Urodynamics

Paul Abrams

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Third Edition

With 152 Figures

Springer

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Preface

Lower urinary tract dysfunction produces a huge burden on sufferers in particular and on society in general. Lower urinary tract symptoms have a high prevalence in the community: 5% of children aged 10 wet the bed, while 15% of women and 7% of men have troublesome incontinence; and in elderly men of 75, benign prostatic hyperplasia occurs in more than 80% of individuals, with benign prostatic enlargement coexisting in up to half this group and half of these having bladder outlet obstruction.

The confusion felt in many people's minds as to the role of urodynamics has receded for the most part. The need to support the clinical assessment with objective measurement has become accepted by most clinicians specialising in the care of patients with lower urinary tract symptoms (LUTS). Since the first edition of this book in 1983, urodynamics has become more widely accepted. In the last 20 years the number of urodynamic units in Britain and Europe has increased rapidly and almost every hospital of any significance embraces urodynamic investigations as an essential part of the diagnostic armamentarium of the urology and gynaecology departments. Further, specialists in geriatrics, paediatrics and neurology recognise the importance of urodynamics in the investigation of a significant minority of their patients.

Despite the technological innovations that have seen the introduction of computerised urodynamics, the development of neuro-physiological testing and the introduction of new techniques such as ambulatory monitoring, the objectives of this book remain unchanged. Urodynamics may appear complicated, and one of the objectives of this book is to put the subject over simply but in enough detail to allow urodynamic investigation to be accepted, on its own merit, as a fundamental contribution to the management of many patients. To do this means not only describing the tests but also showing in which clinical areas they help management and in which they are pointless. It means concentrating on the common clinical problems and on the presenting symptom complexes, not the diagnosis; and it means pointing out any limitations and possible artifacts of investigation.

We hope that a clinician with no previous experience in urodynamics will, after reading this book, appreciate both the value and limitations of the subject, and will have obtained the necessary practical advice on the use of the appropriate equipment in the correct situations. Because this book is based on personal experience, references in the text are relatively few.

The scientific basis of urodynamics does not change and the principle reason for producing the 3rd edition has been the publication in 2002 of the new ICS terminology report 2002 together with the ICS reports on "Good Urodynamic Practice" (2002).

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2005

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List of Abbreviations

AUDS	ambulatory urodynamic studies
BOO	bladder outlet obstruction
BPE	benign prostatic enlargement
BPH	benign prostatic hyperplasia
BPO	benign prostatic obstruction
DFV	dysfunctional voiding
DSD	detrusor sphincter dyssynergia
DUA	detrusor underactivity
GP	general practitioner (family physician)
ICS	International Continence Society
IDO	idiopathic detrusor overactivity
ISC	intermittent self-catheterisation
LUTD	lower urinary tract dysfunction
LUTS	lower urinary tract symptoms
MCUG	micturating cystourethrography
MUCP	maximum urethral closure pressure
NDO	neurogenic detrusor overactivity
p_{abd}	abdominal pressure
p_{det}	detrusor pressure
PFS	pressure-flow studies
p_{ves}	intravesical pressure
PVR	post-void residual
Q_{ave}	average flow rate
Q_{max}	maximum flow rate
TURP	transurethral resection of the prostate
UDS	urodynamic studies
UFS	urine flow studies
UPP	urethral pressure profile
USI	urodynamic stress incontinence
VUDS	videourodynamic studies
VUR	vesico-ureteric reflux

Measurement Units

Quantity	*Unit*	*Symbol*
volume	millilitre (ml)	V
time	second (s)	t
flow rate	millilitres/second (ml/s)	Q
pressure	centimetres of water (cmH_2O)	P

Urodynamic Qualifiers

Intra vesical (bladder)	ves
Intra urethral	ura
Detrusor	det
Abdominal (usually rectal)	abd

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