

Part 3 deals with prevention in reference to patients with normal and abnormal lungs, before and after operation. Physical therapy and the use of humidification and aerosol therapy are discussed at some length.

Part 4 discusses therapy through maintenance of the airway by intubation and tracheostomy. Emergency resuscitation and oxygen therapy with management during prolonged ventilation are given special consideration.

Part 5 copes with special problems such as chest injuries, intracranial lesions, myasthenia gravis, acute poisoning and other entities deserving special consideration. Respiratory management in thoracic and cardiac surgery warrants a chapter but pump management is not discussed in detail. The final chapter is on the special problems of obesity in relation to respiratory care.

This text contains a wealth of information that many will find difficult to read and absorb. More will find application in their hospitals difficult or almost impossible. One remembers the chilling information in the Foreword that "the Respiratory Unit at the Massachusetts General Hospital costs the patient \$150 a day." It is hoped that with more experience, procedures can be simplified and costs reduced to a practical level. It has been done before and likely can be done again. This reviewer is old enough to remember the heyday of pneumococcal typing and the corresponding complexities of treatment, fortunately all superseded by simpler and improved methods giving better results. It is hoped that the technique of respiratory care will soon undergo a parallel change in the direction of simplification, with reduction in cost, and improvement in the incidence of prevention and the results of therapy.

R. M. TOVELL, M.D.

**Überlebens- und Wiederbelebenszeit von Gehirn, Herz, Leber, Niere nach Ischaemie und Anoxie. (Functional and Structure Survival Time of Brain, Heart, Liver and Kidney after Ischemia and Anoxia).** By PROF. DR. MAX SCHNEIDER, Director of the Institute for Normal and Pathologic Physiology of the University of Köln. Paper. 14 D.M. (\$3.50). Pp. 29, with 7 illustrations. Westdeutscher Verlag. Köln & Opladen, 1965.

After careful definition of the terminology, the author of this short monograph summarizes the results of his observations on the tolerance of various organs to ischemia and anoxia. He differentiates between "Überlebenszeit," i.e., the time between the total interruption of blood supply to, and the cessation of all functional activity of an organ, and "Wiederbelebenszeit," i.e., the maximal duration of interruption of blood flow to an organ that is compatible with survival and restitu-

tion of function. On the basis of his own animal experiments, he points out that the limiting factor for the survival of the whole organism is the inability of the heart to function adequately to satisfy the circulatory requirements of the brain after more than three to four minutes of arrest. The survival time of the brain at 37° C. is eight to ten minutes, that of the liver three to four and that of the kidneys three hours. Cell damage occurs, to about the same extent, within a few minutes in all organs tested. The great difference in the survival time of the brain on one hand and that of the liver and kidneys on the other is due to the greater regenerating capacity of the latter organs. The author states that lowering the body temperature to 15° to 17° C., because of the marked decrease of the metabolic rate and the utilization of energy-rich phosphates, increases survival time by a factor of 6. He also points out that the aggregation of thrombocytes associated with ischemia and hypoxia, after the restoration of circulation, will interfere with the microcirculation and thereby decrease the chances for survival. The reading of this little volume should be profitable for anesthesiologists who participate in surgical procedures involving the temporary interruption of the blood supply to the whole organism or to isolated organs.

FRANCIS F. FOLDES, M.D.

**Coagulation and Transfusion in Clinical Medicine.** By SHIRLEY A. JOHNSON, PH.D., Associate Professor of Physiology, Marquette University, School of Medicine; AND TIMON J. GREENSWALT, M.D., Professor of Medicine, Marquette University School of Medicine; Medical Director, Milwaukee Blood Center, Milwaukee. Cloth. \$9.50. Pp. 203, with 9 figures and 10 tables. Little, Brown and Company, Boston, 1965.

This book is intended to present, in a brief and interpretable form, the complex mechanism of blood coagulation and management of disorders thereof. This reviewer is not qualified to judge the accuracy or completeness of this presentation. It is my impression, however, that this book serves as a useful source of information for anesthesiologists. We have long been bypassed by current, and perhaps not so current, findings and by complexities of nomenclature and classifications which characterize this area of medical knowledge. Those of us who find ourselves inadequately informed and rather completely confused by the present situation, will find this book a source of information as to type of abnormality with which we may be dealing and its background and management. For those who wish more detailed information, an extensive bibliography is included.

This book is well organized, beginning with the

principles of blood coagulation and continuing to a brief description of various disorders of coagulation. There is also a discussion of the uses and nature of anticoagulants, with special emphasis given to problems of blood coagulation in the newborn, problems due to fibrinolysis, massive transfusion, and changes related to pregnancy.

I believe that anesthesiologists come in immediate contact with coagulation difficulties frequently enough to make this type of information valuable to us. A more detailed book would perhaps be unnecessarily complex.

WILLIAM K. HAMILTON, M.D.

### Electrolytes and Cardiovascular Diseases.

VOL. 1. *Fundamental Aspects*. VOL. 2. *Clinical Aspects*. EDITED BY EÖRS BAJUSZ, University of Montreal, Canada. Cloth. \$16.00 (Vol. 2.) Pp. 412 in Vol. 1, published in 1965; 442 in Vol. 2, published in 1966. Illustrated. The Williams & Wilkins Co., Baltimore.

This two-volume work is organized and edited by Eörs Bajusz, who is a student of myocardial physiology. It is a collection of over 40 papers largely on the subject of the myocardium in disease states. The papers in volume 1 report electrolyte changes and various pathologic conditions in animals, while volume 2 is a study of changes as measured in man. The editor's stated purpose in compiling this symposium is to review the current status of knowledge in the field of electrolyte metabolism, including the relations of anion-cation interactions to the normal functions of heart and blood vessels. He has succeeded in bringing together a wealth of data and concepts concerning membrane transport, electrolyte shifts (particularly related to potassium), and nutritional factors in various states of myocardial health and disease. These volumes will be of use to individuals in reviewing the literature on myocardial metabolism, and to those who wish to study myocardial function and disease. While they provide data of importance, the individual review articles do not lend themselves to easy, rapid study by the clinician.

D. W. EASTWOOD, M.D.

### The Veins. Normal and Abnormal Function.

By J. EDWIN WOOD, M.D., Professor of Medicine, Professor of Physiology, and Virginia Heart Association Research Professor of Cardiology, University of Virginia School of Medicine, Charlottesville. Cloth. \$10.00. Pp. 224, with 73 illustrations. Little, Brown and Company, Boston, 1965.

The small monograph collates the mass of data on the venous system that has been accumulating

during recent years, and relates this knowledge to human physiology and disease. A great deal of this information has been derived from studies employing the plethysmograph, and the book is mainly concerned with this instrument and its contributions to our understanding of the functions of the veins.

The plethysmograph, a method of physiological measurement which is almost three centuries old, is a very imperfect tool, but it remains the chief source of knowledge about the venous system. Much of the first section of the book, therefore, which deals with the methods available for study of the veins, is given over to descriptions of the plethysmograph in its various forms and the applications of these in investigative situations. The second part of the book considers the role of the veins as capacitance vessels with vasomotor tone which responds to neural and humoral stimuli induced by temperature, mental activity, posture, respiration, exercise, and a variety of drugs. The final section of the book is devoted to the actions of the veins in various clinical states, including congestive heart failure, hypertension, anemia, shock, arterial hypertension, phlebitis, pregnancy, and during therapy with oral contraceptives.

This is a readable and adequate summary of what is known at present about the role that the venous system plays in the overall control of the circulation and the useful distribution of the blood under a variety of circumstances in health and disease. The anesthesiologist who does not yet appreciate these concepts will find here a ready review of the fundamental facts.

DAVID M. LITTLE, JR., M.D.

### Cardiac Evaluation in Normal Infants.

By ROBERT F. ZIEGLER, M.D., Physician-in-Charge, Division of Pediatric Cardiology, Henry Ford Hospital, Detroit, Michigan. Cloth. \$12.75. Pp. 170, with 29 illustrations. The C. V. Mosby Company, St. Louis, 1965.

The author is one of the leading authorities on cardiology of the newborn and has written other books on this topic. The purpose of this text is to provide a practical clinical guide in the detection of abnormal cardiac conditions. Fetal circulation and its transitional changes that occur from fetal to neonatal life are reviewed. In the neonate, the author discusses heart rate, pulmonary and systemic circulation, blood pressure, heart size and heart murmurs and their evaluation, and cyanosis. The book is well illustrated with electrocardiograms and chest films and there is an extensive bibliography. This is a worthwhile book for those who deal with the newborn.

M. DICBY LEIGH, M.D.

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