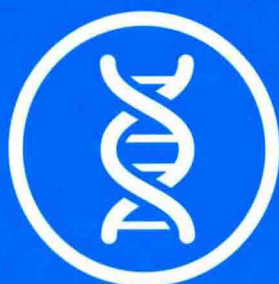


CAMPBELL-WALSH UROLOGY

ALAN J. WEIN • LOUIS R. KAVOUSSI • ALAN W. PARTIN • CRAIG A. PETERS



ELEVENTH EDITION

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ELEVENTH EDITION

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Every 4 years or so, a small group of crazed individuals are privileged to convene and embark on a seemingly near impossible task—to improve upon what, a relatively short time ago, they had created as the gold standard textbook in urology. A week or so later, they emerge with a plan, each with their assignments for what they now are convinced is the best ever repository of total urologic knowledge. This group and this edition are no exceptions to this routine.

The four of us feel very honored and privileged to be a part of this tradition that began in 1954 with the publication of the first Campbell's Urology (then titled simply "Urology"), which consisted of 3 volumes in which 51 individuals contributed 2356 pages and 1148 illustrations. We are grateful to our current colleagues and friends who accepted the responsibility of producing anew the 156 chapters that comprise our text and acknowledge their expertise and the unselfish contribution of their time and effort.

Our gratitude to the chapter authors notwithstanding, we would like ultimately to dedicate this edition to two sets of individuals: One group includes our mentors in urology—those whom each of us separately admired and learned from, and whose educational and clinical achievements in various aspects of our field we have sought to imitate. Hopefully, they would or will be proud of our part in this 11th edition of the gold standard textbook. The greatest debt and thanks, however, are owed to our families, specifically our wives and children who were in the "line of fire" during the preparation of this edition. They deserve more than a medal or a copy of the book. So, to Noele and Nolan; to Julianne, Nick, Rebecca and Dree; to Vicky, Topper, David, Dane and Michael; and to Kathy, Jessica, Lauren, and Ryan, our thanks for your patience, understanding, and continued support. The good news is that you have a few years until the cycle begins again.

For myself and my fellow editors,
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PREFACE

Since it was first published in 1954, Campbell-Walsh Urology (born Urology) has been the gold standard for a comprehensive review of our specialty. We are proud and pleased to present the 11th edition of this text as a worthy successor to the 10 editions that have preceded it. The four volumes remain essentially a series of comprehensive mini-textbooks on every major subject in urology. There are significant changes for this edition in organization, content, and authorship, and these reflect the ever-changing nature of our field, and, for many subjects, the passing of the baton from one generation to the next. Twenty-two totally new chapters have been added, along with 61 new first authors. All other chapters have been revised, new and revised guidelines incorporated, and the well-accepted format of the use of extensive boldface and Key Points boxes and algorithms retained. Ownership of the 11th edition includes the print product, access to the full text online, and a downloadable eBook version through ExpertConsult.com. The online and eBook version of the 11th edition will have updates by key opinion leaders added periodically to reflect important changes and controversies in the field.

Content changes include restructuring of the chapter on basic principles of radiologic imaging in adult urology, a new chapter on pediatric urologic imaging, and separate new chapters on the surgical, radiographic, and endoscopic anatomy of the male reproductive system, the retroperitoneum, the kidney and ureter, the adrenals, and the male and female pelvis. The chapter on androgen deficiency has been expanded to encompass integrated men's health, including cardiovascular risks and metabolic syndrome. There are totally new added chapters on basic energy modalities in urologic surgery, management of urinary tract hemorrhage, strategies for medical management of upper urinary tract calculi, inguinal lymph node dissection, overview of the evaluation and management of urinary incontinence in men, the underactive detrusor, complications related to the use of mesh in the treatment of urinary incontinence and prolapse and their repair, and minimally invasive urinary diversion. Additionally, in the pediatric volume, totally new chapters have been added on the principles of laparoscopic and robotic surgery, functional disorders of the lower urinary tract, management of defecation disorders, and adolescent and transitional urology. Totally new content has been provided for existing chapters on sexually transmitted infections, tuberculosis and other opportunistic infections, the basics of male infertility, disorders of male orgasm and ejaculation, surgery for erectile dysfunction, Peyronie disease, female sexual function and dysfunction, renovascular hypertension and ischemic neuropathy, renal trans-

plantation, and nonmedical management of upper urinary tract calculi. Within the section on urine transport, storage, and emptying, totally new content has been provided for the chapters on physiology and pharmacology of the bladder and urethra, epidemiology and pathophysiology of urinary incontinence and pelvic prolapse, nocturia, conservative management of urinary incontinence, urinary fistulae, geriatric lower urinary tract dysfunction and incontinence, and additional therapies for storage and emptying failure. Reflecting all the latest changes in the field, the chapter on minimally invasive and endoscopic management of benign prostatic hyperplasia has been totally redone. In the area of cancer, many chapters have been totally rewritten to reflect contemporary data and thought: Basic Principles of Immunology and Immunotherapy in Urologic Oncology, Neoplasms of the Testis, Retroperitoneal Tumors, Open Surgery of the Kidney, Nonsurgical Focal Therapy for Renal Tumors, Surgery of the Adrenal Glands, Management of Metastatic and Invasive Bladder Cancer, Transurethral and Open Surgery for Bladder Cancer, Prostate Biopsy: Techniques and Imaging (including fusion techniques), Diagnosis and Staging of Prostate Cancer, Active Surveillance of Prostate Cancer, Focal Therapy for Prostate Cancer, Radiation Therapy for Prostate Cancer, Management of Biochemical Recurrence after Definitive Therapy for Prostate Cancer, and Tumors of the Urethra. In the pediatric volume, a number of existing chapters have been totally rewritten as well: Disorders of Renal Functional Development in Children, Infection and Inflammation of the Pediatric Genitourinary Tract, Surgery of the Ureter in Children, Posterior Urethral Valves, and separate chapters on Management of Abnormalities of the External Genitalia in boys and girls.

We editors are grateful for the support of Elsevier, and special thanks are due to our extraordinary editorial and support staff: Charlotta Kryhl and Stefanie Jewel-Thomas (Senior Content Strategists), Dee Simpson (Senior Content Development Specialist), and Kristine Feeherty (Book Production Specialist). Without their expertise, patience, and gentle pushing, this edition would not have been brought to press on time.

We hope your experience in reading this 11th edition of the gold standard textbook of urology will be as pleasurable as ours has been in watching it develop.

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VIDEOS

Importance of Survey Scans

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