

A VITAL TOOL FOR ALL THOSE PRACTISING IN THE
FIELD OF UROLOGY

OXFORD HANDBOOK OF UROLOGY

John Reynard | Simon Brewster | Suzanne Biers

Offers practical advice on the management of common urological symptoms and specific disorders

Includes recent advances in urology, key papers, and updated recommendations

Contains the latest guidelines from internationally recognized organizations such as EAU, BAUS, and NICE

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Oxford Handbook of Urology

Third edition

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Symbols and abbreviations

®	registered trademark
>	more than
<	less than
≥	equal to or greater than
≤	equal to or less than
%	per cent
°C	degree Celsius
↓	decreased
↑	increased
book icon	cross-reference
~	approximately
α	alpha
β	beta
AAA	abdominal aortic aneurysm
AAOS	American Academy of Orthopedic Surgeons
AAST	American Association for the Surgery of Trauma
AAT	androgen ablation therapy
ACCP	American College of Chest Physicians
ACE	angiotensin-converting enzyme
ACh	acetylcholine
ACR	albumin:creatinine ratio or acute cellular rejection
ACTH	adrenocorticotrophic hormone
ADH	antidiuretic hormone
ADPKD	autosomal dominant polycystic kidney disease
ADT	androgen deprivation therapy
A & E	Accident and Emergency
AFP	alpha-fetoprotein
AHR	acute humoral rejection
AID	artificial insemination donor
AIDS	acquired immunodeficiency syndrome
AJCC	American Joint Committee on Cancer
AK-TEDS	above knee thromboembolic deterrent stockings
a.m.	<i>ante meridiem</i> (before noon)
AMACR	α-methylacyl CoA racemase
AML	angiomyolipoma
AMS	American Medical Systems
ANP	atrial natriuretic peptide

a-NVH	asymptomatic non-visible haematuria
APD	automated peritoneal dialysis
APF	antiproliferative factor
APTT	activated partial thromboplastin time
5AR	5 α -reductase
ARCD	acquired renal cystic disease
5ARI	5 α -reductase inhibitor
ARPKD	autosomal recessive polycystic kidney disease
ARTs	assisted reproductive techniques
AS	active surveillance
ASAP	atypical small acinar proliferation
ASTRO	American Society of Therapeutic Radiation Oncologists
ATG	antithymocyte globulin
ATP	adenosine triphosphate
AUA	American Urological Association
AUA-SI	American Urological Association Symptom Index
AUR	acute urinary retention
AUS	artificial urinary sphincter
AV	arteriovenous
AVM	arteriovenous malformation
AZF	azoospermic factor
BAUS	British Association of Urological Surgeons
BCG	bacillus Calmette–Guérin
BCR	bulbocavernosus reflex
bd	<i>bis die</i> (twice daily)
bFGF	basic fibroblastic growth factor
β hCG	beta human chorionic gonadotrophin
BLI	beta-lactamase inhibitor
BMI	body mass index
BMSFI	Brief Male Sexual Function Inventory
BNI	bladder neck incision
BOO	bladder outlet obstruction
BP	blood pressure
BPE	benign prostatic enlargement
bPFS	biochemical progression-free survival
BPH	benign prostatic hyperplasia
BPLND	bilateral pelvic lymphadenectomy
BPO	benign prostatic obstruction
BPS	bladder pain syndrome
BRFS	biochemical relapse-free survival
BSE	bovine spongiform encephalopathy
BT	brachytherapy

BTA	bladder tumour antigen
BTX-A	botulinum toxin-A
BUO	bilateral ureteric obstruction
BXO	balanitis xerotica obliterans
CABG	coronary artery bypass graft
CAH	congenital adrenal hyperplasia
CAIS	complete androgen insensitivity syndrome
cAMP	cyclic adenosine monophosphate
CAPD	continuous ambulatory peritoneal dialysis
CBAVD	complete bilateral absence of vas deferens
CCF	congestive cardiac failure
C_{Cr}	creatinine clearance
CD	collecting duct
CEULDCT	contrast-enhanced ultra-low dose computed tomography
CFU	colony-forming unit
cGMP	cyclic guanosine monophosphate
CI	confidence interval
CIRF	clinically insignificant residual fragment
CIS	carcinoma <i>in situ</i>
CISC	clean intermittent self-catheterization
CJD	Creutzfeldt–Jakob disease
CKD	chronic kidney disease
cm	centimetre
CMV	cytomegalovirus
CNI	calcineurin inhibitor
CNS	central nervous system
CO_2	carbon dioxide
COPD	chronic obstructive pulmonary disease
COPUM	congenital obstructive posterior urethral membrane
CP	chronic prostatitis
CPA	ciproterone acetate
CPPS	chronic pelvic pain syndrome
CPRE	complete primary repair of bladder exstrophy
Cr	creatinine
CRP	C-reactive protein
CRPC	castrate-resistant prostate cancer
CSS	cancer-specific survival
CT	computed tomography or collecting tubule
CTPA	computed tomography pulmonary angiography
CTU	computed tomography urography
CT-KUB	CT of the kidneys, ureters, and bladder
CVA	cerebrovascular accident

CXR	chest X-ray
Da	Dalton
DCT	distal convoluted tubule
DE	delayed ejaculation
DESD	detrusor external sphincter dyssynergia
DEXA	dual-energy X-ray absorptiometry (scan)
DGI	disseminated gonococcal infection
DH	detrusor hyperreflexia
DHT	dihydrotestosterone
DI	diabetes insipidus
DIC	disseminated intravascular coagulation
dL	decilitre
DMSA	dimercaptosuccinic acid (renogram)
DMSO	dimethyl sulphoxide
DNA	deoxyribonucleic acid
DRE	digital rectal examination
DSD	detrusor sphincter dyssynergia or disorders of sex development
DVT	deep vein thrombosis
EAU	European Association of Urology
EBRT	external beam radiotherapy
EBV	Epstein–Barr virus
ECF	extracellular fluid
ECG	electrocardiogram
ED	erectile dysfunction
EDTA	ethylene diamine tetra-acetic acid
e.g.	<i>exempli gratia</i> (for example)
EGF	epidermal growth factor
eGFR	estimated glomerular filtration rate
EHL	electrohydraulic lithotripsy
EIA	enzyme immunoassay
ELISA	enzyme-linked immunosorbent assay
EMDA	electromotive drug administration
EMG	electromyography
EMU	early morning urine
EPLND	extended pelvic lymphadenectomy
EPN	emphysematous pyelonephritis
EORTC	European Organisation for Research and Treatment of Cancer
EPS	expressed prostatic secretions
ER	extended release
ERSPC	European Randomized Trial of Screening for Prostate Cancer
ESBL	extended spectrum beta-lactamase

ESR	erythrocyte sedimentation rate
ESSIC	European Society for the Study of Bladder Pain Syndrome/Interstitial Cystitis
ESWL	extracorporeal shock wave lithotripsy
etc	et cetera
FBC	full blood count
FDA	Food and Drug Administration
FDG	fluoro-2-deoxy-D-glucose
FGSI	Fournier's gangrene severity index
FNA	fine needle aspiration
FSH	follicle-stimulating hormone
ft	foot/feet
F:T	free-to-total
FVC	frequency volume chart
g	gram
GA	general anaesthetic
GABA	γ -aminobutyric acid
GAG	glycosaminoglycan
GCT	germ cell tumour
GFR	glomerular filtration rate
GI	gastrointestinal
GIFT	gamete intrafallopian transfer
Gk	Greek
GnRH	gonadotrophin-releasing hormone
GP	general practitioner
GS	Gleason score
GSTP1	glutathione-S-transferase P1
GTN	glyceryl trinitrate
GU	gonococcal urethritis (or genitourinary)
GUM	genitourinary medicine
Gy	gray
h	hour
H ⁺	hydrogen ion
HAL	hexaminolevulinic acid
Hb	haemoglobin
hCG	human chorionic gonadotrophin
HCO ₃ ⁻	bicarbonate ion
HDU	high-dependency unit
HIF	hypoxia-inducible factor
HIFU	high-intensity focused ultrasound
HIV	human immunodeficiency virus
HLA	human leucocyte antigen
HMG-CoA	3-hydroxy-3-methyl-glutaryl-CoA reductase

5-HMT	5-hydroxymethyl tolterodine
HPCR	high-pressure chronic retention
HPF	high-powered field
H ₂ O	water
HO	house officer
HoLAP	holmium laser ablation of the prostate
HoLEP	holmium laser enucleation of the prostate
HoLRP	holmium laser resection of the prostate
HPA	Health Protection Agency
HPO ₄ ²⁻	phosphate ion
H ₂ PO ₄	phosphoric acid
HPV	human papilloma virus
HRO	high reliability organization
HRP	horseradish peroxidase
5-HT	5-hydroxytryptamine
HTLA	human T lymphotropic virus
Hz	Hertz
IC	intermittent catheterization or interstitial cystitis
ICD	implantable cardioverter defibrillator
i.e.	<i>id est</i> (that is)
IFIS	intraoperative floppy iris syndrome
ICF	intracellular fluid
ICSI	intracytoplasmic sperm injection
IDC	indwelling catheter
IDO	idiopathic detrusor overactivity
IELT	intravaginal ejaculatory latency time
IFIS	intraoperative floppy iris syndrome
IFN	interferon
Ig	immunoglobulin
IGCCCG	International Germ Cell Consensus Classification Group
IGCN	intratubular germ cell neoplasia
IGF	insulin-like growth factor
IIEF	International Index of Erectile Function
IL	interleukin
ILP	interstitial laser prostatectomy
IM	intramuscular
INR	international normalized ratio
IPC	intermittent pneumatic calf compression
IPSS	International Prostate Symptom Score
ISC	intermittent self-catheterization
ISD	intrinsic sphincter deficiency

ISF	interstitial fluid
ISSM	International Society for Sexual Medicine
ITU	intensive treatment unit
IU	international unit
IUI	intrauterine insemination
IV	intravenous
IVC	inferior vena cava
IVF	<i>in vitro</i> fertilization
IVP	intravenous pyelography
IVU	intravenous urography
J	Joule
JGA	juxtaglomerular apparatus
K ⁺	potassium ion
kDa	kilodalton
K _f	formation product
kg	kilogram
KGF	keratinocyte growth factor
kHz	kilohertz
kJ	kilojoule
kPa	kilopascal
K _{sp}	solubility product
KTP	potassium titanyl phosphate (laser)
KUB	kidneys, ureter, and bladder (X-ray)
L	litre
LA	local anaesthetic
LDH	lactate dehydrogenase
LDL	low density lipid
LDR	low-dose rate
LDUH	low-dose unfractionated heparin
LFT	liver function test
LH	luteinizing hormone
LHRH	luteinizing hormone-releasing hormone
LMWH	low molecular weight heparin
LNI	lymph node invasion
LoH	loop of Henle
LOH	late-onset hypogonadism
LRP	laparoscopic radical prostatectomy
LSD	lysergic acid diethylamide
LUT	lower urinary tract
LUTS	lower urinary tract symptoms
mA	milliampere
µA	microampere

MAB	maximal androgen blockade
MAG3	mercaptoacetyl-triglycine (renogram)
MAGPI	meatal advancement and granuloplasty
MAPP	Multidisciplinary Approach to Pelvic Pain
MAPS	Men After Prostate Surgery (study)
MAR	mixed agglutination reaction (test)
MCDK	multicystic dysplastic kidney
µg	microgram
MCUG	micturating cystourethrography
MDCTU	multidetector CT urography
MDRD	modification of diet in renal disease
mEq	milliequivalent
MESA	microsurgical epididymal sperm aspiration
MET	medical expulsive therapy
MeV	mega electronvolt
mg	milligram
mGy	milligray
MHC	major histocompatibility complex
MHz	megahertz
MI	myocardial infarction
MIBG	meta-iodo-benzyl-guanidine
min	minute
MIS	Müllerian inhibiting substance
MIT	minimally invasive treatment
mL	millilitre
µm	micrometre
MMC	mitomycin C
mmol	millimole
MNE	monosymptomatic nocturnal enuresis
mo	month
mOsm	milliosmole
MPA	mycophenolate
MPOA	medial preoptic area
MPR	multiplanar reformatting
MR	magnetic resonance
MRC	Medical Research Council (UK)
MRCoNS	methicillin-resistant coagulase-negative staphylococci
MRI	magnetic resonance imaging
mRNA	messenger ribonucleic acid
MRSA	methicillin-resistant <i>Staphylococcus aureus</i>
MSMB	microseminoprotein-beta
MRU	magnetic resonance urography

MS	multiple sclerosis
MSA	multisystem atrophy
MSCC	metastatic spinal cord compression
MSK	medullary sponge kidney
MSU	midstream urine
mSv	millisievert
MUCP	maximal urethral closure pressure
MUI	mixed urinary incontinence
MVAC	methotrexate, vinblastine, adriamycin, cisplatin
Na ⁺	sodium ion
NA	noradrenaline
NAAT	nucleic acid amplification test
NaCl	sodium chloride
NAION	non-arteritic anterior ischaemic optic nerve neuropathy
NB	<i>nota bene</i> (take note)
NBI	narrow-band imaging
NDO	neurogenic detrusor overactivity
NE	nocturnal enuresis
ng	nanogram
NGU	non-gonococcal urethritis
NICE	National Institute for Health and Care Excellence
NIDDK	National Institute of Diabetes and Digestive and Kidney Diseases
NIH	National Institutes of Health
NIH-CPSI	National Institutes of Health Chronic Prostatitis Symptom Index
nm	nanometre
NMNE	non-monosymptomatic nocturnal enuresis
nmol	nanomole
NMP	nuclear matrix protein
NND	number needed to detect
NNT	number needed to treat
NO	nitric oxide
NP	nocturnal polyuria
NSAID	non-steroidal anti-inflammatory drug
NSGCT	non-seminomatous germ cell tumour
NSU	non-specific urethritis
NVH	non-visible haematuria
od	<i>omni die</i> (once daily)
OAB	overactive bladder
OAT	oligoasthenoteratozoospermia
OIF	onlay island flap

OLND	obturator lymphadenectomy
OP	open prostatectomy
OSA	obstructive sleep apnoea
Pabd	intra-abdominal pressure
PAOD	peripheral artery occlusive disease
PaCO ₂	partial pressure of carbon dioxide (in arterial blood)
PAG	periaqueductal grey matter
PAIS	partial androgen insensitivity syndrome
PC	prostate cancer
PCA	prostate cancer antigen
PCNL	percutaneous nephrolithotomy
PCO ₂	partial pressure of carbon dioxide
PCR	polymerase chain reaction or protein:creatinine ratio
PCT	proximal convoluted tubule
PD	Parkinson's disease
PDD	photodynamic detection
PDE5	phosphodiesterase type-5
Pdet	detrusor pressure
PDGF	platelet-derived growth factor
PDT	photodynamic therapy
PE	premature ejaculation or pulmonary embolism
PEC	perivascular epithelioid cell
PEP	post-exposure prophylaxis
PESA	percutaneous epididymal sperm aspiration
PET	positron emission tomography
PFMT	pelvic floor muscle training
PFS	pressure-flow studies or progression-free survival
PGE1	prostaglandin E1
PGF2	prostaglandin F2
PIN	prostatic intraepithelial neoplasia
PLAP	placental alkaline phosphatase
PLCO	Prostate, Lung, Colon, and Ovarian screening trial
PLESS	Proscar Long-term Efficacy Safety Study
PMC	pontine micturition centre
PMNL	polymorphonuclear leucocyte
PN	partial nephrectomy
PNE	peripheral nerve evaluation
PO	orally (<i>per os</i>)
PO ₂	oxygen tension
POP	pelvic organ prolapse
POPQ	pelvic organ prolapse quantification
PPS	pentosan polysulphate sodium

PR	pulse rate
PrP	prion protein
PSA	prostate-specific antigen
PSAD	prostate-specific antigen density
PSADT	prostate-specific antigen doubling time
PTFE	polytetrafluoroethylene
PTN	posterior tibial nerve
PTTI	parenchymal transit time index
PTNS	posterior tibial nerve stimulation
PUJ	pelviureteric junction
PUJO	pelviureteric junction obstruction
PUNLMP	papillary urothelial neoplasm of low malignant potential
PUV	posterior urethral valve
PVD	peripheral vascular disease
Pves	intravesical pressure
PVN	paraventricular nucleus
PVP	photoselective vaporization of the prostate
PVR	post-void residual
QALY	quality-adjusted life year
qds	<i>quarter die sumendus</i> (to be taken 4 times per day)
Qmax	maximal flow rate
QoL	quality of life
RARP	robot-assisted radical prostatectomy
RBC	red blood cell
RBF	renal blood flow
RCC	renal cell carcinoma
RCT	randomized control trial
RFA	radiofrequency ablation
RI	resistive index
RNA	ribonucleic acid
RP	radical prostatectomy
RPD	renal pelvis diameter
RPF	retroperitoneal fibrosis or renal plasma flow
RPLND	retroperitoneal lymph node dissection
RPR	rapid plasma regain
RR	respiratory rate
RT	radiotherapy
RTA	renal tubular acidosis or road traffic accident
RTK	receptor tyrosine kinase
s	second
SARS	sacral anterior root stimulator
SC	subcutaneous