
The recognition of the necessity for routine micro- and even ultra-micromethods of the chemical analysis of blood comes, perhaps, most easily to the pathologist in a children's hospital where the amount of blood available for analysis is often limited. This little laboratory manual is essentially a description of the microchemical methods in use in the laboratory of The Children's Hospital in Great Ormond Street. The introductory chapters deal with the techniques of the collection of blood specimens and the apparatus required, and contain pertinent remarks on the control of the results. In the following chapters, the methods described are grouped together according to the function they are designed to investigate, e.g. liver function tests, tests of protein metabolism, etc., with each chapter prefaced by brief remarks on their use and interpretation. The final chapter deals briefly with ultra-micromethods. The practical details of each method described are clearly set out and are easy to follow.

Given its somewhat limited scope, this book will be found useful, especially for biochemical technicians and, possibly, pathologists in a general hospital with a children's ward where babies are often subject to frequent venesection because of the lack of experience in micromethods. Its appeal, however, is diminished by the limited scope of the book. Only one method is described for each estimation. Possible difficulties are not mentioned, nor the possible errors involved. Other than the reference to the original description of the method selected, few references are given to the literature. The prefatory discussion in each chapter on the clinical uses of the tests is too brief to be useful. Chemical pathologists would find use of only as an adjunct to the larger works or to the original literature, and interesting mainly as the description of the routine chemical pathology in a large children's hospital. The appendix gives the normal values in children and adults, using these micromethods.

It must be pointed out that the normal full-term newborn infant has a much higher serum protein level than that stated and it should be made clear also that the serum protein level of premature infants varies with the birth weights. It is very misleading to give an overall value when the birth weight of the premature infant can vary from 2 to 5½ lb. The serum gammaglobulin level of the newborn infant is also incorrectly given. It is actually slightly higher than that of the adult, and not half, as stated.

The book is well printed on good paper, but 40 shillings seems excessively expensive.


This book records the proceedings of a meeting held at Princeton, New Jersey, in December, 1957, under the sponsorship of the Macy Foundation and the C.I.O.M.S. The discussions covered a wide range of subjects, from the general physiology of oxygen transport in the adult and the foetus to the vascular anatomy of the placental circulation (an admirable and concise account from Elizabeth Ramsey), from new methods for measuring oxygen tension in the blood and tissues to a general discussion on the significance of umbilical cord blood studies. There is much factual information here which has been carefully arranged and which is not readily available elsewhere. It is not easy reading because of the wide variety of subjects and techniques which were considered, and because of the interpolated discussions. On the other hand it is difficult to see how the material could have been arranged otherwise without considerable sacrifices. Many of the discussions were both informative and stimulating, on the technical aspects of blood gas analysis for instance, and on the changes which may occur during foetal distress. The recent studies on the changes in pressure and oxygen content of the blood in the intervillous space were of particular interest. And there have been some careful measurements of uterine blood flow in man, though the indirect methods used should be compared with a direct method (in animals).

The difficulties which the editors experienced in arranging this diverse material derives from our lack of basic knowledge in this subject, in which so much is still speculative. The relative inaccessibility of the foetus in utero is as frustrating to the obstetrician who wishes to know what is going on inside, as it is to the physiologist who wishes to know how it does so. This book sets out many of the facts so far established, and proposes a number of questions to which answers are needed, and which should not be too hard to supply.