

CECIL

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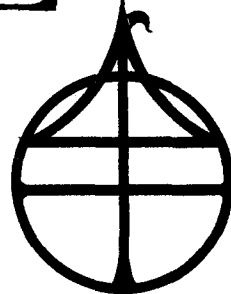
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However, dosage schedules are changed from time to time in the light of accumulating clinical experience and continuing laboratory studies. This is most likely to occur in the case of recently introduced products.

We urge, therefore, that you check the package information data for the manufacturer's recommended dosage to be certain that changes have not been made in the recommended dose or in the contraindications for administration. In addition, there are some quite serious situations in which drug therapy must be individualized and expert judgment advises the use of a higher dosage or administration by a different route than is included in the manufacturer's recommendations. Throughout the text examples of such instances are indicated by a footnote.

THE EDITORS

ALSO ASSOCIATED WITH THE CECIL TEXTBOOK OF MEDICINE

Review of General Internal Medicine: A Self-Assessment Manual, 5th Edition, 1992

Editors: J. Allen D. Cooper, Jr., M.D.; Peter G. Pappas, M.D.

The fifth edition of this self-assessment book contains approximately 1200 questions covering all the specialty areas of internal medicine. The answers are linked to this edition of the *Cecil Textbook of Medicine*, to the *Cecil Essentials of Medicine*, and to other readily available sources.

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PREFACE

The 19th edition of the *Cecil Textbook of Medicine* appears on the one-hundredth anniversary of the publication of William Osler's influential *The Principles and Practice of Medicine*, a monumental single-authored volume notable for its comprehensive clinical coverage, authoritative pathologic descriptions, and literary qualities. Microbiology was then the newest medical science. A tone of therapeutic nihilism was the book's most salutary contribution. At least two generations of physicians would fall under its influence. The textbook ushered in a period of increasingly exact diagnosis, especially in infectious diseases, and an ever more critical evaluation of drugs, remedies, and nostrums in the practice of medicine. It also led to the establishment of the Rockefeller Institute, founded to address the pervasive ignorance of the pathophysiology of disease so abundantly displayed in Osler's textbook, avant garde though it was for its day.

Thirty-five years later, in 1927, Russell Cecil introduced "A *Text-book of Medicine* by American authors." Single-authored textbooks had largely given way to books jointly authored by a small number of writers, but the idea of an edited textbook compiled by multiple authors, each writing on topics of personal interest and experience, was new. Basic biologic sciences were making increasingly important contributions to clinical medicine, and these were to be accorded substantial attention. The maturing sciences were physiology, pharmacology, and biochemistry. With succeeding editions, Cecil's philosophy became more explicit. Cecil believed that "... in terms of biological processes, fragmentation of the discussion of disease is artificial" (Preface, 10th edition, 1959). Each chapter was a treatise in which clinical description, pathologic information, pathophysiologic knowledge, diagnostic criteria, and therapeutic measures were well integrated, so that students and physicians consulting the text could secure the most authoritative information available and find it in one place (Beeson and McDermott, Preface, 11th edition, 1963).

Cecil's inaugural philosophy continues into the 19th edition of the *Cecil Textbook*, 65 years later, appropriately adapted to ever-changing circumstances. By 1992, several generations of physicians have learned medicine with the help of *Cecil*. The series spans a period of remarkable progress in biomedical and behavioral sciences, and each new edition has incorporated new insights on disease causation, prevention, and treatment. The pace has quickened as we approach the twenty-first century. New technologies have revolutionized molecular genetics, neurobiology, immunology, cell biology, and structural biology; the application of these disciplines to all branches of the traditional biomedical sciences proceeds apace. The structure of DNA was elucidated less than 40 years ago, and recombinant DNA technology was discovered less than 20 years ago. Today, the leitmotif of biologic science, regardless of its disciplinary name, is increasingly cell and molecular biology. This theme is now permeating medicine and prefiguring the developments of the next few decades. Beyond these contributions from the biologic sciences, applications of the physical and mathematical sciences, especially in diagnostic imaging (CT, MRI, PET, and sonography) and in the information sciences, continue to alter medical practice. In such a climate of change, medical competence itself is fragile. It must be constantly renewed or else it will erode.

To reflect the best in medical practice, a major textbook of medicine must also be constantly renewed. In that spirit, this edition of the *Cecil Textbook of Medicine* has been thoroughly revised. As before, approximately one third of the book is "new" in that different authors have been selected, in this way assuring that their chapters have been completely recast. All other chapters have been revised and updated by their current authors, carefully chosen authorities in their respective subjects. The editors are deeply grateful to all retiring authors for the high standards of their contributions. We have retained the two-color presentation of figures and charts, so well received in the 18th edition, and have expanded the color plates from 8 to 16 pages.

The most extensive change in the 19th edition is the further expansion of space devoted to the acquired immunodeficiency syndrome (AIDS), a still unfolding epidemic. This condition

now commands a part of its own (Part XXI, HIV and Associated Disorders), comprising 13 newly written chapters: "Immunology Related to AIDS" (B. D. Walker); "Biology of Human Immunodeficiency Viruses" (G. M. Shaw); "Epidemiology of HIV Infection and AIDS" (J. W. Curran); "Prevention of HIV Infection" (M. S. Saag); "Neurologic Complications of HIV-1 Infection" (R. W. Price); "Pulmonary Manifestations of AIDS: Special Emphasis on Pneumocystosis" (F. R. Sattler); "Gastrointestinal Manifestations of AIDS" (J. G. Bartlett); "Cutaneous Signs of AIDS" (N. S. Penneys); "Ophthalmologic Manifestations of AIDS" (M. A. Jacobson); "Hematology/Oncology in AIDS" (J. E. Groopman and D. T. Scadden); "Renal, Cardiac, Endocrine, and Rheumatologic Manifestations of HIV Infection" (M. S. Saag); "Treatment of AIDS and Related Disorders" (R. Yarchoan and S. Broder); and "Chronic Management and Counseling for Persons with HIV Infection" (J. A. Bartlett). In addition, related chapters on AIDS dementia and on opportunistic infections associated with AIDS, found elsewhere in the book, have been thoroughly updated.

A new chapter, "Human T Cell Lymphotropic Virus Type I-Associated Myelopathy and Tropical Spastic Paraparesis" (R. W. Price), reflects the growing appreciation of other retroviruses as causes of human disease. Oncology (Part XIII) has been strengthened by the addition of two new chapters: "Oncologic Emergencies" (S. M. Hahn and A. Russo) and "Metastatic Cancer, Source Unknown" (D. C. Ihde). In addition, a new chapter, "Ovarian Carcinoma" (H. W. Jones), is included in Part XVI, Endocrine and Reproductive Diseases. Part XXIII, Neurology, has been reorganized to increase the depth of focus on problems of the elderly. New chapters include "Neurologic Problems Associated with Aging" (F. Plum) and "Disturbances of Memory and Language" and "Alzheimer's Disease and Related Dementias" (both by A. R. Damasio). Also, "Brief Loss of Consciousness," "Sustained Impairments of Consciousness," and "Brain Death" (all by F. Plum) are now full chapters.

New chapters have also been added elsewhere, including "Zoonoses" (B. McLain), "Liver Transplantation" (J. P. Roberts), and "Erythromelalgia" (E. V. Ball). Part IV, Principles of Diagnosis and Management, is now expanded by a new chapter, "NSAID's: Aspirin and Aspirin-like Drugs" (G. Weissmann), in response to the need for an authoritative discussion of the nature, use, and side effects of these widely employed agents. Also, in this edition "Antimicrobial Therapy" (L. S. Young) and "Antiviral Therapy" (a new chapter by M. Middlebrooks) have been transferred from Part IV to be associated more closely with chapters on specific bacterial and viral diseases in Part XX, Infectious Diseases. As in recent editions of *Cecil*, each chapter lists a limited number of carefully selected, recent references to research or review articles in accessible journals, or to books, that may be consulted for additional information. The particular value of each entry is briefly described in an annotation. Finally, a new chapter entitled "Internal Medicine and Today's Internist" has been contributed by our co-editor, J. Claude Bennett, whom the continuing editors warmly welcome to the task of shepherding the 19th edition of *Cecil*, with its attendant high honor and immense responsibility.

Cecil not only stands alone; it is also the senior member of a trilogy. *Cecil Essentials of Medicine* (edited by T. E. Andreoli, C. C. J. Carpenter, F. Plum, and L. H. Smith, Jr.), now in its 2nd edition, offers a more concentrated guide to what every doctor should know about internal medicine. It is designed primarily for the medical student, for whom the authoritative compendium of *Cecil* may sometimes seem formidable. Nevertheless, it serves in general as a useful point of entry guide. *Cecil Review of General Internal Medicine* (edited by J. A. D. Cooper, Jr., and P. G. Pappas) appears in a 5th edition in parallel with this 19th edition of *Cecil*. As before, its 1200 questions and answers are designed to be of general educational benefit as well as to reinforce the value of *Cecil* as a reference text.

Editing a major textbook is a complex task, as one attempts to balance content, format, style, integration, and innovation. The editors have been privileged to work with an admirable group of colleagues in this shared responsibility. Fred Plum has continued in his role as Editor for Neurology. We welcome two new Consulting Editors: Gerald L. Mandell for Infectious Diseases and Robert K. Ockner for Digestive Diseases. They join a seasoned team of fellow Consulting Editors: Thomas E. Andreoli (Renal Diseases), John F. Murray (Respiratory Diseases), David G. Nathan (Hematologic and Hematopoietic Diseases), and Thomas W. Smith (Cardiovascular Diseases). We thank our retiring Consulting Editors, Robert Lefkowitz, William Paul, and Marvin Sleisenger, for extraordinary contributions to *Cecil*, in one case (M. Sleisenger) extending over eight editions. The Consulting Editors continually review their respective sections of this complex book and bring us their ideas and expertise concerning

modifications. Our special gratitude is extended to the 360 contributors who have written the 534 chapters that collectively constitute this 19th edition. The ultimate value and authenticity of *Cecil* lie not with the editors but with the scholarship and experience that these individual physicians and scientists have brought to this joint enterprise.

"Language is the armoury of the human mind; and at once contains the trophies of its past, and the weapons of its future conquests." The weaponry of language, in Coleridge's image above, does not always come fully burnished in submitted manuscripts. As in the 18th edition, we have been most fortunate to work with seasoned editorial assistants in Washington (Margaret Quinlan), San Francisco (Judith Serrell), and Birmingham (Carolyn Thomley), without whose dedication and skill this large project could not have been completed. At W. B. Saunders Company, Lorraine Kilmer, Donna Walker, Frank Polizzano, and Faith Voit carried out with experienced professionalism the intricate task of formatting, editing, and assembling the book. The overall editor at the W. B. Saunders Company for this 19th edition of *Cecil* was again John Dyson, who has been an invaluable guide, colleague, and good friend. We are deeply indebted to him for his extensive contributions in bringing to completion this 19th edition of a venerable book.

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Glomerular Disorders

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The Adrenal Medullae; The Carcinoid Syndrome

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Interstitial Lung Disease

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Epidemiology of HIV Infection and AIDS

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Treatment of Irreversible Renal Failure: Renal Transplantation

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The Febrile Patient

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Diagnosis of Regional Cerebral Dysfunction: Disturbances of Memory and Language; Alzheimer's Disease and Related Dementias

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Diseases of the Mouth and Salivary Glands

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Radiologic Imaging Techniques

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Calcitonin and Medullary Thyroid Carcinoma

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Wilson's Disease

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Investigations of Renal Function

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Arthur J. and Nellie Z. Cohen Professor of Pediatrics and Genetics and Chief, Division of Medical and Molecular Genetics, Mount Sinai School of Medicine of the City University of New York. Attending Physician, Mount Sinai Medical Center, New York, New York.

Fabry's Disease

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Alcoholism and Alcohol Abuse; Nutritional Disorders of the Nervous System

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Carcinoma of the Pancreas

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The Acute Phase Response

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The Mycoses: Introduction; Histoplasmosis; Blastomycosis; Paracoccidioidomycosis; Cryptococcosis; Sporotrichosis; Candidiasis

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Introduction to Viral Diseases; Influenza; Arthropod-Borne Viral Encephalitides

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Asthma

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The Eating Disorders

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Pneumococcal Pneumonia

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Infective Endocarditis

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Legionellosis

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Colorado Tick Fever

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Laboratory Reference Interval Values of Clinical Importance

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Occupational Diseases of the Skin

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Diseases of Muscles (Myopathies) and Neuromuscular Junction

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The Epilepsies

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Diseases of the Lymph Nodes and Spleen

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Sarcoidosis

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Erysipeloid

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Peptic Ulcer: Complications

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Shock

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Pulmonary Hypertension

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Prostaglandins and Related Compounds

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Clinical Approach to the Patient

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Pain and Its Management

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Sickle Cell Anemia and Associated Hemoglobinopathies

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Urticaria and Angioedema

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Epidemiology of Cardiovascular Disease

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The Preventive Health Examination

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Approach to the Patient with Musculoskeletal Disease

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Neuroendocrine Regulation and Its Disorders; The Anterior Pituitary

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Cystic Disease of the Kidney

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Coccidioidomycosis

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Connective Tissue Structure and Function

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Connective Tissue Structure and Function

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Principles of Endocrinology

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Eye Diseases

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Hodgkin's Disease

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Foot-and-Mouth Disease; Mumps

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Electrical Injury

SHERWOOD L. CORBACH, M.D.

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Diseases Caused by Non-Spore-Forming Anaerobic Bacteria

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Acute Renal Failure

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Advice to Travelers; Enteric Infections: Introduction; Onchocerciasis

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The Glycogen Storage Diseases; Fructose Intolerance

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Electrocardiography

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Cholera

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Vascular Diseases of the Intestine

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Langerhans Cell (Eosinophilic) Granulomatosis; Hematology/Oncology in AIDS

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Pancreatic Islet Cell Tumors

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Campylobacter Enteritis; Enteric Escherichia coli Infections

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Oncologic Emergencies

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Chromosomes and Their Disorders

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Inflammatory Bowel Disease

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Exercise and Health

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Glucocorticosteroid Therapy; Wegener's Granulomatosis and Midline Granuloma

JOHN P. HAYSLETT, M.D.

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Renal Disease in Pregnancy

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Miscellaneous Conditions of the Heart: Tumor, Trauma, and Systemic Disease

DONALD A. HENDERSON, M.D., M.P.H.

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Variola and Vaccinia

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Diphtheria

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Other Disorders of Purine Metabolism

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Congenital Malformations

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Critical Care Medicine

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Dracunculiasis

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Tularemia; Rickettsial Diseases

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Osteoarthritis; The Painful Shoulder; The Painful Back

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Principles of Preventive Medicine; Control of Unintended Injuries and Those Due to Violence

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Polymyalgia Rheumatica and Giant Cell Arteritis

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Approach to the Patient with Metastatic Cancer, Primary Site Unknown

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Specialized Management Procedures for Rheumatic Diseases

JULIANNE IMPERATO-McGINLEY, M.D.

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Disorders of Sexual Differentiation

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Ophthalmologic Manifestations of AIDS

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The Extrapyramidal Disorders

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Introduction to Pneumonia; Pneumonia Caused by Aerobic Gram-Negative Bacilli; Recurrent Aspiration Pneumonia

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Whooping Cough

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Ovarian Carcinoma

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Sleep and Its Disorders

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The Judicious Diet

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The Common Cold; Viral Gastroenteritis

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Anaphylaxis

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Leprosy—Hansen's Disease

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Hemolytic Disorders: Introduction; Acquired Hemolytic Disorders

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Congenital Heart Disease

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Salmonella Infections Other Than Typhoid Fever

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Nematode Infections

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The Chronic Leukemias

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Infectious Mononucleosis

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Cestode Infections

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Structure and Function of the Kidneys; Obstructive Uropathy

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Disorders Due to Heat and Cold

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Gaucher Disease; Niemann-Pick Disease

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Vascular Diseases of the Limbs

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Streptococcal Diseases

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Diarrhea

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Arthropods and Leeches

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Malaria

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Normochromic, Normocytic Anemias; Hypochromic Anemias

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Plasma Cell Disorders

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Cytomegalovirus Infection

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The Thyroid

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Degenerative Diseases of the Nervous System

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Panniculitis and Disorders of the Subcutaneous Fat

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Systemic Sclerosis

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Neoplasms of the Large and Small Intestine

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Cerebrovascular Diseases

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Breast Cancer

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The Pineal Gland

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Insect Sting Allergy

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An Approach to the Anemias

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Adolescent Medicine

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Polyglandular Disorders

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Trace Metal Poisoning

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Critical Care Medicine

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Treatment of Irreversible Renal Failure: Dialysis

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Hereditary Defects in the Membrane or Metabolism of the Red Cell

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Introduction to Protozoan and Helminthic Diseases; Schistosomiasis

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Infectious Arthritis; Lyme Disease

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Diseases of the Gallbladder and Bile Ducts

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Introduction to Microbial Disease; Introduction to Bacterial Disease

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Bone Tumors

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Nonmalignant Diseases of the Breast

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Cat Scratch Disease

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Overview of Imaging Techniques and Projection for the Future

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Injury to the Head and Spinal Cord

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Mineral and Bone Homeostasis

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Toxoplasmosis

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The Testis and Male Sexual Function