tracheal Suction, and Oxygen Insufflation, Alone and in Combination, Upon Arterial Oxygen Saturation in Anesthetized Patients, J. of Lab. & Clin. Med. 53: 680 (May) 1959.)

CARDIAC CATHETERIZATION One hundred years ago, J. B. A. Chauveau, then Professor of Physiology at the School of Veterinary Medicine in Lyon (France), published the result of investigations on heart catheterization in horses. The slow rate of the heart allowed easy graphic recording of the events. Two catheters, made by himself, were introduced through the vessels of the neck, one into the left ventricle by way of the carotid artery, the other one into the right ventricle by way of the jugular vein. Calibrations gave an approximate idea of the values of pressures during the cardiac cycle. Chauveau also gave the interpretation of the sounds of the heart. *(Ruckebusch, Y.: In Connection with Centenary: J. B. A. Chauveau and Intracardiac Hemodynamics, Presse méd. 67: 1167 (June) 1959.)*

EXTRACORPOREAL CIRCULATION A heart-lung machine able to deliver blood 98–100 per cent saturated with oxygen at a rate of 6 liters per minute is described. The oxygenator is made of a siliconized nylon membrane which braces a revolving drum. Oxygen is vaporized within the drum with an aerosol composed of a phosphate buffer solution at a *p*H of 7.4. The blood circulates over the external surface of the drum. The oxygen dissolved in the buffer solution passes through the micropores of the siliconized membrane into the blood. None of the buffer solution is able to diffuse into the blood. The pump maintains a pulsatile type of flow during the period of extracorporeal circulation. The membrane is disposable. The other parts of the apparatus are sterilized with ethylene oxide. *(Thomas, J. A.: Heart-Lung Machine with Artificial Pulmonary Membrane, Compt. rend. Acad. Sc. 248: 291 (Jan.) 1959.)*

CARDIAC ARREST Two cases of acute cardiac arrest are reported in humans in which there was evidence of irreversible changes of the brain by microscopic examination. The anoxia resulting from cardiac arrest has a varied effect upon the different parts of the central nervous system. The cortex of the brain and cerebellum appears to be most sensitive to oxygen deficiency. As the period of anoxia is prolonged, the changes are more diffuse and there is less selectivity. *(Mandel, M. M., and Berry, R. G.: Human Brain Changes in Cardiac Arrest, Surg., Gynec. & Obst. 108: 692 (June) 1959.)*

MITRAL COMMISSUROTOMY. Twelve patients who underwent commissurotomy were evaluated clinically and catheterized 7 days before and 10–90 days and 8–30 months following operation. Though all had definite improvement all had some residual postoperative stenosis. All patients were alive 4½–6 years after operation. Only 3 have failed to maintain or increase clinical improvement. Of these 2 showed severe stenosis at reoperation. All 3 showed increased stenosis at recatheterization. One is suspected of having had recurrent rheumatic endocarditis. *(Lyons, W. S., and others: Early and Late Hemodynamic Effects of Mitral Commissurotomy, J. Lab. & Clin. Med. 53: 499 (April) 1959.)*

CARDIAC ARRHYTHMIAS While recognizing that arrhythmias may be due to many causes and that proper treatment is to correct the cause and to restore oxygen and carbon dioxide tensions to normal as quickly as possible, lidocaine was found to be a most useful drug in correction of cardiac arrhythmias. It was used in over 500 cases in doses from 40–80 mg. and repeated 6–8 times at intervals of 5–30 minutes without untoward systemic effects. It produced little depression of the pacemaker but it did produce depression of myocardial irritability, prolongation of the conduction time, the depolarization time and the refractory period. *(Hitchcock, P., and Keown, K. K.: Management of Cardiac Arrhythmias During Cardiac Surgery, South. M. J. 52: 702 (June) 1959.)*

SHOCK During the year 1958, 609 vials of metaraminol and 701 vials of *l*-norepinephrine were used for various situations, including oligemic shock. There has been no patient on

the surgical services in whom survival could clearly be attributed to the restoration of blood pressure to normal or nearly normal levels by the use of these agents. Sympathicomimetic agents should be reserved for situations in which it is clear that the hypotension is entirely, or in part, due to vasomotor paralysis. *(Simeone, F. A.: Shock and Blood Pressure, Surg. Gynec. & Obst. 108: 740 (June) 1959.)*

BLOOD VOLUME Because of the lack of information on the changes in plasma and blood volume in chronic anemia, these parameters have been studied on 74 patients who were either hematologically normal or had chronic nutritional anemia, some with a hemoglobin level of less than 2.0 Gm. Blood volume was found to fall as hemoglobin levels declined. This drop was almost wholly due to the diminution in red cell volume. *(Tasker, P. W. G.: Blood-Volume in Chronic Nutritional Anaemia, Lancet 1: 807 (April 18) 1959.)*

DEXTRAN Nonbiologic colloid solutions have been used for over 100 years for research purposes. However, it was not until 1913 that the value of the infusion of such a colloid solution for the preoperative and postoperative treatment of conditions associated with a diminished blood volume was demonstrated in man. By accident, dextran was found to have satisfactory properties to enable it to be administered intravenously to man. By the end of World War II, it had been refined and approved in Scandinavia, England, and in the United States. It is an excellent plasma expander and it is especially rational to maintain an adequate blood volume with dextran during operation, so long as not more than three-quarters of a liter of blood is lost. If more than this amount of blood is lost, then blood should be administered. *(Thorsen, G.: Use of Dextrans as Infusion Fluids, Surg. Gynec. & Obst. 109: 43 (July) 1959.)*

HEPATITIS FROM TRANSFUSION. An analysis has been made of the incidence of serum hepatitis following the administration of 14,445 units of whole blood; 3,349 patients were given 7,315 units of blood. Nineteen patients, or 1 in 380, developed serum hepatitis. Six-hundred and seventy-four patients received plasma and whole blood. There were 6 cases of hepatitis in this group, 1 in 360. An additional 317 patients received pooled plasma obtained from 4,461 donors and stored for six months at room temperatures averaging 80.6 F. No patient developed hepatitis in this group. *(Hoxworth, P. I., Haesler, W. E., Jr., and Smith, H., Jr.: Risk of Hepatitis from Whole Blood and Stored Plasma, Surg. Gynec. & Obst. 109: 38 (July) 1959.)*

HEMOPHILIA Fresh frozen plasma in a dose of about 20 ml./kg. bodyweight, normalized blood coagulation in hemophilia for 24 hours. The administration has to be repeated daily as long as there is risk of hemorrhage—about 15 days after surgery. *(Cazal, P., Izarn, P., and Paleirac, G.: Problems with Operations on Hemophilics, Der Anaesthesist 8: 129 (May) 1959.)*

HYPOTHERMIA Twelve patients with intracranial aneurysms have been treated satisfactorily using hypothermia and total arterial occlusion. Patient's body temperature was lowered to 27 to 30 C. by immersion in an ice tub, and subsequent transfer to a cooling blanket. The intracranial aneurysm and the superior mediastinal arteries were closed simultaneously by two surgical teams. During the dissection of the aneurysm, systemic arterial hypotension was induced by Arfonad. Totol occlusion of the circulation to the brain was effected during repair of the aneurysm. The complications encountered were avoidable. Temporary cardiac arrest occurred in two patients, in one due to an overdose of Arfonad. There was one operative death due to recurrent hemorrhage. Six of the patients have been followed four to fifteen months and are well. *(Adams, J. E., and Wylie, E. J.: Value of Hypothermia and Arterial Occlusion in Treatment of Intracranial Aneurysms, Surg. Gynec. & Obst. 108: 631 (May) 1959.)*

HYPOTHERMIA Controlled hypothermia has been successfully used in the treatment of a 23 year old patient with fulminating eclampsia. In addition, nitrous oxide, oxygen fluothane, meperidine, and phenothiazines were