during the phase of depolarization, while repolarization may result from an outward flux of potassium. Regarding pharmacology, these studies further indicate that digitalis preparations have no effect on myocardial oxygen consumption. However, since they increase the work of the failing heart, they elevate myocardial efficiency. Norepinephrine and epinephrine, on the other hand, lower myocardial efficiency by increasing myocardial oxygen consumption. (*Bing, R. J., and others: Physiology of the Myocardium, J. A. M. A. 172: 438 (Jan. 30) 1960.*)

MYOCARDIAL INFARCTION Fifty individuals underwent 64 major surgical procedures at least four weeks after their infarction. There were 43 men and 7 women with ages of 46 to 87 years. Six men died within 48 hours after operation. Myocardial infarction after four weeks of treatment need not prohibit major surgery. Such a patient must be guarded against fear, hypoxia, and falls in blood pressure. (*Weiss, M. M., Sr., and Weiss, M. M., Jr.: Risk of Major Surgery in Patients with Old Myocardial Infarction, Surgery 46: 1094 (Dec.) 1959.*)

CARDIAC WORK The dog heart arrested with potassium citrate after digitalization, is able to perform more than 19.5 gram-meters stroke work in response to loading by transfusion. The heart of a nondigitalized dog of comparable size under similar loading conditions, in contrast, is unable to exceed 9.1 gram-meters stroke work in the period after arrest. Predigitalization is beneficial to the canine myocardium subjected to 30 minutes of arrest with potassium citrate. (*Cooper, T., and others: Effect of Prophylactic Digitalization on Myocardial Function After Elective Cardiac Arrest, Ann. Surg. 151: 17 (Jan.) 1960.*)

CARDIAC OUTPUT A new method for the determination of cardiac output every 5–8 seconds was developed in the dog. Injection of 0.5 mg. of a tricarbocyamine dye into the left atrium of anesthetized dogs every 5–8 seconds (phased with respiration) results in reproducible dye-dilution curves during cardiovascular equilibrium. Variations in determinations do not exceed ∓ 5 per cent. (*Opdyke, D. F., and Sniffen, R. E.: Estimation of Cardiac Output by Rapidly Repeated Dye-Dilution Technic, Proc. Soc. Exp. Biol. & Med. 102: 725 (Dec.) 1959.*)

PULMONARY EDEMA When pulmonary edema is due to low cardiac output, intravenous morphine, oxygen by mask, rotating tourniquets, phlebotomy, mercurial diuretics and intravenous Cedilanid are indicated. If, however, pulmonary edema is associated with high output failure, as in thyrotoxicosis, then the treatment of the primary disease is most important, and digitalis might even be harmful. (*Tiffany, F. B.: Diagnosis and Treatment of Cardiac Emergencies, J. Lancet 80: 17 (Jan.) 1960.*)

BLOOD FLOW Circulation through extremities varies morphologically and functionally so that it may be erroneous to classify drugs and surgical procedures as general dilators or general constrictors. Careful choice of procedures or agents is necessary to treat circulatory insufficiency. Vasodilation therapy may actually diminish blood flow to compromised parts if it also has a specific effect on segments of tissue that have normal blood flow by diverting blood away from areas of insufficient circulation. Increased blood flow through tissue is not necessarily associated with increased nutrition of tissue, as in the case of increased blood flow to the skin via non nutritive arteriovenous channels. Non-nutritive arteriovenous channels may also exist in skeletal muscle. Clinical examples are shown that demonstrate diversion of blood flow through muscle at the expense of skin, diversion from one skin area to another, and diversion from diseased tissues to vasodilated normal tissues. In addition to mechanical factors such blood flow diversions may also be created on basis of differential neural responses of blood vessels of various tissues to the usual methods of producing vasodilatation or constriction. The evidence shown here clearly demonstrates that attempts to relieve circulatory insufficiency may in fact aggravate it to the point of gangrene if procedures and agents are not rationally chosen. (*Hyman, C., and Winsor, T.: Blood Flow Redistribution in the*