Pediatrics

Edited by

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CHURCHILL LIVINGSTONE

PEDIATRICS

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To Our Families, and to
Beverly, Ann, and Wendy

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PREFACE

During the last decade the growth of information in pediatrics has been extraordinary. Scientific contributions have altered practice, and greater subspecialization has insured rapid application of this new knowledge. During this time, primary care physicians have become increasingly concerned with preventive, educational, social, and psychological aspects of child health and illness.

In the study of pediatrics, today's medical student has the difficult, often confusing task of distinguishing fundamental subject matter — the basis for later learning — from the increasing volume of more specialized information. Several encyclopedic pediatric textbooks presently available are excellent reference sources but are too lengthy and comprehensive to be ideal student learning sources. On the other hand, several manuals and handbooks used as primary pediatric texts for medical students are insufficient because of their brevity.

This book is written to meet the needs of students, housestaff, and practitioners in learning or reviewing the basic clinical material of pediatrics. It is intermediate in size. It is not intended as a complete reference text and cannot replace lengthier and more comprehensive texts, but it will complement them. The book focuses on important and common clinical problems and is oriented toward manifestations and practical management. Information is presented concisely and is supplemented liberally with figures and tables. Chapters on surgery and radiology are included to acknowledge the expanding importance of these disciplines in current pediatric practice. A chapter on organ system failure underscores the modern aspects of pediatric intensive care. Concepts of injury prevention and treatment replace the traditional chapter on accidents and poisonings. Dermatologic disorders, common in pediatric practice, are afforded a full chapter with illustrations. At the end of each chapter, suggestions for further reading are given, rather than a complete list of references.

We hope this book will help students and practitioners in learning or reviewing current fundamental and practical pediatric knowledge. We welcome your criticisms and suggestions so that we can incorporate them in the next edition.

Finally, we wish to thank Mrs. Joyce C. Haggins for her special editorial assistance.

Harold M. Maurer, M.D.

PEDIATRICS

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Chapter 1

Pediatrics in Perspective

Walter E. Bundy, Jr., M.D.

The pediatrician of 30 to 40 years ago would have difficulty in recognizing the changes that have occurred since then. The student in training at that time spent endless hours learning about infectious diseases. The lecture series on syphilis alone occupied 4 to 6 hours of the medical curriculum. The wards of the hospitals held several patients with diphtheria, and one could recognize a case of pertussis by the characteristic cough. Tetanus was commonly diagnosed. Seasonal infectious diseases — such as measles in the winter, with its feared complications, and poliomyelitis in the summer months — curtailed travel and caused fear in both the parents and the physician. Seldom did a summer pass without at least one house staff officer suffering a degree of paralysis. The drugs in use were penicillin, available in short supply, and sulfadiazine. Chloramphenicol followed later and was prescribed indiscriminately for everything from the common cold to meningitis. The causes of retrolental fibroplasia were unknown. A ward fully devoted to the treatment of rheumatic fever was not uncommon.

Patients were frequently admitted for diarrhea, and each physician mixed his own fluids. To approximate mother's milk for feeding newborns, it was necessary to calculate calories and to blend sugar and water with evaporated milk. Electrolyte measurements were available, but on the pediatric floor blood gases were in their infancy.

The Rh factor as a cause of jaundice was under investigation; and in the later 1940s and early 1950s therapeutic exchange transfusions were done in the operating room using multiple syringes to withdraw blood through an incision of the radial artery — a procedure that took 3 hours to complete.

Now a house officer seldom sees a case of diphtheria or tetanus, since immunizations are now required. Since the introduction of the Salk and Sabin vaccines, polio occurs so infrequently that it is rarely mentioned in a differential diagnosis. Immunization has nearly eliminated rubeola. Rubella, as a cause of congenital defect, has been dramatically reduced due to increased surveillance by both pediatric and obstetric physicians. Recognition of the etiology of retrolental fibroplasia and rheumatic fever has led to strategies for avoidance and to appropriate diagnostic and surveillance skills.

The advances in the science of cardiovascular disease and surgery are nothing short of remarkable. There are few congenital defects of the heart that elude diagnosis and appropriate medical or surgical therapy. The rare ligation of a patent ductus has been succeeded by frequent, increasingly sophisticated surgical cardiac procedures. Leukemias and malignant childhood tumors, once the preludes of sure demise, have steadily retreated before new treatment modalities. One cannot effectively review progress without mentioning hyperalimentation in those patients where oral nutrition is not effective.

When one reviews the past and sees the progress that has been made, the question comes to mind, What does the pediatrician of today do in his day-to-day job? The traditional role — well-versed medical care — has not been abandoned. The pediatrician still is a thorough student of infectious diseases and their prevention. Resuscitation of the newborn and management of the high-risk infant are standard practices.

The value of the prenatal history has received increased emphasis. The pediatrician in training has been well advised that his treatment affects the patient both as an unborn child and as an individual from birth to adulthood. In this position, the pediatrician enjoys a rare advantage as counselor in the lives of his patients. In his role as counselor, the pediatrician educates the mother and father through prenatal classes. In the case of a small child who is in for a routine checkup, the parents are afforded the opportunity to ask questions without interruption. This interval also allows the pediatrician to inquire of the family background and to learn of any hereditary or genetic problems. More importantly, the meeting offers the pediatrician a chance to congratulate the parents for a job well done. At this time parents are told what to expect from the child in the coming months. The pediatrician suggests proper methods of correction, discipline, and education. At each stage of growth the doctor emphasizes the prevention of accidents, since these remain the most common causes of deaths in children.

The approach to the physical exam of a pediatric patient is quite different from that of an adult, in which the exam proceeds from head to foot. When the patient is an anxious toddler, the doctor completes the least noxious part of the exam, listening to the heart and lungs, before proceeding to the ears and throat. One rule the pediatrician follows is to talk with the patient during the exam. Even an infant feels more secure with such conversation.

A child who is sick presents another problem to the pediatrician. Here, the approach depends on the degree of illness. If the patient is seriously ill, it is wise to communicate with both parents; and in the case of an older child both the parents and the child are given a chance to ask questions. If hospitalization is necessary, the reason for admission is detailed. Procedures to be performed, the specialists and subspecialists to be involved, and the probable length of stay are discussed. Feelings of guilt are evoked in any parent of a hospitalized child, and it is inherent in the physician's part to deal with these underlying emotional difficulties.

In the case of both a sick and a well child, the most important thing for a pediatrician to be is a good listener. This is particularly true of a crib death or of a child with a genetic defect, for in these instances parents may feel profound guilt. It is essential that communication with the parents be continued for several months, since one office visit does not suffice. The postmortem findings in crib death are discussed in detail, and the parents are allowed to pour out their feelings. Likewise, the parents of an infant with genetic defects will require genetic counseling and may need emotional support in dealing with feelings of inferiority.

The legal aspects of pediatric medicine have assumed a greater prominence in recent years. Seldom does a house officer finish his training without being called into court to testify on child abuse. The divorce rate in this country, approaching 40 percent, often leaves in the pediatrician's hands the question, What do we do with the children? Instances of school phobia associated with the separation of parents are being recognized in increasing numbers. The pediatrician must be recognized in his practice and in the community as a child advocate.

In the last few years the pediatrician has spent a great part of his time as an edu-

cator. This involves both children with specific learning difficulties and those trainable but not educable. Years ago little communication between the school and physician was the rule; this contrasts sharply with the current situation in which frequent communication takes place between physician and counselor, psychologist, or others involved in special education. As the child grows older, discussing drug abuse, sex education, and venereal disease with the patient and with the parents becomes a further responsibility. Tremendous physiologic and psychologic changes require added attention on the part of the physician to the patient's emotional progress. More importantly, the physician must direct the patient and suggest ways for coping with the changing age.

In no other speciality is a physician so fortunate. Here he follows the living being from birth. The pediatricians's awareness is such that he recognizes his limitations and strives to improve his knowledge for the benefit of future citizens.