

英文影印版

尼尔逊儿科学

第 16 版 下册

NE L S O N
TEXTBOOK
of
PEDIATRICS

BEHRMAN

KLIEGMAN

JENSON

16TH
E D I T I O N

英文影印版

尼尔逊儿科学

Nelson Textbook of Pediatrics

第16版 • 下 册

16th Edition • Volume 2

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科学出版社

Harcourt Asia
W. B. Saunders

2001

NELSON

TEXTBOOK *of* PEDIATRICS

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16TH
EDITION

SCIENCE PRESS
HARCOURT ASIA
W. B. SAUNDERS

Richard E. Behrman, Robert M. Kliegman, Hal B. Jenson: Nelson Textbook of Pediatrics, 16th Edition

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Reprint ISBN 0-8089-2228-9

本书英文影印版由科学出版社——中国科学出版集团核心企业和美国哈克出版集团国际公司合作出版。本版本是最新美国版,惟一获正式授权的完整和无节略的复制版,仅限在中国境内(不包括香港特别行政区和台湾省)出版和标价销售。

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北京市版权局版权登记号:图字 01-2000-2848

图书在版编目(CIP)数据

尼尔逊儿科学:第16版:英文影印版/(美)贝尔曼
(Behrman, R. E.), 主编. —北京:科学出版社, 2001.1

书名原文: Nelson Textbook of Pediatrics

ISBN 7-03-008819-0

I. 尼… II. 贝… III. 儿科学 IV. R72

中国版本图书馆CIP数据核字(2000)第69912号

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科学出版社出版

北京东黄城根北街16号

邮政编码:100717

中国科学院印刷厂印刷

科学出版社发行 各地新华书店经销

*

2001年1月第一版 开本:889×1194 1/16

2001年1月第一次印刷 印张:157 1/4 插页:4

印数:1—3 000 字数:5 371

定价:398.00元(上、下册)

(如有印装质量问题,我社负责调换(科印))

SCIENCE PRESS

*A division of China Science Publishing Group
16 Donghuangchenggen North Street,
Beijing 100717
China*

HARCOURT ASIA PTE.LTD

*A Harcourt Publishers International
Company
583 Orchard Road #09-01 Forum
Singapore 238884*

Distribute in the Mainland China by Science Press,
16 Donghuangchenggen North Street, Beijing 100717, China.

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This Edition First Printed in China in 2001.

ISBN 7-03-008819-0/R · 601

Reprint ISBN 0-8089-2228-9

Printed in China

DEDICATION



We dedicate this edition to those
parents whose love and nurture
provide the foundation for the
optimal development and good
health of their children
everywhere.

PREFACE



The publication of this 16th Edition of *Nelson Textbook of Pediatrics* coincides with the beginning of the 21st century. The bridging of two centuries creates the opportunity to reflect on past accomplishments, current capabilities, and future hopes. There have been dramatic advances in the prevention and treatment of diseases of childhood. Indeed, many diseases have all but disappeared, and research offers great promise in addressing the new and re-emerging diseases that plague the health of children. Although war, famine, pestilence, poverty, and malfunctioning social systems continue to afflict many of the world's children, ironically the promise of medicine and biologic sciences has never been greater.

From molecular to sociologic levels, knowledge of human development, behavior, and disease is expanding. This has led to greater understanding of health and illness in children and advances in the quality of care that it is possible to provide. Unfortunately, many children worldwide are little affected by these spectacular improvements in medical care, because we have the means but not the political will or wisdom to prevent, to ameliorate, to cure. Not only continually increasing our knowledge but also ensuring that all children are beneficiaries is our challenge for the new century. Good medicine demands ardent advocacy.

In our continuing effort, we address in this edition the full spectrum of problems related to the health and welfare of children and youth that are faced by practitioners, house staff, and medical students. Our goal, as in previous editions, is to be comprehensive, concise, and reader friendly within a single volume. We try to do this in a manner that acknowledges both the science and the art of pediatrics.

The 16th Edition constitutes a major revision and reorganization of the textbook based on a complete review of the field of pediatrics. There are many new chapters as well as substantial modification and expansion of others. Every area of the book has been carefully scrutinized for possible improvement, and, we hope, no chapter has been left unimproved. Although to an ill child and his or her family and physician even the rarest disorder is of vital importance, it is not possible to cover all health problems with the same degree of detail in a general textbook of pediatrics. Thus, leading articles and subspecialty texts are referenced and should be consulted when more information is desired.

A successful textbook is the sum of its expert contributors, and we celebrate ours for their hard work and knowledge as well as their thought and judgment. Our sincere appreciation also goes to Lisette Bralow and Dolores Meloni at W.B. Saunders. We have all worked hard to produce an edition that will be helpful to those who provide care for children and to those wishing to know more about children's health worldwide.

In this edition, we have had informal assistance from faculty and house staff of departments of pediatrics at Stanford University, the Medical College of Wisconsin, the University of California at San Francisco, and the University of Texas Health Science Center at San Antonio. The help of these individuals and numerous practicing pediatricians elsewhere in the United States and around the world who have taken the time to offer thoughtful suggestions is greatly appreciated.

We especially wish to thank Ann Behrman, Sharon Kliegman, and Pauline Jenson for their patience and understanding, without which this textbook would not have been possible.

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Laura T. Gutman, M.D.

Associate Professor of Pediatrics and Pharmacology, Duke University Medical Center, Durham, North Carolina

Papillomaviruses

Gabriel G. Haddad, M.D.

Professor of Pediatrics and of Cellular and Molecular Physiology; Section Chief, Respiratory Medicine, Yale University School of Medicine; Attending Physician, Yale-New Haven Children's Hospital, New Haven, Connecticut

The Respiratory System. Development and Function; Obstructive Sleep Apnea and Hypoventilation in Children; Primary Ciliary Dyskinesia (Immotile Cilia Syndrome)

Judith G. Hall, M.D.

Professor and Head, Department of Pediatrics, University of British Columbia, Vancouver, British Columbia, Canada

Chromosomal Clinical Abnormalities; Genetic Counseling

Scott B. Halstead, M.D.

Senior Scientist, Department of Molecular Microbiology and Immunology, Johns Hopkins School of Public Health, Baltimore, Maryland; Chief Scientist, Division of Medical Science and Technology, Office of Naval Research, Arlington, Virginia

Arboviral Encephalitis in North America; Arboviral Encephalitis Outside North America; Dengue Fever/Dengue Hemorrhagic Fever; Yellow Fever; Other Viral Hemorrhagic Fevers; Hantaviruses

Margaret R. Hammerschlag, M.D.

Professor of Pediatrics and Medicine and Director, Division of Pediatric Infectious Diseases, State University of New York Health Science Center at Brooklyn, Brooklyn, New York

Chlamydia pneumoniae; Chlamydia trachomatis; Psittacosis (Chlamydia psittaci)

Aaron Hamvas, M.D.

Associate Professor of Pediatrics, Washington University School of Medicine; Staff, St. Louis Children's Hospital, St. Louis, Missouri

Pulmonary Alveolar Proteinosis

H. William Harris, Jr., M.D., Ph.D.

Associate Professor of Pediatrics, Harvard Medical School; Director of Renal Research, Children's Hospital, Boston, Massachusetts

Diabetes Insipidus; Other Abnormalities of Arginine Vasopressin Metabolism and Action

James C. Harris, M.D.

Professor of Psychiatry and Behavioral Sciences and Pediatrics, The Johns Hopkins University School of Medicine; Director, Developmental Neuropsychiatry, The Johns Hopkins Hospital, Baltimore, Maryland

Defects of Purine and Pyrimidine Metabolism

Gary E. Hartman, M.D.

Professor of Surgery and Pediatrics, The George Washington University School of Medicine; Chairman, Department of Pediatric Surgery, Children's National Medical Center, Washington, D.C.

Acute Appendicitis; Diaphragmatic Hernia; Epigastric Hernia

Robert H. A. Haslam, M.D., FAAP, FRCP(C)

Professor of Pediatrics and Medicine (Neurology) and Chairman of Pediatrics Emeritus, University of Toronto; Staff Physician and Child Neurologist, Hospital for Sick Children, Toronto, Ontario, Canada

The Nervous System

Jacqueline T. Hecht, Ph.D.

Professor, Pediatrics, University of Texas Medical School, Houston, Texas

Section 3: The Skeletal Dysplasias

John J. Herbst, M.D.

Professor of Pediatrics, Louisiana State University School of Medicine; Chief, Section of Pediatric Gastroenterology and Nutrition, Louisiana State University Medical Center, Shreveport, Louisiana

The Esophagus; Ulcer Disease

Neil E. Herendeen, M.D.

Clinical Assistant Professor of Pediatrics, University of Rochester School of Medicine and Dentistry; Director of the Pediatric Practice, Children's Hospital at Strong, Rochester, New York

Infections of the Upper Respiratory Tract

Gloria P. Heresi, M.D.

Assistant Professor, Department of Pediatrics, University of Texas Medical School, Houston, Texas

Campylobacter

Albert Hergenroeder, M.D.

Associate Professor of Pediatrics and Section Chief, Adolescent Medicine and Sports Medicine, Baylor College of Medicine; Chief, Sports Medicine Clinic, Texas Children's Hospital, Houston, Texas

Sports Medicine

William H. Hetznecker, M.D.

Clinical Professor of Psychiatry, Temple University Medical School; Inactive Staff, Department of Child Psychiatry, St. Christopher's Hospital for Children, Philadelphia, Pennsylvania

The Clinical Interview (History)

Steve Holve, M.D.

Clinical Instructor of Pediatrics, The Johns Hopkins School of Medicine, Baltimore, Maryland; Chief of Pediatrics, Tuba City Indian Medical Center, Tuba City, Arizona

Envenomations

George R. Honig, M.D., Ph.D.

Professor and Head, Department of Pediatrics, University of Illinois College of Medicine, Chicago, Illinois

Hemoglobin Disorders

William A. Horton, M.D.

Professor, Molecular and Medical Genetics, Oregon Health Sciences University; Director of Research, Shriners Hospital for Children, Portland, Oregon

The Skeletal Dysplasias

Peter J. Hotez, M.D., Ph.D.

Associate Professor of Pediatrics and of Epidemiology and Public Health, Yale University School of Medicine; Associate Physician, Children's Hospital at Yale, New Haven, Connecticut

Hookworms

Walter Hughes, M.D.

Professor of Pediatrics and Preventive Medicine, University of Tennessee College of Medicine; Emeritus Member, Department of Infectious Diseases, St. Jude Children's Research Hospital, Memphis, Tennessee

Infections in Immunocompromised Hosts; Pneumocystis carinii

Carl E. Hunt, M.D.

Professor of Pediatrics, Medical College of Ohio; Staff, St. Vincent Mercy Medical Center, Toledo, Ohio

Sudden Infant Death Syndrome

Jeffrey S. Hyams, M.D.

Professor of Pediatrics, University of Connecticut School of Medicine, Farmington; Head, Division of Digestive Diseases and Nutrition, Connecticut Children's Medical Center, Hartford, Connecticut

Malformations; Ascites; Peritonitis

Richard F. Jacobs, M.D., FAAP

Horace C. Cabe Professor of Pediatrics, University of Arkansas for Medical Sciences; Chief, Pediatric Infectious Diseases, Arkansas Children's Hospital, Little Rock, Arkansas

Actinomycosis; Nocardia; Tularemia (Francisella tularensis); Brucella

Renée R. Jenkins, M.D.

Professor and Chairman, Department of Pediatrics, Howard University College of Medicine, Washington, D.C.

Special Health Problems During Adolescence

Hal B. Jenson, M.D.

Professor, Departments of Pediatrics and Microbiology, and Chief, Pediatric Infectious Diseases, The University of Texas Health Science Center at San Antonio, San Antonio, Texas

Epstein-Barr Virus; Lymphocytic Choriomeningitis Virus; Polyomaviruses; Human T-Cell Lymphotropic Viruses Types I and II; Chronic Fatigue Syndrome

David Johnsen, D.D.S.

Dean, College of Dentistry, University of Iowa, Iowa City, Iowa

The Oral Cavity

Charles F. Johnson, M.D.

Professor of Pediatrics, The Ohio State University College of Medicine; Director, Child Abuse Program, Children's Hospital, Columbus, Ohio

Abuse and Neglect of Children

Richard B. Johnston, Jr., M.D.

Professor of Pediatrics, University of Colorado School of Medicine, National Jewish Medical and Research Center, Denver, Colorado

Monocytes and Macrophages; The Complement System

Kenneth Lyons Jones, M.D.

Professor of Pediatrics, University of California, San Diego, School of Medicine, La Jolla; Chief, Division of Dysmorphology, University of California, San Diego, Medical Center, San Diego, California

Dysmorphology

Harry J. Kallas, M.D.

Assistant Professor of Pediatrics, University of California, Davis, School of Medicine; Associate Director, Pediatric Critical Care, University of California, Davis, Medical Center, Sacramento, California

Drowning and Near-Drowning

James W. Kazura, M.D.

Professor of Medicine and International Health, Case Western Reserve University School of Medicine; Chief, Division of Geographic Medicine, University Hospitals of Cleveland, Cleveland, Ohio

Ascariasis (Ascaris lumbricoides); Enterobiasis (Pinworm, Enterobius vermicularis); Toxocariasis (Visceral and Ocular Larva Migrans); Strongyloidiasis (Strongyloides stercoralis); Lymphatic Filariasis (Brugia malayi, Brugia timori, Wuchereria bancrofti); Infection with Animal Filariae; Angiostrongylus cantonensis; Onchocerciasis (Onchocerca volvulus); Dracunculiasis (Guinea Worm Infection, Dracunculus medinensis); Loa loa; Gnathostoma spinigerum; Trichinosis (Trichinella spiralis); Trichuriasis (Trichuris trichiura)

Margaret Kenna, M.D.

Associate Professor, Otolaryngology, Harvard Medical School; Associate in Otolaryngology, Children's Hospital, Boston, Massachusetts

Upper Respiratory Tract; The Ear

Charles H. King, M.D.

Associate Professor of Medicine and International Health, Case Western Reserve University School of Medicine; Attending Physician, University Hospitals of Cleveland, Cleveland, Ohio

Schistosomiasis (Schistosoma); Flukes (Liver, Lung, and Intestinal)

Marisa S. Klein-Gitelman, M.D., M.P.H.

Assistant Professor of Pediatrics, Northwestern University Medical School; Attending Physician, Children's Memorial Hospital, Chicago, Illinois

Systemic Lupus Erythematosus

Robert M. Kliegman, M.D.

Professor and Chair, Department of Pediatrics, Medical College of Wisconsin; Pediatrician-in-Chief, Children's Hospital of Wisconsin, Milwaukee, Wisconsin

The Fetus and Neonatal Infant, Noninfectious Disorders

William C. Koch, M.D.

Associate Professor of Pediatrics, Department of Pediatrics, Division of Infectious Diseases, Medical College of Virginia of Virginia Commonwealth University; Attending Physician, Medical College of Virginia Hospitals, Richmond, Virginia

Parvovirus B19

Steve Kohl, M.D.

Professor of Pediatrics, Division of Pediatric Infectious Diseases, University of California, San Francisco; Attending Physician, Moffitt-Long Hospital and San Francisco General Hospital, San Francisco, California

Herpes Simplex Virus

Peter J. Krause, M.D.

Professor, Department of Pediatrics, University of Connecticut School of Medicine, Farmington; Attending Physician, Connecticut Children's Medical Center, Hartford, Connecticut

Malaria (Plasmodium); Babesiosis (Babesia)

Danielle J. Laborde, M.P.H., Ph.D.

Visiting Assistant Professor, Clemson University, College of Health, Education, and Human Development, Clemson, South Carolina

Child Care and Communicable Diseases

Stephan Ladisch, M.D.

Professor of Pediatrics and Biochemistry/Molecular Biology, George Washington University School of Medicine; Scientific Director, Children's Research Institute, Children's National Medical Center, Washington, D.C.

Histiocytosis Syndromes of Childhood

Stephen LaFranchi, M.D.

Professor, Department of Pediatrics, and Head, Pediatric Endocrinology, Oregon Health Sciences University; Staff Physician, Doernbecher Children's Hospital, Portland, Oregon

Disorders of the Thyroid Gland

Philip J. Landrigan, M.D., M.Sc.

Ethel H. Wise Professor and Chair, Department of Community and Preventive Medicine, and Professor of Pediatrics, Mount Sinai School of Medicine, New York, New York

Chemical Pollutants

Charles T. Leach, M.D.

Associate Professor of Pediatrics, The University of Texas Health Science Center at San Antonio; Attending Physician, University Hospital and Christus Santa Rosa Children's Hospital, San Antonio, Texas

Roseola (Human Herpesvirus Types 6 and 7); Human Herpesvirus Type 8

Margaret W. Leigh, M.D.

Professor of Pediatrics and Chief, Division of Pulmonary Medicine and Allergy, University of North Carolina at Chapel Hill; Staff Physician, University of North Carolina Hospitals, Chapel Hill, North Carolina

Sarcoidosis

Lenore S. Levine, M.D.

Professor of Pediatrics and Director, Division of Pediatric Endocrinology, College of Physicians and Surgeons, Columbia University, New York, New York

Disorders of the Adrenal Glands

Melvin D. Levine, M.D.

Professor of Pediatrics and Director, Center for the Study of Development and Learning, University of North Carolina, Chapel Hill, North Carolina

Patterns of Development and Function

Stephen Liben, B.Sc., MDCM

Assistant Professor of Pediatrics, McGill University; Director, Palliative Care Program, and Attending Physician, Pediatric Critical Care Unit, The Montreal Children's Hospital, Montreal, Quebec, Canada

Pediatric Palliative Care: The Care of Children with Life-Limiting Illness

Iris Litt, M.D.

Professor of Pediatrics, Stanford University School of Medicine; Director, Division of Adolescent Medicine, Lucile Packard Children's Hospital at Stanford, Stanford, California

Anorexia Nervosa and Bulimia

Sarah S. Long, M.D.

Professor of Pediatrics, MCP Hahnemann University School of Medicine; Chief, Section of Infectious Diseases, St. Christopher's Hospital for Children, Philadelphia, Pennsylvania

Diphtheria (Corynebacterium diphtheriae); Pertussis (Bordetella pertussis and B. parapertussis)

Daniel J. Lovell, M.D., M.P.H.

Associate Professor of Pediatrics, University of Cincinnati; Deputy Director, Rowe Division of Rheumatology, Children's Hospital Medical Center, Cincinnati, Ohio

Treatment of Rheumatic Diseases

G. Reid Lyon, Ph.D.

Chief, Child Development and Behavior Branch, National Institute of Child Health and Human Development, National Institutes of Health, Bethesda, Maryland

Specific Reading Disability (Dyslexia)

Adel A. F. Mahmoud, M.D., Ph.D.

President, Merck Vaccines, Whitehouse Station, New Jersey

African Trypanosomiasis (Sleeping Sickness; Trypanosoma brucei)

Yvonne Maldonado, M.D.

Associate Professor, Department of Pediatrics, Stanford University School of Medicine; Attending Physician, Lucile Salter Packard Children's Hospital at Stanford, Stanford University Hospital, and UCSF-Stanford Healthcare, Stanford, California

Measles; Rubella; Mumps

Joan C. Marini, M.D., Ph.D.

Branch Chief, Heritable Disorders Branch, National Institute of Child Health and Development, National Institutes of Health, Bethesda, Maryland

Osteogenesis Imperfecta

Reuben K. Matalon, M.D., Ph.D.

Professor of Pediatrics and Human Biological Chemistry and Genetics, University of Texas Medical Branch, Galveston, Texas; Adjunct Professor, Department of Human Nutrition and of Pathology, University of Illinois, Chicago, Illinois

Aspartic Acid (Canavan Disease)

Lawrence H. Mathers, Jr., M.D., Ph.D.

Associate Professor of Pediatrics (Critical Care) and Surgery (Human Anatomy) and Chief, Division of Human Anatomy, Stanford University School of Medicine, Stanford, California

Effective Communication with Families in the PICU; Pediatric Emergencies and Resuscitation; Shock; Transplantation Issues in the PICU; Withdrawal or Withholding of Life Support, Brain Death, and Organ Procurement

Nancy J. Matyunas, Pharm.D.

Assistant Clinical Professor of Pediatrics, University of Louisville School of Medicine, Louisville, Kentucky

Poisonings: Drugs, Chemicals, and Plants

Paul L. McCarthy, M.D.

Professor of Pediatrics, Yale University School of Medicine; Head, General Pediatrics, and Medical Director, Pediatric Primary Care, Yale-New Haven Children's Hospital, New Haven, Connecticut

The Well Child; Evaluation of the Sick Child in the Office and Clinic

Margaret M. McGovern, M.D., Ph.D.

Associate Professor of Human Genetics and Pediatrics and Vice Chair, Department of Human Genetics, Mount Sinai School of Medicine, New York, New York

Lipidoses; Mucopolysaccharidoses; Disorders of Glycoprotein Degradation and Structure

Kenneth McIntosh, M.D.

Professor of Pediatrics, Harvard Medical School; Chief, Division of Infectious Diseases, Children's Hospital, Boston, Massachusetts

Respiratory Syncytial Virus; Adenoviruses; Rhinoviruses

Rima McLeod, M.D.

Jules and Doris Stein Professor of Research to Prevent Blindness, Visual Sciences Department, University of Chicago Medical School, Chicago, Illinois

Toxoplasmosis (Toxoplasma gondii)

Michael J. McManus, M.D.

Assistant Professor of Pediatrics and Biochemistry/Molecular Biology, Mayo Medical School; Associate Consultant, Pediatric Hematology/Oncology, Mayo Clinic, Rochester, Minnesota

Neoplastic Diseases and Tumors; Molecular Pathogenesis; Neuroblastoma; Neoplasms of the Liver

Peter C. Melby, M.D.

Associate Professor, Departments of Medicine and Microbiology, The University of Texas Health Science Center at San Antonio; Staff Physician, Medical Service, South Texas Veterans Health Care System, Audie L. Murphy VA Hospital, San Antonio, Texas

Leishmania

Fred A. Mettler Jr., M.D., M.P.H.

Professor and Chairman, Department of Radiology, University of New Mexico Health Sciences Center, Albuquerque, New Mexico

Pediatric Radiation Injuries

Michael L. Miller, M.D.

Associate Professor of Pediatrics, Northwestern University Medical School; Director of Clinical Services, Division of Immunology and Rheumatology, Children's Memorial Hospital, Chicago, Illinois

Evaluation of the Patient with Suspected Rheumatic Disease; Treatment of Rheumatic Diseases; Juvenile Rheumatoid Arthritis; Ankylosing Spondylitis and Other Spondyloarthropathies; Postinfectious Arthritis and Related Conditions; Systemic Lupus Erythematosus; Scleroderma; Vasculitis Syndromes; Musculoskeletal Pain Syndromes; Miscellaneous Conditions Associated with Arthritis

Majid Mirmiran, M.D., Ph.D.

Visiting Professor, Department of Pediatrics, Division of Neonatology, Stanford University School of Medicine, Stanford, California; Professor, Netherlands Institute for Brain Research, Amsterdam, The Netherlands

Sleep Disorders

Robert R. Montgomery, M.D.

Professor and Vice Chair for Research, Department of Pediatrics, Medical College of Wisconsin; Senior Investigator, Blood Research Institute; Attending Physician, Children's Hospital of Wisconsin, Milwaukee, Wisconsin

Hemorrhagic and Thrombotic Diseases

Abraham Morag, M.D.

Associate Professor (Clinical Virology), The Hebrew University-Hadassah Medical School; Head, Clinical Virology Unit, Hadassah Medical Center, Jerusalem, Israel

Enteroviruses

Hugo W. Moser, M.D.

Professor of Neurology and Pediatrics, The Johns Hopkins University; Director of Neurogenetics Research, Kennedy Krieger Institute, Baltimore, Maryland

Disorders of Very Long Chain Fatty Acids

Joseph Muenzer, M.D.

Professor, Division of Genetics and Metabolism, Department of Pediatrics, University of North Carolina, Chapel Hill, North Carolina

Mucopolysaccharidoses

Flor Munoz, M.D.

Fellow, Department of Pediatrics, Division of Pediatric Infectious Diseases, Baylor College of Medicine, Houston, Texas

Tuberculosis

James R. Murphy

Professor, Department of Pediatrics, University of Texas-Houston Medical School, Houston, Texas

Campylobacter

Martin G. Myers, M.D.

Professor and Chairman, Department of Pediatrics, Northwestern University Medical School and Children's Memorial Hospital, Chicago, Illinois

Varicella-Zoster Virus

Robert D. Needlman, M.D.

Assistant Professor of Pediatrics, Case Western Reserve University School of Medicine; Attending Physician Rainbow Babies and Children's Hospital, University Hospitals of Cleveland, Cleveland, Ohio

Growth and Development

John D. Nelson, M.D.

Professor Emeritus, Department of Pediatrics, The University of Texas Southwestern Medical Center at Dallas; Honorary Staff Membership, Children's Medical Center and Parkland Memorial Hospital, Dallas, Texas

Osteomyelitis and Suppurative Arthritis

Leonard B. Nelson, M.D.

Professor of Ophthalmology and Pediatrics, Jefferson Medical College of Thomas Jefferson University; Co-Director, Pediatric Ophthalmology, Wills Eye Hospital, Philadelphia, Pennsylvania

Disorders of the Eye

John F. Nicholson, M.D.

Associate Professor of Pediatrics and Pathology, Columbia University College of Physicians and Surgeons; Director, Point-of-Care, New York Presbyterian Hospital at Columbia Presbyterian Medical Center, New York, New York

Laboratory Testing in Infants and Children; Reference Ranges for Laboratory Tests and Procedures

Pearay L. Ogra, M.D.

John Sealy Distinguished Chair and Professor of Pediatrics, University of Texas Medical Branch, Galveston, Texas

Enteroviruses

Robin K. Ohls, M.D.

Associate Professor of Pediatrics, The University of New Mexico, The Children's Hospital of New Mexico, Albuquerque, New Mexico

Development of the Hematopoietic System

Scott E. Olitsky, M.D.

Assistant Professor of Ophthalmology, State University of New York at Buffalo; Staff, The Children's Hospital of Buffalo, Buffalo, New York

Disorders of the Eye

David M. Orenstein, M.D.

Professor of Pediatrics, School of Medicine; Professor of Health, Physical and Recreation Education and Exercise Physiology, School of Education, University of Pittsburgh School of Medicine; Director, Division of Pediatric Pulmonary and Cystic Fibrosis Center, Children's Hospital of Pittsburgh, Pittsburgh, Pennsylvania

Lower Respiratory Tract; Acute Inflammatory Upper Airway Obstruction; Foreign Bodies in the Larynx, Trachea, and Bronchi; Subglottic Stenosis; Bronchitis; Bronchiolitis; Bronchiolitis Obliterans; Aspiration Pneumonias and Gastroesophageal Reflux-Related Respiratory Disease; Emphysema and Overinflation; Pulmonary Edema; Chronic or Recurrent Respiratory Symptoms; Diseases of the Pleura; Neuromuscular and Skeletal Diseases Affecting Pulmonary Function

Lauren M. Pachman, M.D.

Professor of Pediatrics, Northwestern University Medical School; Chief, Division of Pediatrics, Immunology/Rheumatology, The Children's Memorial Hospital, Chicago, Illinois

Juvenile Dermatomyositis; Vasculitis Syndromes

Regina M. Palazzo, M.D.

Assistant Professor of Pediatrics, Section of Respiratory Medicine, Yale University School of Medicine; Director, Cystic Fibrosis Center; Attending Physician, Yale-New Haven Children's Hospital, New Haven, Connecticut

Diagnostic Approach to Respiratory Disease

Demosthenes Pappagianis, M.D., Ph.D.

Professor, Department of Medical Microbiology and Immunology, School of Medicine, University of California, Davis, Davis, California

Coccidioidomycosis (Coccidioides immitis)

John S. Parks, M.D., Ph.D.

Professor of Pediatrics and Director of Pediatric Endocrinology, Emory University School of Medicine; Director, Pediatric Endocrinology, Egleston Children's Hospital, Atlanta, Georgia

Hormones of the Hypothalamus and Pituitary; Hypopituitarism

Alberto Peña, M.D.

Professor of Surgery, Albert Einstein College of Medicine, The Bronx; Chief, Pediatric Surgery, Schneider Children's Hospital, Long Island Jewish Medical Center, New Hyde Park, New York

Anorectal Malformations; Surgical Conditions of the Anus, Rectum, and Colon

J. Julio Pérez-Fontán, M.D.

Professor of Pediatrics and Anesthesiology, Washington University School of Medicine; Director, Division of Pediatric Critical Care Medicine and Pediatric Intensive Care Unit, Department of Pediatrics, St. Louis Children's Hospital, St. Louis, Missouri

Development of the Respiratory System; Respiratory Pathophysiology; Defense Mechanisms and Metabolic Functions of the Lung

James M. Perrin, M.D.

Associate Professor of Pediatrics, Harvard Medical School; Director, Division of General Pediatrics, Massachusetts General Hospital, Boston, Massachusetts

Developmental Disabilities and Chronic Illness: An Overview; Chronic Illness in Childhood

Michael A. Pesce, Ph.D.

Associate Professor of Clinical Pathology, Columbia University College of Physicians and Surgeons; Director, Specialty Laboratory, New York Presbyterian Hospital at Columbia-Presbyterian Medical Center, New York, New York

Laboratory Testing in Infants and Children; Reference Ranges for Laboratory Tests and Procedures

Georges Peter, M.D.

Professor of Pediatrics, Brown University School of Medicine; Director, Division of Pediatric Infectious Disease, Rhode Island Hospital, Providence, Rhode Island

Immunization Practices

Ross E. Petty, M.D., Ph.D.

Professor and Head, Division of Pediatric Rheumatology, Department of Pediatrics, The University of British Columbia and Children's Hospital, Vancouver, British Columbia, Canada

Ankylosing Spondylitis and Other Spondyloarthropathies

Larry K. Pickering, M.D.

Professor of Pediatrics, Eastern Virginia Medical School of the Medical College of Hampton Roads; Chair in Pediatrics Research and Director, Center for Pediatric Research, Children's Hospital of the King's Daughters, Norfolk, Virginia

Gastroenteritis; Viral Hepatitis; Giardiasis and Balantidiasis; Child Day Care and Communicable Diseases

Sergio Piomelli, M.D.

James A. Wolff Professor of Pediatrics, Columbia University College of Physicians and Surgeons; Director, Pediatric Hematology, Babies and Children's Hospital, New York, New York

Lead Poisoning

Philip A. Pizzo, M.D.

Thomas Margon Rotch Professor and Chair, Department of Pediatrics, Harvard Medical School; Physician-in-Chief and Chair, Department of Medicine, Children's Hospital, Boston, Massachusetts

Infections in Immunocompromised Hosts; The Pancytopenias

Dwight A. Powell, M.D.

Professor of Pediatrics, The Ohio State University College of Medicine and Public Health; Chief, Section of Pediatric Infectious Diseases, Children's Hospital, Columbus, Ohio

Leprosy (Hansen Disease); Atypical Mycobacteria; Mycoplasma pneumoniae; Genital Mycoplasmas (Mycoplasma hominis and Ureaplasma urealyticum)

Keith R. Powell, M.D.

Professor and Chairman, Department of Pediatrics, Northeastern Ohio Universities College of Medicine, Dr. Noah Miller Chair of Pediatric Medicine, Children's Hospital Medical Center of Akron, Akron, Ohio

Fever; Fever Without a Focus; Sepsis and Shock

Charles G. Prober, M.D.

Professor of Pediatrics, Medicine, Microbiology, and Immunology and Associate Chairman, Department of Pediatrics, Stanford University School of Medicine, Stanford, California

Central Nervous System Infections; Pneumonia

Daniel J. Rader, M.D.

Assistant Professor of Medicine, Pediatrics, Pathology, and Laboratory Medicine, University of Pennsylvania School of Medicine; Director, Preventive Cardiology and Lipid Research Center, University of Pennsylvania Health System, Philadelphia, Pennsylvania

Disorders of Lipoprotein Metabolism and Transport

Robert Rapaport, M.D.

Associate Professor of Pediatrics, University of Medicine and Dentistry of New Jersey, Newark; Director, Pediatric Endocrinology and Metabolism, St. Barnabas Health Care System and Children's Hospital of New Jersey at Newark, Beth Israel Medical Center, Livingston and Newark, New Jersey

Disorders of the Gonads

Michael D. Reed, Pharm.D.

Professor of Pediatrics, Case Western Reserve University, School of Medicine; Director, Pediatric Clinical Pharmacology and Toxicology, Rainbow Babies and Children's Hospital, Cleveland, Ohio

Principles of Drug Therapy; Medications

Jack S. Remington, M.D.

Professor of Medicine, Division of Infectious Diseases and Geographic Medicine, Stanford University School of Medicine; Marcus A. Krupp Research Chair and Chairman, Department of Immunology and Infectious Diseases, Research Institute, Palo Alto Medical Foundation, Palo Alto, California

Toxoplasmosis (Toxoplasma gondii)

Iraj Rezvani, M.D.

Professor of Pediatrics, Department of Pediatrics, Temple University School of Medicine; Chief, Section of Endocrine, Diabetes, and Metabolic Disorders, Temple University Children's Medical Center, Philadelphia, Pennsylvania

An Approach to Inborn Errors; Phenylalanine; Tyrosine; Methionine; Cysteine/Cystine; Tryptophan; Valine, Leucine, Isoleucine, and Related Organic Acidemias; Glycine; Serine; Proline and Hydroxyproline; Glutamic Acid; Urea Cycle and Hyperammonemia; Histidine; Lysine

Frederick P. Rivara, M.D., M.P.H.

George Adkins Professor of Pediatrics, University of Washington School of Medicine; Director, Harborview Injury Prevention and Research Center, Harborview Medical Center, Seattle, Washington

Injury Control; Emergency Medical Services for Children

Dennis M. Robertson, M.D.

Professor of Ophthalmology, Mayo Medical School; Consultant in Ophthalmology, Mayo Clinic and Foundation, Rochester, Minnesota

Retinoblastoma

Kent A. Robertson, M.D., Ph.D.

Associate Professor of Pediatrics and Investigator, Herman B. Wells Center for Pediatric Research, Indiana University School of Medicine; Staff, Riley Hospital for Children, Indianapolis, Indiana

Bone Marrow Transplantation

Luther K. Robinson, M.D.

Associate Professor of Pediatrics, State University of New York at Buffalo, School of Medicine and Biomedical Sciences; Director, Dysmorphology and Clinical Genetics, Kaleida Health—Children's Hospital of Buffalo, Buffalo, New York

Marfan Syndrome

Alice Rock, M.D.

Assistant Professor of Pediatrics, Medical College of Wisconsin and Children's Hospital of Wisconsin, Milwaukee, Wisconsin

The Lymphatic System

George C. Rodgers, Jr., M.D., Ph.D.

Professor of Pediatrics, Pharmacology/Toxicology, and International Pediatrics, University of Louisville School of Medicine; Medical Director, Kentucky Regional Poison Center, Louisville, Kentucky

Poisonings: Drugs, Chemicals, and Plants

Carol L. Rosen, M.D.

Associate Professor of Pediatrics, Section of Respiratory Medicine, Yale University School of Medicine; Medical Director, Children's Sleep Laboratory, Children's Clinical Research Center; Attending Physician, Yale-New Haven Children's Hospital, New Haven, Connecticut

Obstructive Sleep Apnea and Hypoventilation in Children

David S. Rosenblatt, M.D.C.M.

Professor of Pediatrics, Medicine, and Human Genetics, McGill University; Director, Division of Medical Genetics, Department of Medicine, McGill University Health Center, Montreal, Quebec, Canada

An Approach to Inborn Errors; Valine, Leucine, Isoleucine, and Related Organic Acidemias

Anne H. Rowley, M.D.

Associate Professor of Pediatrics and of Microbiology and Immunology, Northwestern University Medical School; Attending Physician, Division of Infectious Diseases, Children's Memorial Hospital, Chicago, Illinois

Kawasaki Disease

Robert A. Salata, M.D.

Professor of Medicine, Case Western Reserve University School of Medicine, Department of Medicine, International Health, Epidemiology, and Biostatistics; Chief, Division of Infectious Diseases, and Hospital Epidemiologist, University Hospitals of Cleveland, Cleveland, Ohio

Amebiasis; Trichomoniasis (Trichomonas vaginalis); American Trypanosomiasis (Chagas Disease; Trypanosoma cruzi); Health Advice for Children Traveling Internationally

Joseph S. Sanfilippo, M.D.

Professor and Chairman, Obstetrics and Gynecology, MCP Hahnemann School of Medicine; Allegheny General Hospital, Philadelphia, Pennsylvania

Gynecologic Problems of Childhood

Harvey B. Sarnat, M.D., FRCP

Professor of Neurology, Pediatrics, and Pathology (Neuropathology), University of Washington School of Medicine; Pediatric Neurologist and Neuropathologist, Children's Hospital and Regional Medical Center, Seattle, Washington

Neuromuscular Disorders

Shigeru Sassa, M.D., Ph.D.

Associate Professor and Head, Laboratory of Biochemical Hematology, The Rockefeller University; Physician, The Rockefeller University Hospital, New York, New York

The Porphyrrias

Robert Schechter, M.D., M.Sc.

Clinical Director, Infant Botulism Treatment and Prevention Program, California Department of Health Services, Berkeley; Staff Physician, Children's Hospital, Oakland, California

Botulism

William S. Schechter, M.D., FAAP

Assistant Professor of Anesthesiology and Pediatrics and Director, Pediatric Pain Treatment and Sedation Service, Department of Anesthesiology, Babies and Children's Hospital, New York, New York

Anesthesia and Perioperative Care

Gordon E. Schutze, M.D., FAAP

Associate Professor of Pediatrics and Pathology, University of Arkansas for Medical Sciences; Pediatric Residency Program Director, Pediatric Infectious Diseases, Arkansas Children's Hospital, Little Rock, Arkansas

Actinomycosis; Nocardia; Tularemia (Francisella tularensis); Brucella

Elias Schwartz, M.D.

Professor of Pediatrics, Jefferson Medical College of Thomas Jefferson University; Pediatric Hematologist, Cardeza Foundation, Thomas Jefferson University Hospital, Philadelphia, Pennsylvania and Alfred I. duPont Hospital for Children, Wilmington, Delaware

The Anemias; Anemias of Inadequate Production

Peter V. Scoles, M.D.

Professor, Department of Orthopedic Surgery, Case Western Reserve University, Cleveland, Ohio

Bone and Joint Disorders, Orthopedic Problems

Charles Scott, M.D.

Director, Forensic Psychiatry Training, University of California, Davis, Sacramento, California

Vegetative Disorders

J. Paul Scott, M.D.

Professor of Pediatrics, Medical College of Wisconsin; Investigator, Blood Research Institute; Attending Physician, Children's Hospital of Wisconsin, Milwaukee, Wisconsin

Hemorrhagic and Thrombotic Diseases

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Diseases of the Blood. Hemolytic Anemias: Definitions and Classification of Hemolytic Anemias; Hereditary Spherocytosis; Hereditary Elliptocytosis; Hereditary Stomatocytosis; Other Membrane Defects; Enzymatic Defects; Hemolytic Anemias Resulting from Extracellular Factors; Hemolytic Anemias Secondary to Other Extracellular Factors