

Contents

List of abbreviations	xi		
Foreword	xii		
ICD-O topographical coding	1		
ICD-O morphological coding	1		
Tumours of the kidney	2		
Tumours of the urinary tract	4		
Tumours of the prostate	6		
Tumours of the seminal vesicle	7		
Tumours of the testis	8		
Tumours of the testicular adnexa	10		
Tumours of the penis and scrotum	11		
Neuroendocrine neoplasms	12		
Mesenchymal tumours	12		
Haematolymphoid tumours	14		
Melanocytic lesions	15		
TNM staging of urological tumours	16		
Carcinomas of the penis	17		
Adenocarcinomas of the prostate	18		
Germ cell tumours of the testis	20		
Renal cell carcinoma	22		
Carcinomas of the renal pelvis and ureter	23		
Carcinomas of the urinary bladder	24		
Carcinomas of the urethra	25		
1 Introduction to urinary and male genital tumours	27		
2 Tumours of the kidney	31		
Renal cell tumours			
Introduction	32		
Clear cell renal tumours			
Clear cell renal cell carcinoma	38		
Multilocular cystic renal neoplasm of low malignant potential	43		
Papillary renal tumours			
Renal papillary adenoma	45		
Papillary renal cell carcinoma	47		
Oncocytic and chromophobe renal tumours			
Oncocytoma of the kidney	50		
Chromophobe renal cell carcinoma	53		
Other oncocytic tumours of the kidney	56		
Collecting duct tumours			
Collecting duct carcinoma	59		
Other renal tumours			
Clear cell papillary renal cell tumour	61		
Mucinous tubular and spindle cell carcinoma	63		
Tubulocystic renal cell carcinoma	65		
Acquired cystic disease-associated renal cell carcinoma	67		
Eosinophilic solid and cystic renal cell carcinoma	69		
Renal cell carcinoma NOS	71		
Molecularly defined renal carcinomas			
<i>TFE3</i> -rearranged renal cell carcinomas	72		
<i>TFEB</i> -altered renal cell carcinomas	74		
<i>ELOC</i> (formerly <i>TCEB1</i>)-mutated renal cell carcinoma	76		
Fumarate hydratase-deficient renal cell carcinoma	78		
Succinate dehydrogenase-deficient renal cell carcinoma	80		
<i>ALK</i> -rearranged renal cell carcinomas	82		
		SMARCB1-deficient renal medullary carcinoma	84
		Metanephric tumours	
		Metanephric adenoma	87
		Metanephric adenofibroma	90
		Metanephric stromal tumour	92
		Mixed epithelial and stromal renal tumours	
		Mixed epithelial and stromal tumour of the kidney	94
		Paediatric cystic nephroma	96
		Renal mesenchymal tumours	
		Adult renal mesenchymal tumours	
		Classic angiomyolipoma / PEComa of the kidney	98
		Epithelioid angiomyolipoma / epithelioid PEComa of the kidney	102
		Renal haemangioblastoma	105
		Juxtaglomerular cell tumour	107
		Renomedullary interstitial cell tumour	109
		Paediatric renal mesenchymal tumours	
		Ossifying renal tumour of infancy	111
		Congenital mesoblastic nephroma	112
		Rhabdoid tumour of the kidney	114
		Clear cell sarcoma of the kidney	116
		Embryonal neoplasms of the kidney	
		Nephroblastic tumours	
		Nephrogenic rests	119
		Cystic partially differentiated nephroblastoma	121
		Nephroblastoma	123
		Miscellaneous renal tumours	
		Germ cell tumours of the kidney	129
		3 Tumours of the urinary tract	131
		Introduction	132
		Urothelial tumours	
		Non-invasive urothelial neoplasms	
		Urothelial papilloma	134
		Inverted urothelial papilloma	136
		Papillary urothelial neoplasm of low malignant potential	138
		Non-invasive papillary urothelial carcinoma, low-grade	140
		Non-invasive papillary urothelial carcinoma, high-grade	143
		Urothelial carcinoma in situ	147
		Invasive urothelial neoplasms	
		Invasive urothelial carcinoma	150
		Squamous cell neoplasms of the urinary tract	
		Squamous papilloma of the urothelial tract	166
		Squamous cell carcinomas of the urinary tract	
		Verrucous carcinoma of the bladder	167
		Pure squamous carcinoma of the urothelial tract	169
		Glandular neoplasms	
		Adenomas	
		Villous adenoma	172
		Adenocarcinomas	
		Adenocarcinoma NOS	173
		Urachal and diverticular neoplasms	
		Urachal carcinoma	177
		Diverticular carcinoma	181
		Urethral neoplasms	
		Urethral accessory gland carcinomas	
		Littre gland adenocarcinoma	183
		Skene gland adenocarcinoma	185
		Cowper gland adenocarcinoma	186

Tumours of Müllerian type			
Clear cell adenocarcinoma of the urinary tract	188		
Endometrioid carcinoma of the urinary tract	190		
4 Tumours of the prostate	193		
Introduction	194		
Epithelial tumours of the prostate			
Glandular neoplasms of the prostate			
Prostatic cystadenoma	196		
High-grade prostatic intraepithelial neoplasia	198		
Intraductal carcinoma of the prostate	200		
Prostatic acinar adenocarcinoma	203		
Prostatic ductal adenocarcinoma	220		
Treatment-related neuroendocrine prostatic carcinoma	223		
Squamous neoplasms of the prostate			
Adenosquamous carcinoma of the prostate	225		
Squamous cell carcinoma of the prostate	227		
Adenoid cystic (basal cell) carcinoma of the prostate	229		
Mesenchymal tumours unique to the prostate			
Stromal tumours of the prostate			
Prostatic stromal tumour of uncertain malignant potential	231		
Prostatic stromal sarcoma	233		
5 Tumours of the seminal vesicle	235		
Introduction	236		
Epithelial tumours			
Glandular neoplasms			
Cystadenoma	237		
Adenocarcinoma	238		
Squamous neoplasms			
Squamous cell carcinoma	240		
Other tumours			
Mixed epithelial and stromal tumour	241		
6 Tumours of the testis	243		
Introduction	244		
Germ cell tumours derived from germ cell neoplasia in situ			
Non-invasive germ cell neoplasia			
Germ cell neoplasia in situ	250		
Specific forms of intratubular germ cell neoplasia	253		
Gonadoblastoma	255		
The germinoma family of tumours			
Seminoma	258		
Non-seminomatous germ cell tumours			
Embryonal carcinoma	262		
Yolk sac tumour, postpubertal-type	265		
Choriocarcinoma	268		
Placental site trophoblastic tumour	271		
Epithelioid trophoblastic tumour	273		
Cystic trophoblastic tumour	275		
Teratoma, postpubertal-type	277		
Teratoma with somatic-type malignancy	281		
Mixed germ cell tumours of the testis			
Mixed germ cell tumours	284		
Germ cell tumours of unknown type			
Regressed germ cell tumours	286		
Germ cell tumours unrelated to germ cell neoplasia in situ			
Spermatocytic tumour	288		
Teratoma, prepubertal-type	291		
Yolk sac tumour, prepubertal-type	293		
Testicular neuroendocrine tumour, prepubertal-type	295		
Mixed teratoma and yolk sac tumour, prepubertal-type	297		
Sex cord stromal tumours of the testis			
Leydig cell tumour			
Leydig cell tumour	299		
Sertoli cell tumours			
Sertoli cell tumour	302		
Large cell calcifying Sertoli cell tumour	305		
Granulosa cell tumours			
Adult granulosa cell tumour	307		
Juvenile granulosa cell tumour	309		
The fibroma thecoma family of tumours			
Tumours in the fibroma thecoma group	311		
Mixed and other sex cord stromal tumours			
Mixed sex cord stromal tumour	313		
Signet ring stromal tumour	315		
Myoid gonadal stromal tumour	317		
Sex cord stromal tumour NOS	319		
7 Tumours of the testicular adnexa	321		
Introduction	322		
Ovarian-type tumours of the collecting ducts and rete testis			
Serous cystadenoma	326		
Serous tumour of borderline malignancy	327		
Serous cystadenocarcinoma	329		
Mucinous cystadenoma	331		
Mucinous borderline tumour	333		
Mucinous cystadenocarcinoma	335		
Endometrioid tumours	337		
Clear cell adenocarcinoma	339		
Brenner tumour	340		
Tumours of the collecting ducts and rete testis			
Adenoma	341		
Adenocarcinoma	342		
Paratesticular mesothelial tumours			
Adenomatoid tumour	343		
Well-differentiated papillary mesothelial tumour	346		
Mesothelioma	348		
Tumours of the epididymis			
Cystadenoma	351		
Papillary cystadenoma	352		
Adenocarcinoma	354		
Squamous cell carcinoma	356		
Melanotic neuroectodermal tumour	358		
8 Tumours of the penis and scrotum	361		
Introduction	362		
Benign and precursor squamous lesions			
Condyloma acuminatum	364		
Squamous cell carcinoma precursors, HPV-associated			
Penile intraepithelial neoplasia, HPV-associated	366		
Squamous cell carcinoma precursors, HPV-independent			
Differentiated penile intraepithelial neoplasia, HPV-independent	369		
Invasive epithelial tumours of the penis and scrotum			
Invasive squamous epithelial tumours			
HPV-associated squamous cell carcinoma	372		
HPV-independent squamous cell carcinoma	375		
Squamous cell carcinoma NOS	378		
Other epithelial tumours			
Penile adenosquamous and mucoepidermoid carcinomas	380		
Extramammary Paget disease	381		
Other scrotal tumours			
Basal cell carcinoma of the scrotum	383		
9 Neuroendocrine neoplasms	385		
Introduction	386		
Neuroendocrine tumours			
Well-differentiated neuroendocrine tumour	387		
Neuroendocrine carcinomas			
Small cell neuroendocrine carcinoma	389		
Large cell neuroendocrine carcinoma	392		

Mixed neuroendocrine neoplasms	394	13 Metastases in the genitourinary system	451
Paragangliomas		Introduction	452
Paraganglioma	397	Metastasis to the urinary tract	455
		Metastasis to the kidney	457
		Metastasis to the testis and paratestis	459
10 Mesenchymal tumours	401	14 Genetic tumour syndromes of the urinary and male genital tracts	461
Introduction	402	Introduction	462
Fibroblastic and myofibroblastic tumours		Von Hippel–Lindau syndrome	464
The angiofibroma family of tumours	403	Birt–Hogg–Dubé syndrome	466
Solitary fibrous tumour	405	Hereditary papillary renal carcinoma	469
Inflammatory myofibroblastic tumour	407	Hereditary leiomyomatosis and renal cell carcinoma syndrome	471
Vascular tumours		Succinate dehydrogenase–deficient tumour syndromes	474
Haemangioma	409	<i>BAP1</i> tumour predisposition syndrome	479
Angiosarcoma	412	Hereditary pheochromocytoma–paraganglioma syndromes	481
Pericytic (perivascular) tumours		Tuberous sclerosis	484
Glomus tumour	414	Genitourinary system and Lynch syndrome	487
Myointimoma	416	Hereditary tumour syndromes associated with homologous recombination pathway mutations	490
Myopericytoma	418	Carney complex	492
Extrarenal PEComa	419	Peutz–Jeghers syndrome	494
Smooth muscle tumours		Contributors	497
Leiomyoma	421	Declaration of interests	503
Leiomyosarcoma	423	IARC/WHO Committee for ICD-O	504
Skeletal muscle tumours		Sources	505
Rhabdomyosarcoma	425	References	511
Tumours of uncertain differentiation		Subject index	567
Synovial sarcoma	427	Previous volumes in the series	576
Extrarenal rhabdoid tumour	429		
Desmoplastic small round cell tumour	431		
11 Haematolymphoid tumours	433		
Introduction	434		
Mature B-cell lymphomas			
Extranodal marginal zone lymphoma of MALT	436		
Diffuse large B-cell lymphoma	439		
Plasmacytoma	442		
Histiocytic tumours			
Juvenile xanthogranuloma	445		
12 Melanocytic lesions	447		
Mucosal melanoma	448		