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This presentation describes various aspects of the regulation of tissue oxygenation, including the roles of the circulatory system, respiratory system, and blood, the carrier of oxygen within these components of the cardiorespiratory system. The respiratory system takes oxygen from the atmosphere and transports it by diffusion from the air in the alveoli to the blood flowing through the pulmonary capillaries. The cardiovascular system then moves the oxygenated blood from the heart to the microcirculation of the various organs by convection, where oxygen is released from hemoglobin in the red blood cells and moves to the parenchymal cells of each tissue by diffusion. Oxygen that has diffused into cells is then utilized in the mitochondria to produce adenosine triphosphate (ATP), the energy currency of all cells. The mitochondria are able to produce ATP until the oxygen tension or PO₂ on the cell surface falls to a critical level of about 4–5 mm Hg. Thus, in order to meet the energetic needs of cells, it is important to maintain a continuous supply of oxygen to the mitochondria at or above the critical PO₂. In order to accomplish this desired outcome, the cardiorespiratory system, including the blood, must be capable of regulation to ensure survival of all tissues under a wide range of circumstances. The purpose of this presentation is to provide basic information about the operation and regulation of the cardiovascular and respiratory systems, as well as the properties of the blood and parenchymal cells, so that a fundamental understanding of the regulation of tissue oxygenation is achieved. Learn everything you need to safely and compassionately care for patients requiring ventilator support with *Pilbeam's Mechanical Ventilation: Physiological and Clinical Applications, 6th Edition*. Known for its simple explanations and in-depth coverage of patient-ventilator management, this evidence-based text walks readers through the most fundamental and advanced concepts surrounding mechanical ventilation and guides them in properly applying these principles to patient care. This new edition features a completely revised chapter on ventilator graphics, additional case studies and clinical scenarios, plus all the reader-friendly features that promote critical thinking and clinical application - like key points, AARC clinical practice guidelines, and critical care concepts - that have helped make this text a household name among respiratory care professionals. UNIQUE! Chapter on ventilator associated pneumonia provides in-depth, comprehensive coverage of this challenging issue. Brief patient case studies list important assessment data and pose a critical thinking question to readers. Critical Care Concepts are presented in short questions to engage readers in applying knowledge to difficult concepts. Clinical scenarios cover patient presentation, assessment data, and treatment options to acquaint readers with different clinical situations. NBRC exam-style assessment questions at the end of each chapter offer practice for the certification exam. Key Point boxes highlight need-to-know information. Logical chapter sequence builds on previously learned concepts and information. Bulleted end-of-chapter summaries help readers to review and assess their comprehension. Excerpts of Clinical Practice Guidelines developed by the AARC (American Association for Respiratory Care) make it easy to access important information regarding indications/contraindications, hazards and complications, assessment of need, assessment of outcome, and monitoring. Chapter outlines show the big picture of each chapter's content. Glossary of mechanical ventilation terminology includes definitions to highlighted key terms in each chapter. NEW! Completely revised chapter on ventilator graphics offers a more practical explanation of ventilator graphics and what readers need to know when looking at abnormal graphics. NEW! Additional case studies and clinical scenarios cover real-life scenarios that highlight the current trends in pathologies in respiratory care. This is an integrated textbook on the respiratory system, covering the anatomy, physiology and biochemistry of the system, all presented in a clinically relevant context appropriate for the first two years of the medical student course. One of the seven volumes in the *Systems of the Body* series. Concise text covers the core anatomy, physiology and biochemistry in an integrated manner as required by system- and problem-based medical courses. The basic science is presented in the clinical context in a way appropriate for the early part of the medical course. There is a linked website providing self-assessment material ideal for examination preparation. This book consists of 23 essays about prominent people and events in the history of respiratory physiology. It provides a first-hand chronicle of the advancements made in respiratory physiology starting with Galen and the beginnings of Western physiology. The volume covers every aspect of the evolution of this important area of knowledge: pulmonary circulation, Boyle's Law, pulmonary capillaries and alveoli, morphology, gas exchange and blood flow, mechanics, control of ventilation, and comparative physiology. The book emphasizes societal and philosophical aspects of the history of science. Although it concentrates on physiology, it also describes how cultural movements, such as The Enlightenment, shaped the researchers discussed. This book is published on behalf of the American Physiological Society by Springer. Access to APS books published with Springer is free to APS members. *The Effect: An Introduction to Research Design and Causality* is about research design, specifically concerning research that uses observational data to make a causal inference. It is separated into two halves, each with different approaches to that subject. The first half goes through the concepts of causality, with very little in the way of estimation. It introduces the concept of identification thoroughly and clearly and discusses it as a process of trying to isolate variation that has a causal interpretation. Subjects include heavy emphasis on data-generating processes and causal diagrams. Concepts are demonstrated with a heavy emphasis on graphical intuition and the question of what we do to data. When we "add a control variable" what does that actually do? Key Features: • Extensive code examples in R, Stata, and Python • Chapters on overlooked topics in econometrics classes: heterogeneous treatment effects, simulation and power analysis, new cutting-edge methods, and uncomfortable ignored assumptions • An easy-to-read conversational tone • Up-to-date coverage of methods with fast-moving literatures like difference-in-differences *The respiratory system is made up of the nose, the throat, the lungs, and other parts. But what does the respiratory system do? And how do its parts work together to keep your body healthy? Explore the respiratory system in this engaging and informative book. "The combination of scientific and institutional integrity represented by this book is unusual. It should be a model for future endeavors to help quantify environmental risk as a basis for good decisionmaking."* —William D. Ruckelshaus, from the foreword. This volume, prepared under the auspices of the Health Effects Institute, an independent research organization created and funded jointly by the Environmental Protection Agency and the automobile industry, brings together experts on atmospheric exposure and on the biological effects of toxic substances to examine what is known—and not known—about the human health risks of automotive emissions. *The Respiratory System at a Glance* has been thoroughly updated in line with current practice guidelines and new techniques to provide a highly illustrated and comprehensive guide to normal lung structure and function, as well as associated pathophysiology. Each topic has been fully revised and is accompanied by clear diagrams to encapsulate essential knowledge. Reflecting changes to the content, teaching and assessment methods used in medical education, this new edition now includes more information on acid base and its clinical ramifications, further detail on defence mechanisms and immunology, and also features online access to clinical cases and flashcards. *The Respiratory System at a Glance:* •

Integrates basic and clinical science – ideal for integrated and systems-based courses • Includes both the pathophysiology and clinical aspects of the respiratory system • Is fully revised and updated to reflect current practice guidelines and new therapies • Provides online clinical cases, brand new flashcards, and MCQs • Includes a companion website at www.ataglanceseries.com/respiratory featuring interactive multiple choice questions and digital flashcards A version of the OpenStax text Now in its 6th edition, the best-selling text, **CARDIOPULMONARY ANATOMY & PHYSIOLOGY**, equips students with a rock-solid foundation in anatomy and physiology to help prepare them for careers as respiratory therapists. Extremely reader friendly, this proven, innovative text delivers the most complete and accurate information about the structure and function of the respiratory system in an approachable manner. Clear and concise, it presents complicated concepts in an easy-to-read, understandable format utilizing a full color design and strong pedagogy, so that students can readily apply what they learn when they graduate and start their professional careers. Newly integrated throughout the text, Clinical Connections provide direct links between chapter concepts and real-world applications in the clinical setting. New and redrawn full color illustrations provide the level of detail necessary to facilitate understanding of core concepts. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version. The seventh edition of the most authoritative and comprehensive book published on lung function, now completely revised and restructured Lung function assessment is the central pillar of respiratory diagnosis. Most hospitals have lung function laboratories where patients are tested with a variety of physiological methods. The tests and techniques used are specialized and utilize the expertise of respiratory physicians, physiologists, and technicians. This new edition of the classic text on lung function is a theoretical textbook and practical manual in one that gives a comprehensive account of lung function and its assessment in healthy persons and those with all types of respiratory disorder, against a background of respiratory, exercise, and environmental physiology. It incorporates the technical and methodological recommendations for lung function testing of the American Thoracic Society and European Respiratory Society. Cotes' Lung Function, 7th Edition is filled with chapters covering respiratory surveys, respiratory muscles, neonatal assessment, exercise, sleep, high altitude, hyperbaria, the effects of cold and heat, respirable dusts, fumes and vapors, anesthesia, surgery, and respiratory rehabilitation. It also offers a compendium of lung function in selected individual diseases and is filled with more diagrams and illustrative cases than previous editions. The only text to cover lung function assessment from first principles including methodology, reference values, and interpretation Completely re-written in a contemporary style—includes user-friendly equations and more diagrams Covers the latest advances in the treatment of lung function, including a stronger clinical and practical bias and more on new techniques and equipment Keeps mathematical treatments to a minimum Cotes' Lung Function is an ideal guide for respiratory physicians and surgeons, staff of lung function laboratories, and others who have a professional interest in the function of the lungs at rest or on exercise and how it may be assessed. Physiologists, anthropologists, pediatricians, anesthetists, occupational physicians, explorers, epidemiologists, and respiratory nurses should also find the book useful. Knowledge about the mechanisms of lung development has been growing rapidly, especially with regard to cellular and molecular aspects of growth and differentiation. This authoritative international volume reviews key aspects of lung development in health and disease by providing a comprehensive review of the complex series of cellular and molecular interactions required for lung development. It covers such topics as pulmonary hypoplasia, effects of malnutrition, and pulmonary angiogenesis. An indispensable reference for all those involved in studying or treating lung disease in neonates and children, the book offers a unique view of the development of this essential organ. The only text to cover lung function assessment from first principles including methodology, reference values and interpretation New for this edition: - More illustrations to convey concepts clearly to the busy physician - Text completely re-written in a contemporary style: includes user-friendly equations and more diagrams - New material covering the latest advances in the treatment of lung function, including more on sleep-related disorders, a stronger clinical and practical bias and more on new techniques and equipment - Uses the standard Vancouver referencing system What the experts say: "I have always considered Dr Cotes' book the most authoritative book published on lung function. It is also the most comprehensive." —Dr Robert Crapo, Pulmonary Division, LDS Hospital, Salt Lake City, USA "I think I can fairly speak on behalf of staff in lung function departments the length and breadth of the country - that a sixth edition of Cotes would be gratefully received." —Dr Brendan Cooper, Clinical Respiratory Scientist, Nottingham City Hospital In recent years capnography has gained a foothold in the medical field and is fast becoming a standard of care in anaesthesiology and critical care medicine. In addition, newer applications have emerged which have expanded the utility of capnographs in a number of medical disciplines. This new edition of the definitive text on capnography reviews every aspect of this valuable diagnostic technique. An introductory section summarises the basic physiology of carbon dioxide generation and transport in the body. A technical section describes how the instruments work, and a comprehensive clinical section reviews the use of capnography to diagnose a wide range of clinical disorders. Edited by the world experts in the technique, and with over 40 specialist contributors, Capnography, second edition, is the most comprehensive review available on the application of capnography in health care. Covering respiratory physiology, this is one in a series of texts which takes a fresh, unique approach to learning physiology in a systems-based curriculum. Each chapter includes clinical correlations, as well as questions that test students' ability to integrate information. The Multiple Inert Gas Elimination Technique (MIGET) is a complex methodology involving specialized gas chromatography and sophisticated mathematics developed in the early 1970's. Essentially, nobody possesses knowledge of all its elements except for its original developers, and while some practical and theoretical aspects have been published over the years, none have included the level of detail that would be necessary for a potential user to adopt and understand the technique easily. This book is unique in providing a highly detailed, comprehensive technical description of the theory and practice underlying the MIGET to help potential users set up the method and solve problems they may encounter. But it is much more than a reference manual – it is a substantial physiological and mathematical treatise in its own right. It also has a wide applicability – there is extensive discussion of the common biological problem of quantitative inference. The authors took measured whole-lung gas exchange variables, and used mathematical procedures to infer the distribution of ventilation and blood flow from this data. In so doing, they developed novel approaches to answer the question: What are the limits to what can be concluded when inferring the inner workings from the “black box” behavior of a system? The book details the approaches developed, which can be generalized to other similar distributed functions within tissues and organs. They involve engineering approaches such as linear and quadratic programming, and uniquely use mathematical tools with biological constraints to obtain as much information as possible about a “black box” system. Lastly, the book summarizes the hundreds of research papers published by a number of groups over the decades in a way never before attempted in order to marshal the world's literature on the topic and to provide in one place the wealth of important discoveries, both physiological and clinical, enabled by the technique. This reference surveys current best practices in the prevention and management of ventilator-induced lung injury (VILI) and spans the many pathways and mechanisms of VILI including cell injury and repair, the modulation of alveolar-capillary barrier properties, and lung and systemic inflammatory consequences of injurious mechanical ventilation. Considering many emerging therapeutic options, this guide also reviews the wide array of clinical studies on lung protection strategies and approaches to ARDS patients at risk for VILI. The Public Health Foundation (PHF) in partnership with the Centers for Disease Control and Prevention (CDC) is pleased to announce the availability of Epidemiology and Prevention of Vaccine-Preventable Diseases, 13th Edition or “The Pink Book” E-Book. This resource provides the most current, comprehensive, and credible information on vaccine-preventable diseases, and contains updated content on immunization and vaccine information for public health practitioners, healthcare providers, health educators, pharmacists, nurses, and others involved in administering vaccines. “The Pink Book E-Book” allows you, your staff, and others to have quick access to features such as keyword search and chapter links. Online schedules and sources can also be accessed directly through e-readers with internet access. Current, credible, and comprehensive, “The Pink Book E-Book” contains information on each vaccine-preventable disease and delivers immunization providers with the latest information on: Principles of vaccination General recommendations on immunization Vaccine safety Child/adult immunization schedules International vaccines/Foreign language terms Vaccination data and statistics The E-Book format contains all of the information and updates that are in the print version, including: · New vaccine administration chapter · New recommendations regarding selection of storage units and temperature monitoring tools · New recommendations for vaccine transport · Updated information on available influenza vaccine products · Use of Tdap in pregnancy · Use of Tdap in persons 65 years of age or older · Use of PCV13 and PPSV23 in adults with immunocompromising conditions ·

New licensure information for varicella-zoster immune globulin Contact bookstore@phf.org for more information. For more news and specials on immunization and vaccines visit the Pink Book's Facebook fan page Targeting Chronic Inflammatory Lung Diseases Using Advanced Drug Delivery Systems explores the development of novel therapeutics and diagnostics to improve pulmonary disease management, looking down to the nanoscale level for an efficient system of targeting and managing respiratory disease. The book examines numerous nanoparticle-based drug systems such as nanocrystals, dendrimers, polymeric micelles, protein-based, carbon nanotube, and liposomes that can offer advantages over traditional drug delivery systems. Starting with a brief introduction on different types of nanoparticles in respiratory disease conditions, the book then focuses on current trends in disease pathology that use different in vitro and in vivo models. The comprehensive resource is designed for those new to the field and to specialized scientists and researchers involved in pulmonary research and drug development. Explores recent perspectives and challenges regarding the management and diagnosis of chronic respiratory diseases Provides insights into how advanced drug delivery systems can be effectively formulated and delivered for the management of various pulmonary diseases Includes the most recent information on diagnostic methods and treatment strategies using controlled drug delivery systems (including nanotechnology) The Human Respiratory System combines emerging ideas from biology and mathematics to show the reader how to produce models for the development of biomedical engineering applications associated with the lungs and airways. Mathematically mature but in its infancy as far as engineering uses are concerned, fractional calculus is the basis of the methods chosen for system analysis and modelling. This reflects two decades' worth of conceptual development which is now suitable for bringing to bear in biomedical engineering. The text reveals the latest trends in modelling and identification of human respiratory parameters with a view to developing diagnosis and monitoring technologies. Of special interest is the notion of fractal structure which is indicative of the large-scale biological efficiency of the pulmonary system. The related idea of fractal dimension represents the adaptations in fractal structure caused by environmental factors, notably including disease. These basics are linked to model the dynamical patterns of breathing as a whole. The ideas presented in the book are validated using real data generated from healthy subjects and respiratory patients and rest on non-invasive measurement methods. The Human Respiratory System will be of interest to applied mathematicians studying the modelling of biological systems, to clinicians with interests outside the traditional borders of medicine, and to engineers working with technologies of either direct medical significance or for mitigating changes in the respiratory system caused by, for example, high-altitude or deep-sea environments. This book elucidates the morphological backgrounds of various functional parameters of the human respiratory system, including the respiratory control system, dynamics of the upper and lower airways, gas transport and mixing in the lower airways, gas exchange in the acinus, and gas transfer through the alveolar wall. Presenting the latest findings on the interrelationships between morphology and physiology in the respiratory system, the book's goal is to provide a foundation for further exploring structure-function relationships in various respiratory systems, and to improve both the quality of basic science, and that of clinical medicine targeting the human respiratory system. Edited and written by internationally recognized experts, Structure-Function Relationships in Various Respiratory Systems offers a valuable asset for all physicians and researchers engaging in clinical, physiological, or morphological work in the field of respiration. Moreover, it provides a practical guide for physicians, helping them make more precise pathophysiological decisions concerning patients with various types of lung disease, and will be of interest to respiratory physiologists and respiratory morphologists. Find critical respiratory care information fast! Comprehensive and precise, this portable guide provides rapid access to vital respiratory procedures, facts, and formulas with an emphasis on critical care. It fits easily into your pocket, and the spiral binding allows it to lie flat on any given page. Whether you use it as a clinical resource, a study tool, or a quick refresher, this full-color resource offers quick access to just the right amount of practical, must-know information - essential for boosting your confidence at the point of care. A quick-reference format provides all of the key information you need with fast-access to respiratory care guidelines, including assessment, arterial blood gases, EKGs, medications, and PFTs. You'll also find essential information on pulmonary diseases, equipment disinfection, and neonatal and pediatric care. Waterproof and stain-resistant pages keep your PDQ reference guide performing like new in any clinical setting. Color coded tabs feature a table of contents with page references, making it easy to quickly locate key information within each section. Full color design includes illustrations and clarifies important facts to help you easily find what you need. Commonly used and updated clinical information, including tables, formulas, equations, algorithms, and lab values - all necessary to deliver safe and efficient care. AARC Clinical Practice Guidelines content has been redesigned into easy-to-use, compact algorithms. The latest asthma guidelines Increased coverage of neonatal and pediatric care Expanded BLS and ACLS protocols; updated medications, therapies, and therapeutic devices; and updated ventilator modes More formulas and facts than in the previous edition Now in paperback, the second edition of the Oxford Textbook of Critical Care is a comprehensive multi-disciplinary text covering all aspects of adult intensive care management. Uniquely this text takes a problem-orientated approach providing a key resource for daily clinical issues in the intensive care unit. The text is organized into short topics allowing readers to rapidly access authoritative information on specific clinical problems. Each topic refers to basic physiological principles and provides up-to-date treatment advice supported by references to the most vital literature. Where international differences exist in clinical practice, authors cover alternative views. Key messages summarise each topic in order to aid quick review and decision making. Edited and written by an international group of recognized experts from many disciplines, the second edition of the Oxford Textbook of Critical Care provides an up-to-date reference that is relevant for intensive care units and emergency departments globally. This volume is the definitive text for all health care providers, including physicians, nurses, respiratory therapists, and other allied health professionals who take care of critically ill patients. Reflecting the trusted expertise of Dr. John B. West and Dr. Andrew M. Luks, West's Pulmonary Pathophysiology: The Essentials, Tenth Edition offers accessible explanations of disease processes that affect the respiratory system. This best-selling companion to West's Respiratory Physiology: The Essentials, 11th Edition, has served generations of students and practitioners who work with respiratory patients, presenting vital knowledge in a concise, straightforward manner that's easy to understand. Building on this legacy of success, the tenth edition is updated throughout with the latest clinical perspectives, new images, clinical vignettes, and enhanced USMLE-style review questions to help students excel in today's changing healthcare practice. This companion monograph to West's Respiratory Physiology, which looks at normal respiratory function, focuses instead on the function of the diseased lung. The text offers a concise overview of the disease states of the lung, emphasizing structure and function. For the Sixth Edition, the basic science will be updated to reflect advances in pulmonary pathophysiology in the last five years, including pulmonary function tests, pathophysiology of asthma, pulmonary edema, pulmonary hypertension, air pollution by aerosols, oxygen therapy, and mechanical ventilation. A second interior color is also new to this edition. Intended for second-year medical students taking system-based pathophysiology courses, this book will also prove useful to students in clerkship/rotation. Easily understood, up-to-date and clinically relevant, this book provides junior anaesthetists with an essential physiology resource. A guide to the techniques and analysis of clinical data. Each of the seventeen sections begins with a drawing and biographical sketch of a seminal contributor to the discipline. After an introduction and historical survey of clinical methods, the next fifteen sections are organized by body system. Each contains clinical data items from the history, physical examination, and laboratory investigations that are generally included in a comprehensive patient evaluation. Annotation copyrighted by Book News, Inc., Portland, OR Medicine is grounded in the natural sciences, among which biology stands out with regard to the understanding of human physiology and conditions that cause dysfunction. Ironically though, evolutionary biology is a relatively disregarded field. One reason for this omission is that evolution is deemed a slow process. Indeed, macroanatomical features of our species have changed very little in the last 300,000 years. A more detailed look, however, reveals that novel ecological contingencies, partly in relation to cultural evolution, have brought about subtle changes pertaining to metabolism and immunology, including adaptations to dietary innovations, as well as adaptations to the exposure to novel pathogens. Rapid pathogen evolution and evolution of cancer cells cause major problems for the immune system to find adequate responses. In addition, many adaptations to past ecologies have turned into risk factors for somatic disease and psychological disorder in our modern worlds (i.e. mismatch), among which epidemics of autoimmune diseases, cardiovascular diseases, diabetes and obesity, as well as several forms of cancer stand out. In addition, depression, anxiety and other psychiatric conditions add to the list. The Oxford Handbook of Evolutionary Medicine is a compilation of cutting edge insights into the evolutionary history of ourselves as a species, and how and why our evolved design may convey vulnerability to disease. Written in a classic textbook style

emphasising physiology and pathophysiology of all major organ systems, the Oxford Handbook of Evolutionary Medicine will be valuable for students as well as scholars in the fields of medicine, biology, anthropology and psychology. This unique atlas includes over 475 full color photomicrographs while providing students with a readily accessible source of morphologic information for use in the identification of tissues and organs. Each photomicrograph is accompanied by explanatory captions that guide students to the key morphologic features that identify the function of the structures. The self-assessment section at the end of the book serves as a review tool for those structures that students traditionally have difficulty in identifying.

Severe asthma is a form of asthma that responds poorly to currently available medication, and its patients represent those with greatest unmet needs. In the last 10 years, substantial progress has been made in terms of understanding some of the mechanisms that drive severe asthma; there have also been concomitant advances in the recognition of specific molecular phenotypes. This ERS Monograph covers all aspects of severe asthma - epidemiology, diagnosis, mechanisms, treatment and management - but has a particular focus on recent understanding of mechanistic heterogeneity based on an analytic approach using various 'omics platforms applied to clinically well-defined asthma cohorts. How these advances have led to improved management targets is also emphasised. This book brings together the clinical and scientific expertise of those from around the world who are collaborating to solve the problem of severe asthma.

Eureka - an innovative series for students that fully integrates core science, clinical medicine and surgery. With its engaging and authoritative text, featuring insightful clinical cases, graphic narratives, SBAs and a wealth of other learning tools, Eureka has everything students need to succeed in medicine and pass their exams. Eureka - content that reflects today's medical degree courses with their emphasis on: relevance and application of core science to clinical practice skills required to examine and communicate with patients integrated care across primary and acute care settings Eureka - 15 clinical titles, 5 science titles: Clinical titles - disease-based, clinical cases, system-specific core science Science titles - bedrock biomedical principles, clinical cases Series features across titles: Engaging clinical cases show how skilled clinician would work through a presentation, and put diseases and biomedical principles into patient context Innovative graphic narratives bring clinical cases to life, show how to approach difficult scenarios and convey the experience of being a patient Starter questions - stimulating answers to intriguing questions make learning fun Boxes highlight tips, tricks and key learning points Respiratory Medicine First principles chapter clearly explains the key concepts, processes and structures of the respiratory system Clinical essentials chapter provides an overview of the symptoms and signs of respiratory disease, relevant history and examination techniques, investigations and management options Disease-based chapters give concise descriptions of all major disorders, e.g. asthma, COPD and lung cancer, each chapter introduced by engaging clinical cases that feature unique graphic narratives Emergencies chapter covers the principles of immediate care in situations such as massive pulmonary embolism Integrated care chapter discusses strategies for the management of chronic conditions across primary and other care settings Self-Assessment - 80 multiple choice questions in clinical SBA format, in line with current exam format This resource analyzes knowledge of the bronchial circulation - presenting the anatomy, physiology and clinical importance of this source of blood flow for the lungs.;Written by more than 30 experts from the United States and Europe, The Bronchial Circulation: explains the scientific considerations underlying clinical concepts of asthma, airway infections and hemoptysis, and modern approaches to their care; describes the methods used to measure bronchial blood flow in animals and humans; emphasizes the role of the bronchial circulation in picking up, distributing and eliminating drugs deposited on the mucosa of the airways; shows how mechanical and neurological factors influence total and regional blood flow; discusses the bronchial circulation's function in conditioning inspired air, heat and water exchange, and gas transfer; reveals how the bronchial blood supply to tumours has been employed in their treatment; and details the surgical techniques used to re-establish bronchial blood flow during lung transplantation.;This book is designed for pulmonologists, respiratory physiologists, lung transplant surgeons, and thoracic physicians. It serves as a reference for those interested in cardiopulmonary reactions, including general internists, cardiologists, radiologists, respiratory therapists, medical students, and nurses. More than an introductory text, Respiratory Care: Principles and Practice, Fourth Edition by Dean Hess is a comprehensive resource will be referenced and utilized by students throughout their educational and professional careers. Morphometry of the Human Lung considers the developments in understanding the quantitative anatomy of the lung, and in the correlation of anatomy with physiology. This book is composed of 11 chapters, and begins with an overview of a systematic approach to a quantitative morphologic analysis of the architecture of the human lung, followed by a presentation of general problems of methodology and the derivation of reliable dimensional models of this organ. The subsequent chapters describe the methods of preparation of tissues, methods of random sampling, and adaptation of methodologies from other fields of science. These topics are followed by discussions the mathematical formulations for the translation of the data into the desired geometric forms and a technique of counting. The final chapters look into the mode of distribution and geometric forms that should eventually facilitate mathematical and physical considerations regarding the function of the lungs. These chapters also consider the application of these quantitative methods to the study of pathologic specimens, providing a most timely renovation of morphologic pathology. This book will be of value to pulmonologists, physiologists, and researchers who are interested in lung morphometry. It is rare indeed for one book to be both a first-rate classroom text and a major contribution to scholarship. The Pathway for Oxygen is such a book, offering a new approach to respiratory physiology and morphology that quantitatively links the two. Professionalism in science has led to a compartmentalization of biology. Function is the domain of the physiologist, structure that of the morphologist, and they often operate with vastly disparate concepts and procedures. Yet the performance of the respiratory system depends both on structural and on functional properties that cannot be separated. The first chapter of The Pathway for Oxygen engages the student with the design and function of the vertebrate respiratory organs from a comparative viewpoint. The second chapter adds to that foundation the link between cell energetics and oxygen needs of the whole animal. With Chapter 3 the excitement begins--new ideas, fresh attacks on old problems, and a fuller account of the power of the quantitative approach Dr. Weibel has pioneered. The Pathway for Oxygen will be read eagerly by medical students, graduate students, advanced undergraduates in zoology--and by their professors. Clinical Respiratory Physiology covers the practical aspects and theoretical concepts of applied respiratory physiology. The book describes the methods of measuring ventilator capacity, lung volumes, ventilation, diffusion, cardiac output, and ventilation-perfusion rates. The text also tackles methods of measuring airway resistance and blood gases. Compliance and work of breathing, acid-base regulation, and tests of cardiorespiratory function during exercise are also looked into. Junior doctors working in respiratory units, technicians in respiratory laboratories, general physicians, and senior medical students will find the book useful.