

Critical Care Nephrology

Acute kidney injury (AKI) is a common diagnosis in daily clinical practice, occurring in virtually all fields of medicine. Critically ill patients are especially prone to the development of AKI due to frequent haemodynamic instability, multiple risk factors and, diagnostic and/or treatment complications. Severe AKI substantially prolongs the intensive care unit (ICU) length of stay, with increased risk of death. AKI is also a predisposing factor for multiple organ dysfunction syndrome and is usually a part of it. For these and other reasons, critical care nephrology plays an irreplaceable role in treating critically ill patients in ICUs. The current trend in medicine generally not only in critical care nephrology is to gather as much scientific knowledge as possible and in medicine, everything is interrelated. Further, knowledge of pathophysiology and understanding the causes of illness come in an era of increasing polypharmacy and the escalating side effects of drugs. The latter can cause conditions with the same clinical picture as immune system disorders, viruses and bacteria. Another issue is poisonings and drug intoxications, which are a daily issue in ICU settings. In short, the aetiological spectrum of disease has expanded. This book presents the basic principles in critical care nephrology and covers the epidemiology, pathophysiology, the most frequent syndromes, poisonings and conservative or invasive treatment options. The aim is to present an easily understandable overview using relevant scientific research results, along with the authors own practical clinical experience from the University Hospital of Ostrava in the Czech Republic. The authors believe that this textbook will be useful to physicians who have to make rapid diagnoses and decision making in daily ICU practice.

This book covers all key aspects of critical care in pediatric nephrology, including acute dialysis in sick children. It also provides detailed protocols for managing fluid and electrolyte balance and dialysis in children in intensive care. In addition, this quick guide discusses innovations in pediatric renal replacement therapy technologies, such as plasma exchange, CARPEDIEM, NIDUS and aquadex. This is a go-to book for intensivists, physicians and trainees working in pediatric intensive care units.

Acute kidney injury is defined as an abrupt change in serum creatinine and/or urine output, and a majority of patients admitted to the ICU have some evidence of the disorder. Unfortunately, treatment for this complex syndrome is as yet lacking and understanding is limited. An interdisciplinary panel of experts has contributed to this volume, illuminating some of the fundamental and complex aspects of the disorder ranging from pathophysiology to treatment, from emerging biomarkers to genetic polymorphisms. Other contributions focus on immunological issues or the many complications of acute kidney injury and co-morbid conditions encountered, covering the fundamentals as well as the latest developments. Moreover, important technical aspects of extracorporeal therapies including vascular access, anticoagulation or fluid composition are introduced, and different approaches to renal support from intermittent dialysis to continuous therapies and hybrid techniques are discussed. A description of advanced extracorporeal techniques of organ support and their role in the management of sepsis and acute kidney injury in the context of an overall strategy of multi-organ failure management concludes the discussions. This volume not only provides a practical and up-to-date summary of current knowledge and technology, but also imparts a fundamental understanding of the pathogenesis and likely future developments in this field. It also serves to challenge and re-examine the fundamental underlying assumptions we hold regarding critical illness in general and acute kidney injury in particular.

Palliative care has become increasingly important across the spectrum of healthcare, and with it, the need for education and training of a broad range of medical practitioners not previously associated with this field of care. As part of the Integrating Palliative Care series, this volume on palliative care in nephrology guides readers through the core palliative knowledge and skills needed to deliver high value, high quality care for seriously ill patients with chronic and end-stage kidney disease. Chapters are written by a team of international leaders in kidney palliative care and are organized into sections exploring unmet supportive care needs, palliative care capacity, patient-centered care, enhanced support at the end of life, and more. Chapter topics are based on the Coalition for Supportive Care of Kidney Patients Pathways Project change package of 14 evidence-based best practices to improve the delivery of palliative care to patients with kidney disease. An overview of the future of palliative care nephrology with attention to needed policy changes rounds out the text. Palliative Care in Nephrology is an ideal resource for nephrologists, nurses, nurse practitioners, physician assistants, social workers, primary care clinicians, and other practitioners who wish to learn more about integrating individualized, patient-centered palliative care into treatment of their patients with kidney disease.

THE DEFINITIVE GUIDE TO INPATIENT MEDICINE, UPDATED AND EXPANDED FOR A NEW GENERATION OF STUDENTS AND PRACTITIONERS A long-awaited update to the acclaimed Saint-Frances Guides, the Saint-Chopra Guide to Inpatient Medicine is the definitive practical manual for learning and practicing inpatient medicine. Its end-to-end coverage of the specialty focuses on both commonly encountered problems and best practices for navigating them, all in a portable and user-friendly format. Composed of lists, flowcharts, and "hot key" clinical insights based on the authors' decades of experience, the Saint-Chopra Guide ushers clinicians through common clinical scenarios from admission to differential diagnosis and clinical plan. It will be an invaluable addition -- and safety net -- to the repertoire of trainees, clinicians, and practicing hospitalists at any stage of their career.

This book represents an invaluable resource for professionals for the diagnosis and treatment of acute kidney injury (AKI) in children and how to select and deliver the appropriate form of renal replacement therapy (RRT). Experts from all over the globe have come together to share their wide experience in the field of Critical Care Nephrology in children. Paediatric critical care nephrology is a complex and highly specialised field, presenting challenges and management strategies that are often quite distinct from those seen in adult practice. Therefore, it is high time to address all the topics in the field of critical care nephrology in children in a unique book which is the first of its kind. This book covers the basics as well as advances in the field of Critical Care Nephrology. Each chapter is dedicated to practical aspects of a particular topic elucidating various management decision points. Each chapter is also accompanied with algorithms, figures and protocols in tabulated format. Information on how to manage specific conditions are contextualized with relevant background anatomy, physiology and biochemistry and practical examples. At the end of the chapter, there are key learning points. Paediatricians, nephrologists and paediatric intensivists, as well as paediatric critical care and nephrology nurses in all countries will find this book an invaluable reference text.

Designed specifically for nephrologists and trainees practicing in the ICU, Handbook of Critical Care Nephrology is a portable critical care reference with a unique and practical nephrology focus. Full-color illustrations, numerous algorithms, and intuitively arranged contents make this manual a must-have resource for nephrology in today's ICU.

This handbook is written to provide an approach for the student of nephrology, at any level of training, with regards to critically ill patients. It provides information on providing care for the nephrology patient in the ICU, highlighting physiology and pathophysiology.

Kidney disease and cancer are frequent comorbidities that require specialized knowledge and expertise from both the nephrologist and the oncologist. Written by three pioneers in this growing subspecialty, Onco-Nephrology provides authoritative, definitive coverage of the mechanism and management of these two life-threatening diseases. This unique, single-volume resource covers current protocols and recommends management therapies to arrest kidney failure and allow oncologic treatments to continue and succeed. Addresses acute and chronic kidney diseases that develop from a variety of cancers. This includes direct kidney injury from the malignancy, paraneoplastic effects of the cancer, and various cancer agents used to treat the malignancy. Discusses key issues regarding kidney disease in patients with cancer, including conventional chemotherapeutic regimens and new novel therapies (targeted agents and immunotherapies) or the malignancies themselves that may promote kidney injury; patients with chronic kidney disease who acquire cancer unrelated to renal failure; and kidney transplantation, which has been shown to carry an increased risk of cancer. Contains dedicated chapters for each class of the

conventional chemotherapeutic agents, targeted cancer agents, and cancer immunotherapies including the basic science, pathogenic mechanisms of injury, clinical manifestations, and treatment. Includes special chapters devoted to the individual classes of chemotherapies that relate to kidney disease for quick reference. Discusses increasingly complex problems due to more numerous and specialized anti-cancer drugs, as well as increased survival rates for both cancer and renal failure requiring long-term patient care. Covers anti-VEGF (antivascular endothelial growth factor) agents and cancer immunotherapies – treatments that are being recognized for adverse kidney effects. Utilizes a clear, logical format based on the ASN Core Curriculum for Onco-Nephrology, making this reference an excellent tool for board review, as well as a practical resource in daily practice.

Nephrology Secrets, 3rd Edition, by Drs. Edgar V. Lerma and Allen R. Nissenson, gives you the nephrology answers you need to succeed on your rotations and boards.. Its unique, highly practical question-and-answer format, list of the "Top 100 Nephrology Secrets," and user-friendly format make it perfect for quick reference. Get the most return for your study time with the proven Secrets® format -- concise, easy to read, and highly effective. Skim the "Top 100 Secrets" and "Key Points" boxes for a fast overview of the secrets you must know for success on the boards and in practice. Enjoy faster, easier review and master the top issues in nephrology with mnemonics, lists, quick-reference tables, and an informal tone that sets this review book apart from the rest. Carry it with you in your lab coat pocket for quick reference or review anytime, anywhere. Handle each clinical situation with confidence with chapters completely updated to reflect the latest information. Find the answers you need faster thanks to a new, more streamlined and problem-based organization. Get the high-yield answers you need to address top nephrology questions

Pocket Nephrology is a practical, high-yield reference offering current, evidence-based practices and expert guidance from physicians at the world-renowned Columbia University Medical Center. Featuring an easy-to-use loose-leaf format, it can be used as a portable diagnosis and treatment reference, as a quick dosage check, as a review for complex glomerular diseases and acid–base physiology, and for board preparation.

Metabolic and electrolyte disorders can pose special challenges to physicians caring for the critically ill patients. Constrained by time and circumstances, clinicians require rapid access to information to help assess and manage these often life-threatening conditions. In this book, a readily useable road map is presented, emphasizing the interactions among problems and suggesting clear lines of action. Keeping the pathophysiological mechanisms to the essential, and maintaining an uncluttered format, each chapter provides guidelines to understanding "how did we get here" and "what should we do now", as quickly and safely as possible. Chapters describe clinical presentation and management of the most common renal, electrolyte, acid-base, metabolic and endocrine disorders, complicating the course of critically ill patients. Contributing authors are all experts in their respective fields, who regularly engage in the day-to-day management of critically ill patients. In a rapidly changing field, the authors have endeavored to maintain an updated approach, emphasizing the most recent evidence on diagnosis and management. Although controversy in the interpretation and management of some problems is inevitable, the editors see it as a desirable way to depict differing interpretations and solutions for each problem. Each chapter ends with a selected list of key references to facilitate in-depth review of each subject. As with other titles in the Pittsburgh Critical Care Medicine series, this book is intended for frequent use by both "budding experts" as well as by seasoned practitioners in need for of quick and effective reference.

Extending from the outpatient management of cardiovascular and kidney disease, to hospital-based decision making in patients with cardio-renal disease and complex interfaces such as hemodialysis in patients with ventricular assist device support, this book serves as a single reference point for cardiology and nephrology clinicians and researchers dealing with the significant overlap areas between these two specialties. Chapters cover the physiology, biomarkers, therapeutic agents and full spectrum of these comorbidities and feature separate sections on cardiovascular and CKD evaluations, stratification of kidney transplant patients, lipid management in CKD, interventional strategies and hypertension. Leaders in cardiology, nephrology, hypertension and lipidology bring together the latest evidence with their collective clinical experience into this invaluable resource. This textbook is an essential resource for physicians and allied professionals practicing cardiology, nephrology, students and physician trainees, to deepen their understanding of this crucial field.

The Handbook of Nephrology offers an analytical yet understandable overview of nephrology — with an emphasis on principles and pathophysiology. Written in a clear, outline format, this handbook provides learning strategies and content not found in other books. This pocket-sized book offers medical students, interns, and residents a concise introduction to the field. Primary care physicians, internists, surgeons, nurse practitioners, pharmacists, and physician assistants will also find this book useful.

A timely update Acute kidney injury (AKI) is a serious and as yet incompletely understood disorder in which sudden impairment of kidney function occurs secondary to one or more of a variety of underlying conditions. This disorder is very common in (elderly) ICU patients and is associated with very high mortality. Many of those who survive suffer from permanent kidney failure and other long-term morbidities, which may include cardiovascular disease and immune dysfunction. Epidemiologic evidence suggests that AKI is not a single disease, but a syndrome comprised of multiple, often coexisting, etiologies. Being usually part of multiorgan failure syndrome, it calls for multiple organ support therapy. The publication at hand contains sections on prerenal azotemia syndromes, dying of' or with' AKI, pathophysiology of sepsis-induced acute kidney injury, developments in prevention / treatment / rehabilitation, and renal support. Reporting the latest recommendations from experts, it provides valuable information for those that are interested in understanding the disorder and its treatment options.

Comprehensive and clinically relevant, the 3rd Edition of Critical Care Nephrology provides authoritative coverage of the latest advances in critical care procedures for patients with renal diseases or disorders. Using common guidelines and standardized approaches to critically ill patients, this multidisciplinary reference facilitates better communication among all physicians who care for critically ill patients suffering from kidney disease, electrolyte and metabolic imbalances, poisoning, severe sepsis, major organ dysfunction, and other pathological events. Offers detailed discussions of different forms of organ support, artificial organs, infections, acute illness occurring in chronic hemodialysis patients, and much more. Places a special emphasis on therapeutic interventions and treatment procedures for a hands on clinical reference tool. Presents information clearly, in a format designed for easy reference – from basic sciences to clinical syndromes to diagnostic tools. Covers special populations such as children, diabetic patients, and the elderly. An exceptional resource for nephrologists, intensivists, surgeons, or critical care physicians – anyone who treats critically ill renal patients. Shares a combined commitment to excellence lead by Drs. Claudio Ronco, Rinaldo Bellomo, John Kellum, and Zaccaria Ricci – unparalleled leaders in this field. Addresses key topics with expanded coverage of acute kidney injury, stress biomarkers, and sepsis, including the latest developments on mechanisms and management. Provides up-to-date information on extracorporeal therapies from new editor Dr. Zaccaria Ricci.

Preceded by (work): Primer on kidney diseases. 5th ed. c2009.

A practical, up-to-date guide to the diagnosis, understanding, and treatment of kidney problems and hypertension in adult patients "In contrast to many other books in this area, this one provides a concise yet comprehensive review of each topic without getting lost in too much detail..." – Doody's Review Service (review of previous edition) Presented in the consistent, easy-to-follow CURRENT format, CURRENT Diagnosis & Treatment Nephrology & Hypertension, Second Edition delivers incisive, ready-to-use management protocols and valuable therapeutic guidelines from authors who are recognized as the field's foremost authorities. This essential clinical companion features a practical learn-as-you-go approach to diagnosing and treating renal disorders and hypertension that combines disease management techniques

with the latest proven therapies. •NEW! Chapter-ending clinically based Q&A •NEW CHAPTERS include The Kidney in Malignancy, Chronic Kidney Disease-Mineral Bone Disorder (CKD-MBD), Palliative Care Nephrology, and Clinical Pharmacology and the Kidney •Fifty-nine chapters deliver a one-of-a-kind overview of all major diseases and disorders, from end-stage renal disease to primary and secondary hypertension •Emphasizes the clinical aspects of kidney care, while also providing comprehensive discussion of pathophysiology and relevant basic and clinical science •Includes an important review of subspecialty considerations: dialysis, transplantation, critical care nephrology, interventional nephrology, palliative care nephrology, clinical renal pharmacology, as well as a new area of specialization – onco-nephrology •Consistently formatted chapters make it easy to locate the essential information you need on diagnosis, testing, disease processes, and the latest treatment and management strategies •Valuable as a clinical refresher or for board review •Strikes the perfect balance between clinical necessity and brevity

In the last twenty years, critical care medicine has been established as a specialty with its own therapies and procedures, with significant implications for clinical nephrology regarding severe acute renal failure. This typically multi-factorial condition is today predominantly seen in intensive care units. The complex knowledge and skills necessary to handle it have resulted in a field called Critical Care Nephrology, where nephrologist and intensivist either work side by side or have formally acquired expertise and training in both specialties. Extracorporeal renal replacement therapies, although originally used to treat end-stage renal disease patients, rapidly gained importance for acute patients. This has had far-reaching implications for the initiation and possible role of blood purification in the management of critically ill patients, widening the scope of interaction between the nephrologist and the intensivist. Experts in the field have contributed to the present book, providing a comprehensive review of the different blood purification techniques relevant in the intensive care unit in the case of multiple organ failure. The resulting mix of established knowledge and recent results from both clinical trials and basic research constitutes a valuable tool for all professionals involved in the care of the critically ill patient.

Critical Care Nephrology Springer Science & Business Media

The responsibilities of the Pediatric Nephrologist in the Nephrologist and other involved specialists is vital to critical care setting are multifaceted. Management of optimize the outcome for each individual child. acute renal failure with and without renal replacement In this first edition of the book, we have included therapy, fluid and electrolyte abnormalities and hyper- chapters focused on general topics in pediatric nephro- tensive emergencies are only some of the major clinical ogy that are most germane to the care of the critically circumstances where the renal specialist is involved in ill child. We have tried to look at the clinical situations the care of children admitted to the Pediatric Intensive from the aspect of both the Pediatric Intensivist and Care Unit. Due to the complex and specialized care renal specialist. We hope that this book will supply the required, critical care nephrology could even be consid- medical providers with a framework to approach the ered a separate entity compared to the clinical scenar- challenges faced in practicing Pediatric Intensive Care ios treated in the outpatient setting or on the inpatient Nephrology. pediatric ward.

In the past decade, CRRT has moved from a niche therapy within specific specialty centers to the standard of care for management of critically ill patients with acute renal failure. Continuous Renal Replacement Therapy provides concise, evidence-based, to-the-point bedside guidance about this treatment modality, offering quick reference answers to clinicians' questions about treatments and situations encountered in daily practice. Organized into sections on Theory; Praticce; Special Situations; and Organizational Issues, Continuous Renal Replacement Therapy provides a complete view of CRRT theory and practice. Generous tables summarize and highlight key points, and key studies and trials are listed in each chapter.

Netter's Advanced Head & Neck Anatomy Flash Cards are the perfect portable study tool for quizzing yourself on key anatomic structures and clinical conditions of the head and neck. They accentuate the clinically relevant anatomy through beautiful Netter illustrations and new artwork in the Netter tradition, making for a fast and fun review at any stage of your healthcare career. Cards are cross-referenced to the parent text, Netter's Head and Neck Anatomy for Dentistry, 3rd Edition, and include much of the new art from the textbook. Beautiful, well-known Netter illustrations accentuate the clinically relevant anatomy. Includes additional Imaging, New Art, and Clinical Correlate cards. Perfect for quick, portable study for head and neck and dental anatomy courses. Allow you to quiz yourself on key anatomy terms and test your knowledge of classic presentations of disease.

A concise and visual guide to clinically relevant anatomy for dentistry, Netter's Head and Neck Anatomy for Dentistry is an effective text for class and exam preparation, as well as a quick review in professional practice. Concise text, high-yield tables, clinical correlations, and review questions combine to make this new edition a perfect choice for learning and remembering the need-to-know structures, relationships, and concepts, while beautiful illustrations created in the Netter tradition enhance your visual mastery of the material. You may also be interested in: A companion set of flash cards, Netter's Advanced Head & Neck Anatomy Flash Cards, 3rd Edition. Over 100 multiple-choice questions complete with explanations help you assess your knowledge of the material and prepare for exams. Identify clinically relevant anatomy with Netter illustrations and new art created in the Netter tradition. Concise text and high-yield tables offer fast access to important facts. Procedures coverage gives context and clinical meaning to the anatomy. Expanded, up-to-date coverage on dental implants, cone beam imaging, and mandible osteology. Beautiful new illustrations by Carlos Machado, MD, of the TMJ, articular disc pathology, infratemporal fossa, pterygopalatine fossa, and maxillary artery.

The field of intensive care in nephrology is a rapidly evolving one, with research starting to translate into clinical guidelines and standards. Encompassing core subjects in critical care and nephrology, as well as specific related consultative topics, this clearly presented text is organized into three sections focusing on: * up-to-date background

Critical care nephrology is an emerging multidisciplinary science in which the competences of different specialists are merged to

provide a unified diagnostic and therapeutic approach to the critically ill patient. The volume at hand places great emphasis on cardiorenal syndromes and the multidisciplinary collaboration between cardiology and nephrology. Several contributions describe the cardiorenal syndrome in its different varieties and subtypes and report the results from the most recent Acute Dialysis Quality Initiative Consensus Conference, as well as proposing new diagnostic approaches based on early biomarkers of AKI. Other papers discuss advances in technology for renal replacement therapy and multiple organ support therapy. Moreover, special emphasis is placed on the potential role of extracorporeal therapies in patients affected by H1N1 influenza, and a summary of the most recent trials in the field is included. Containing the proceedings of the 2010 International Vicenza Course on Critical Care Nephrology, this publication is a state-of-the-art appraisal of today's technology and current issues related to cardiorenal syndromes.

Continuous renal replacement therapies (CRRT) started off as an alternative to hemo- or peritoneal dialysis. Today's machines and techniques are the result of 4 decades of developments, studies, and practices which can be divided into 4 distinct stages: exploration and development; birth of a new specialty called critical care nephrology; design of specific new devices and machines; and interaction among various specialists to adapt extracorporeal therapies for multiple organ support and sepsis. This book features contributions from prominent CRRT experts from around the world. It is an important tool for educating a new generation of nephrologists and intensivists. At the same time, it provides the most advanced CRRT users with the latest technological information, the most updated clinical evidence, and the personal opinion of key leaders who contributed to the last 40 years of history in the field.

The only anatomy atlas illustrated by physicians, Atlas of Human Anatomy, 7th edition, brings you world-renowned, exquisitely clear views of the human body with a clinical perspective. In addition to the famous work of Dr. Frank Netter, you'll also find nearly 100 paintings by Dr. Carlos A. G. Machado, one of today's foremost medical illustrators. Together, these two uniquely talented physician-artists highlight the most clinically relevant views of the human body. In addition, more than 50 carefully selected radiologic images help bridge illustrated anatomy to living anatomy as seen in everyday practice. Region-by-region coverage, including Muscle Table appendices at the end of each section. Large, clear illustrations with comprehensive labels not only of major structures, but also of those with important relationships. Updates to the 7th Edition – based on requests from students and practitioners alike: New Systems Overview section featuring brand-new, full-body views of surface anatomy, vessels, nerves, and lymphatics. More than 25 new illustrations by Dr. Machado, including the clinically important fascial columns of the neck, deep veins of the leg, hip bursae, and vasculature of the prostate; and difficult-to-visualize areas like the infratemporal fossa. New Clinical Tables at the end of each regional section that focus on structures with high clinical significance. These tables provide quick summaries, organized by body system, and indicate where to best view key structures in the illustrated plates. More than 50 new radiologic images – some completely new views and others using newer imaging tools – have been included based on their ability to assist readers in grasping key elements of gross anatomy. Updated terminology based on the international anatomic standard, Terminologia Anatomica, with common clinical eponyms included.

Written in a succinct question and answer format, this comprehensive resource covers all areas of nephrology and common clinical scenarios. Nearly 1000 questions with detailed answers provide nephrology fellows, practicing nephrologists and clinicians a better understanding of nephrology and aid preparations for nephrology and internal medicine boards. Absolute Nephrology Review features the latest evidence and guidelines while fulfilling a critical need within the nephrology community.

This practical guide provides the reader with answers to important clinically relevant questions regarding the evaluation and management of acute kidney injury (AKI). All aspects of critical care nephrology are covered, from pathophysiology and diagnosis to prevention and treatment. The questions considered relate to a wide range of issues, such as: How do I diagnose AKI? How can I protect the kidney in clinical practice? How do I manage patients with AKI? When should I initiate and how do I perform renal replacement therapy (RTT)? Which type of RTT is most appropriate for my patient? Should I give specific nutrients? In addition to providing practical guidelines and treatment algorithms, the book includes calculators for continuous RRT and anticoagulant dosing. The authors are internationally renowned experts in the fields of Intensive Care Medicine and Nephrology and all contributions are written in a clear and concise style and have been peer reviewed. Acute Nephrology for the Critical Care Physician will serve as a very useful source for intensivist internists, anesthesiologists and nephrologists involved in the management and treatment of critically ill patients at risk of or affected by AKI.

Acute organ damage and the ensuing multiple organ failure are the result of a pathophysiological process involving various cytokines. Once activated, these proteins cannot be eliminated even when the kidneys function at their maximum capacity. To counteract this mechanism, researchers in Japan have developed an innovative concept employing blood purification to remove the overwhelming cytokines. This book describes the use of hemodiafiltration to inhibit the cytokine storms which cause serious organ damage in patients with septic shock. Moreover, the technical construction of the blood purification system, which includes various machines, devices, membranes, fluids, etc., is explained in detail. Finally, leading experts discuss the concept of continuous renal replacement therapy as the standard care in critically ill patients with severe acute kidney injury. Describing the current state of acute blood purification, this publication provides new impulses and opens new avenues in the treatment of acute organ damage.

Regarded as the "go-to" book for those seeking certification and recertification in nephrology with the American Board of Internal Medicine, Nephrology and Hypertension Board Review prepares you for success on the nephrology board exam. The fully updated second edition proportionally covers all topics listed in the blueprint for the exam, using a concise outline format, numerous illustrations, and many new features that promote high-yield studying and effective retention of complex material. Board-type questions in every chapter provide ample opportunity to practice and help you identify areas for further study.

Continuous renal replacement therapy (CRRT) is a slow and smooth continuous extracorporeal blood purification process. It is usually implemented over 24 hours to several days with gentle removal of fluid overload and excess uremic toxins. CRRT, which is based on the physiological principles of diffusion, ultrafiltration, convection, and adsorption, can be performed as slow continuous ultrafiltration, continuous veno-venous hemofiltration, continuous veno-venous hemodiafiltration, and continuous veno-venous hemodialysis. Over many years, CRRT has been shown to be an effective dialysis therapy for hemodynamically unstable patients with acute kidney injury, brain injury, and/or multiorgan failure in intensive care units. Aspects in CRRT covers selected important topics with a practical approach to the management of different aspects of CRRT. All chapters have been updated and are well referenced, supported by well-illustrated figures and tables, and written by distinguished and experienced authors. Aspects in

CRRT is considered as a guide to daily practice in intensive care units, and a reference for medical and nursing staff involved in taking care of critically ill patients with acute kidney injury, sepsis, and multiorgan failure.

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Contains expanded content on economics and outcomes of treatment, as well as acute kidney injury. Covers hot topics such as the genetic causes of chronic kidney disease, ethical challenges and palliative care, and home hemodialysis. Discusses the latest advances in hypertensive kidney disease, vitamin D deficiency, diabetes management, transplantation, and more. Provides a clear visual understanding of complex information with high-quality line drawings, photographs, and diagnostic and treatment algorithms.

Internists, surgeons, critical care physicians and nephrologists all treat critically ill patients with renal failure and the multiple system organ dysfunction syndrome. A comprehensive review of the state of the art of this topic is definitely needed both in academic and clinical medicine, and Critical Care Nephrology fulfills this need. It is a useful reference tool for both nephrologists and intensive care specialists and it is therefore no coincidence that the editors of the book are themselves specialists in these particular fields. The book addresses the following: definitions of critical illness, epidemiology, monitoring and diagnostic procedures, pathophysiology of organ systems in relation to kidney function, concepts of renal physiologic and pathologic responses to various derangements, oxygen transport and cardiovascular adaptations, hemodynamic parameters, respiratory parameters, mechanical ventilation and cardiac support, and severity score parameters. The book is also devoted to all forms of acute renal failure with specific reference to intensive care patients. The nature of the multiple organ dysfunction syndrome is discussed with special emphasis on the impact of different organs dysfunction and kidney failure. Kidney function and acute renal failure in patients with kidney, liver and heart transplants is also considered, as well as acute illness occurring in chronic hemodialysis patients. Special emphasis is placed on therapeutic interventions and treatment procedures. Different forms of organ support are discussed including liver, lung and cardiac therapy.

The book covers advances in critical care pediatric nephrology, including care of sick children with acute kidney injury. The book contains detailed guidance on point of care ultrasound in children with acute kidney injury and use of biomarkers in critically sick children. This is an annual theme-based book with the current theme of 'point of care ultrasound in critical care pediatric nephrology and newer diagnostics in acute kidney injury'. This is the first book of the set of books to be published annually with a different theme related to critical care pediatric nephrology each year with the collaboration of the Pediatric Continuous Renal Replacement Therapy (PCRRT) Foundation and International Collaboration of Nephrologists & Intensivists for Critical Care in Children (ICONIC). This annual updates book contains 20 chapters, written and edited by leading experts in pediatric intensive care, pediatric nephrology and nephrologists specializing in point of care ultrasound from across the globe. It includes top studies in the last few years in critical care pediatric nephrology on point of care ultrasound and diagnostics. Chapters cover scientifically updated information by international experts on each topic. It offers assistance to pediatricians, pediatric nephrologists, pediatric intensivists and residents.

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