

The Underactive Bladder

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Editors

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 Springer

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Foreword



While most practitioners are familiar with overactive bladder (OAB), the converse condition of underactive bladder has generally remained far below the radar. Yet if you have known anyone struggling with underactive bladder (UAB), you are keenly aware of the suffering they and their family endure. Underactive bladder is a life-altering condition that dramatically effects a patient's and his or her family's lives.

UAB is a name given to a group of troubling symptoms including hesitancy, weak and or interrupted urine stream, straining, incomplete bladder emptying, and frequent urination or leakage due to overflow incontinence. The symptoms and severity of UAB vary between patients, and the course of the disease is often unpredictable. UAB is a multifactorial condition that can be caused by myogenic and neurogenic conditions as well as aging and medication side effects.

UAB is closely related to detrusor underactivity, which is a clinical and specific urodynamic definition. Detrusor underactivity due to impaired detrusor contractility is the most classic pathology of the underactive bladder. Diseases such as diabetes and heart disease or conditions that cause peripheral nerve damage are culprits of UAB also. And although many others are known, the scientific community has of yet been unable to create a working pathogenesis, let alone a standardized clinical definition.

A recent study highlighted the levels of prevalence and lack of awareness of underactive bladder in the general population. The survey revealed that 23 % of men and women reported having a problem emptying the bladder completely, yet only 11 % had ever heard of UAB (Chap. 1).

The most common method to manage UAB is to treat the urine retention mechanically with intermittent self-catheterization and indwelling catheter as there is no currently available treatment to restore normal voiding function. Intermittent self-catheterization and indwelling catheterization. This "solution" results in high expenses, infections, and pain. The complications of catheterization can lead to emergency room visits and hospitalization; embarrassment and even admission into nursing homes; and a severe reduction in quality of life (Chap. 5). Catheters are associated with blockage, dislodgement, bleeding, strictures, leakages, and excess healthcare costs, and complications affect quality of life. Recurrent infections and antibiotic use have been associated with drug-resistant superbug catheter-associated epidemic.

The problem of UAB is big and getting bigger with the aging population and rapidly increasing rate of diabetes that may result in diabetic bladder dysfunction. Lacking effective therapy for UAB, general urologists have hardly noticed the elephant in the room. A quick search on PubMed noted 40-fold less publication in UAB versus OAB (Chancellor and Diokno 2014). It is our hope that this first book on the underactive bladder will be the catalyst to generating interest in this condition that can lead to rapid advancement in education, research, and, ultimately, a cure for this life-altering condition.

The book is written in a concise, uniform, and clinically relevant style edited by two leading pioneers in the field, Drs. Michael Chancellor and Ananias Diokno, who organized the First International Congress on Underactive Bladder in 2014.

The landmark meeting, CURE-UAB, was organized by Drs. Chancellor and Diokno from Beaumont Health System and Oakland University William Beaumont School of Medicine in Michigan in conjunction with the National Institute of Aging and the Underactive Bladder Foundation (www.underactivebladder.org). The Second International Congress on CURE-UAB will be held in Denver in December 2015.

The first book devoted to underactive bladder is designed to be of practical assistance to all doctors and nurses wishing to help improve the lives of UAB patients. This book discusses in detail the pathophysiology and research being conducted toward a cure. Practical evaluation and management with reviews of the latest clinical series are highlighted. *The Underactive Bladder* will be of interest to all clinicians who take care of patients with bladder emptying problems.

Sincerely,

Michael B. Chancellor, MD
Ananias C. Diokno, MD

Reference

Chancellor MB, Diokno AC (2014) Frontier in urology; the underactive bladder. *Int Urol Nephrol* 46(Suppl 1):S1–S46

Preface

The condition of the underactive bladder is important and a major unmet need in medicine. Although the term underactive bladder (UAB) seems new, looking back, we realize that we have been researching this topic most of our career. One of us (AD) has been performing National Institute of Health research on the aging bladder since the 1980s, and the other (MC) has been researching stem cell and regenerative medicine to restore bladder function for urinary retention and stress incontinence since the 1990s.

It is only over the past 2 years that the term underactive bladder has become widely accepted and momentum is building for UAB to become a top priority in urology research over the next decade. We believe the First International Congress for Underactive Bladder (CURE-UAB), sponsored by the Aikens Center for Neurourology Research at Beaumont Health System, the Underactive Bladder Foundation, and the National Institute of Aging, was the catalyst that captured the global scientific community's interest in UAB. The First International CURE-UAB was held in February 2014 in Washington, DC. The second international meeting is to be held in December 2015 in Denver, CO.

As a result of the first meeting in Washington, DC, a special issue of *International Urology and Nephrology*, Volume 46, Supplement 1, pages 1–46, was published discussing disease definition, clinical guidelines, therapeutic directions, and suitable animal models to allow accurate testing of potential therapeutic candidates for UAB. Additional professional material and videos remain available online (www.nderactivebladder.org). Another major outcome of the international meeting is the Program Announcement by the National Institutes of Health in December 2014 requesting new grant applications that focus on UAB (PA-15-049 Underactive Bladder in Aging) by the National Institute on Aging (<http://www.nia.nih.gov>) and National Institute of Diabetes and Digestive and Kidney Diseases (<http://www.niddk.nih.gov>). We are delighted and proud of the accomplishments of CURE-UAB.

The need for education was also identified at CURE-UAB and is why we have written this book. There are researchers, physicians, nurses, and many other health-care professionals in the world dedicated to finding answers to both the cause and

effective treatments for those who experience symptoms of underactive bladder. It was our goal to bring together these thought leaders and write this book to educate the medical community and to ultimately help improve the lives of patients living with UAB

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Acknowledgment

As we have traveled this path to bring much-needed attention to the international medical community about the underactive bladder (UAB) condition, we have been helped and supported by a long list of friends and colleagues. We may not be able to acknowledge you individually here, but please know your conversation, email, or encouragement has been invaluable.

First of all, we would like to thank all of the authors who have contributed to this important book. We would also like to thank the incredible people who participated in the successful First International Congress for Underactive Bladder (CURE-UAB) in Washington, DC, in 2014 and those who will be joining us for the Second International CURE-UAB in Denver, CO, in December 2015.

On the national and international stage, we are much appreciative of the work and support from the Underactive Bladder Foundation, the National Institutes of Health and the Urology Care Foundation.

Both of us are physicians and researchers at Beaumont Health System in Michigan, and it is with the support of Beaumont that we were able to vanguard the global initiative on CURE-UAB. We would like to recognize Bob and Ann Aikens for their generous support and the formation of the Aikens Neurourology Research Center at Beaumont Health System and Oakland University William Beaumont School of Medicine. Some of the members of the Aikens Center and those who contribute daily to its success include Margaret Casey, Bill Dow, Laura Lamb, Peter Levanovich, Andrew Vereecke, and Bernadette Zwaans. We would like to show our appreciation for our department faculty and staff for their support including Kenneth Peters, Debbie Hasenau, Kim Killinger, Shelly Lajiness, Ann Robinson, Jason Gilleran, Melissa Fischer, Sarah Bartolone and Jennifer Bowlus. We like to thank Janet Okonski and Margie O’Leary for their editorial assistance and Ryan Pruchnic, Ron Jankowski, Jaclyn Mycka and members of Cook Myosite for their research support. We like to especially recognize Ronald and Maureen Hirsch for their

friendship and help. Finally, we like to thank the member of the faculty of the Oakland University William Beaumont School of Medicine and Beaumont Health.

We would finally like to thank our family for allowing us to take time out to write this book on an important topic for which we are very passionate.

Thank you.

Michael B. Chancellor, MD

Ananias C. Diokno, MD

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