## Contents

i ium	lours of the pituitary gland	11	Spinale epitneliai tumour with thymus-like differentiation	123
WHO	O classification of tumours of the pituitary	12	Intrathyroid thymic carcinoma	125
Intro	oduction	13	Paraganglioma and mesenchymal/stromal tumours	127
Pitui	itary adenoma	14	Paraganglioma	127
Som	natotroph adenoma	19	Peripheral nerve sheath tumours	128
Lact	totroph adenoma	24	Benign vascular tumours	129
Thyr	rotroph adenoma	28	Angiosarcoma	129
Cort	ticotroph adenoma	30	Smooth muscle tumours	132
Gon	adotroph adenoma	34	Solitary fibrous tumour	133
Null	cell adenoma	37	Haematolymphoid tumours	135
Pluri	ihormonal and double adenomas	39	Langerhans cell histiocytosis	135
Pitui	itary carcinoma	41	Rosai-Dorfman disease	136
Pitui	itary blastoma	45	Follicular dendritic cell sarcoma	136
Crar	niopharyngioma	46	Primary thyroid lymphoma	137
Neu	ronal and paraneuronal tumours	48	Germ cell tumours	139
G	angliocytoma and mixed gangliocytoma-adenoma	48	Secondary tumours	142
Ν	eurocytoma	49		
Pa	araganglioma	50	3 Tumours of the parathyroid glands	145
Ν	euroblastoma	51	WHO classification of tumours of the parathyroid glands	146
Tum	ours of the posterior pituitary	52	TNM staging of tumours of the parathyroid glands	146
Mes	enchymal and stromal tumours	55	Parathyroid carcinoma	147
M	leningioma	55	Parathyroid adenoma	153
Sc	chwannoma	56	Secondary, mesenchymal and other tumours	159
C	hordoma	57		
Н	aemangiopericytoma/Solitary fibrous tumour	58	4 Tumours of the adrenal cortex	161
Hae	matolymphoid tumours	60	WHO classification of tumours of the adrenal cortex	162
Gerr	m cell tumours	61	TNM classification of tumours of the adrenal cortex	162
Seco	ondary tumours	63	Adrenal cortical carcinoma	163
			Adrenal cortical adenoma	169
2 Tum	ours of the thyroid gland	65	Sex cord-stromal tumours	173
WHO	O classification of tumours of the thyroid gland	66	Adenomatoid tumour	174
TNM	A classification of tumours of the thyroid gland	67	Mesenchymal and stromal tumours	175
Intro	oduction	68	Myelolipoma	175
Folli	cular adenoma	69	Schwannoma	176
Hyal	linizing trabecular tumour	73	Haematolymphoid tumours	177
Othe	er encapsulated follicular-patterned thyroid tumours	75	Secondary tumours	178
Τι	umours of uncertain malignant potential	76		
N	on-invasive follicular thyroid neoplasm with		5 Tumours of the adrenal medulla and	
	papillary-like nuclear features	78	extra-adrenal paraganglia	179
Papi	illary thyroid carcinoma	81	WHO classification of tumours of the adrenal medulla and	
Folli	cular thyroid carcinoma	92	extra-adrenal paraganglia	180
Hürt	thle (oncocytic) cell tumours	96	TNM staging of tumours of the adrenal medulla and	
Poor	rly differentiated thyroid carcinoma	100	extra-adrenal paraganglia	180
Ana	plastic thyroid carcinoma	104	Introduction	181
Squ	amous cell carcinoma	107	Phaeochromocytoma	183
Med	dullary thyroid carcinoma	108	Extra-adrenal paragangliomas	190
Mixe	ed medullary and follicular thyroid carcinoma	114	Head and neck paragangliomas	190
Muc	coepidermoid carcinoma	117	Sympathetic paraganglioma	192
		119	Neuroblastic tumours of the adrenal gland	196
Scle	erosing mucoepidermoid carcinoma with eosinophilia	113	Neuroplastic turnours of the adrenal gland	
	rosing mucoepidermoid carcinoma with eosinophilia cinous carcinoma	121	Composite phaeochromocytoma	204

6	Neoplasms of the neuroendocrine pancreas	209		
	WHO classification of neoplasms of the	010		
	neuroendocrine pancreas	210		
	TNM classification of tumours of neuroendocrine pancreas	210		
	Introduction	211		
	Non-functioning (non-syndromic) neuroendocrine tumours	215		
	Insulinoma	222		
	Glucagonoma	225		
	Somatostatinoma	227		
	Gastrinoma	229		
	VIPoma	231		
	Serotonin-producing tumours with and without carcinoid			
	syndrome	233		
	ACTH-producing tumour with Cushing syndrome	234		
	Pancreatic neuroendocrine carcinoma (poorly differentiated			
	neuroendocrine neoplasm)	235		
	Mixed neuroendocrine–non-neuroendocrine neoplasms	238		
	Mixed ductal-neuroendocrine carcinomas	238		
	Mixed acinar-neuroendocrine carcinomas	239		
7	Inherited tumour syndromes	241		
	Introduction	242		
	Multiple endocrine neoplasia type 1	243		
	Multiple endocrine neoplasia type 2	248		
	Multiple endocrine neoplasia type 4	253		
	Hyperparathyroidism-jaw tumour syndrome	255		
	Von Hippel-Lindau syndrome	257		
	Familial paraganglioma-phaeochromocytoma syndromes			
	caused by SDHB, SDHC, and SDHD mutations	262		
	Neurofibromatosis type 1	266		
	Carney complex	269		
	McCune-Albright syndrome	272		
	Familial non-medullary thyroid cancer	275		
	Cowden syndrome and PTEN-related lesions	275		
	Familial adenomatous polyposis and APC-related lesions	276		
	Non-syndromic familial thyroid cancer	277		
	Werner syndrome and Carney complex	278		
	DICER1 syndrome	280		
	Glucagon cell hyperplasia and neoplasia	282		
С	ontributors	285		
Declaration of interests				
IΑ	RC/WHO Committee for the ICD-O	296		
S	Sources of figures			
S	ources of tables	300		
R	eferences	301		
Sı	Subject index			
Li	List of abbreviations			