tained by providing sufficient amino acids and a moderate supply of calories. While sodium, chloride, potassium, magnesium and phosphate mixtures have been used in place of physiological saline, and while this is certainly in keeping with principles of good nutrition administered by any route, exact requirements for electrolytes under conditions of complete parenteral nutrition have not been defined. (*Geyer, R.: Parenteral Nutrition, Physiol. Rev. 40: 150 (Jan.) 1960.*)

INTRACELLULAR WATER Water contributes about two-thirds of the body weight, and nearly three-quarters of this water is in cells. The fact that most tissues are rich in potassium, while extracellular fluid is rich in sodium suggests that the two primary subdivisions of body water are as distinct chemically as topographically. Moreover, different soluble substances introduced into the body become diluted to different degrees further indicating that body water is not in a single homogeneous liquid phase, but is subdivided by partitions which some substances penetrate more readily than others. It is not known how water crosses biological membranes under the influence of gradients of activity, but the consensus of published opinion is that most mammalian cells conduct their fluid exchanges in osmotic equilibrium, without active transport of water. External osmotic pressure is important for the regulation of cell volume chiefly because it determines how such water shall be associated with a given quantity of intracellular solute. Cellular metabolism is equally important chiefly because it determines how much intracellular solute there shall be. In the intact animal with metabolism proceeding steadily, extracellular osmolarity controls the water balance of the cells. Hence, thirst and water diuresis, which rather precisely guard against excessive or deficient levels of extracellular osmolarity may be regarded as mechanisms controlling the volume of extracellular fluid. Since they do this by stabilizing an extracellular osmolarity which is mostly due to sodium salts, they also set the stage for the regulation of extracellular fluid volume by adjustments of the renal excretion of sodium. For so long as its osmolarity is held constant, the volume of extracellular fluid must be proportional to the amount of sodium which it contains, and this depends upon how much of the daily intake the kidneys retain. Hence, the kidneys directed in ways which largely remain to be elucidated are able to regulate the volume of water inside the cells by controlling the excretion of water, and the volume outside the cells by controlling the excretion of sodium. A detailed consideration of these possibilities is presented. (*Robinson, J. R.: Metabolism of Intracellular Water, Physiol. Rev. 40: 112 (Jan.) 1960.*)

PULMONARY EDEMA The action of the digitalis glycosides (acetylstrophanthidin, ouabain and digitoxin) was tried before, during and after the onset of experimental pulmonary edema. Pulmonary edema was produced by five different methods in 227 rabbits, 87 rats and 16 dogs. No useful effect of either rapid or slow-acting digitalis glycosides was demonstrated. In previous experiments, pulmonary edema had been prevented by the use of morphine, phenobarbital and chloral hydrate, or by the use of sympatholytic drugs or the inhalation of alcohol vapor. Digitalis may act on the right overloaded ventricle, thus increasing rather than decreasing the severity of pulmonary edema. (*Testelli, M. R, Musiker, S., and Luisada, A. A.: Effect of Digitalis Glycosides in Paroxysmal Pulmonary Edema, J. Appl. Physiol. 15:83 (Jan.) 1960.*)

EMPHYSEMA Eighty-five per cent of all patients with pulmonary emphysema exhibit recognizable electrocardiographic abnormalities. Occasionally they are present in the absence of pulmonary impairment but invariably are present with symptomatic disease. The earlier and most common change is that the P wave will be prominent and exhibit an axis close to plus 90 degrees. As the emphysema progresses the standard and precardial leads acquire S waves and the P waves become larger. (*Littman, D.: The Electrocardiographic Findings in Pulmonary Emphysema, Am. J. of Cardiology 5: 339 (March) 1960.*)

BLOOD TRANSFUSION Every transfusion is a potential source of transmission of disease. About one in every 300 units of blood transmits viral hepatitis. Two to four per cent

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