system was made of polyvinyl chloride tubing. While the plastic tubing, siliconized glassware, junctures, and construction of the system all contribute to the damage to the erythrocytes, pumps caused the most trauma. The Dale-Schuster pumps, with semilunar valves, cause less hemolysis. Removal of free hemoglobin as it accumulates appears to be important in the clinical application of long-term perfusion. This can be accomplished by exchange transfusions. (*Cahill, J. J., and Kolff, W. J.: Hemolysis Caused by Pumps in Extracorporeal Circulation (in vitro evaluation of pumps), J. Appl. Physiol. 14: 1039 (Nov.) 1960.*)

HYPOTHERMIA Extracorporeal circulation and hypothermia were carried out by a pump oxygen-heat-exchanger device in 14 healthy mongrel dogs anesthetized with intravenous sodium pentobarbital. After quinidine hydrochloride perfusion and stopping the pump, circulatory standstill was produced. It was found that periods of 60 minutes of complete circulatory standstill were tolerated in 10 dogs at temperatures of 10 degrees C. and lower. (*Sealy, W. C., and others: Tolerance of the Profoundly Hypothermic Dog to Complete Circulating Standstill, Proc. Soc. Exp. Biol. & Med. 102: 691 (Dec.) 1959.*)

HYPOTHERMIA Hypothermia is recommended during shunt operations for correction of portal hypertension and esophageal varices. Protection of the liver is provided by the hypothermia. Body temperature of 30 degrees to 32 degrees C. is recommended. Advantages are: reduced metabolism of liver, less anesthesia is required, better oxygenation is provided, and blood loss may be lessened. It was thought that the 12 patients for whom this technique was used had a more satisfactory postoperative course than others. (*Postlethwait, R. W., and others: Portacaval Shunts, A. M. A. Archives of Surgery 80: 133 (Jan.) 1960.*)

BLOOD GASES AND EEG Sixteen patients with varying degrees of respiratory failure were found as a class to show better correlation between electroencephalographic dysrhythmias and clinical state than between electroencephalographic dysrhythmias and partial pressure of oxygen or carbon dioxide or carbon dioxide content in blood. Clinical signs were also a poor index of blood gas variations in individual cases. In general electroencephalographic frequencies slowed and voltage increased as blood gas values departed from normal, but individual cases showed no correlation. Inhalation of oxygen produced no electroencephalographic improvement. Changes in *p*H had no discernible