

CONTENTS

<i>Foreword</i>	ix
<i>Preface</i>	xi
<i>Acknowledgements</i>	xv
<i>Abbreviations</i>	xix
Chapter 1 Principles of sonography	1
Overview of diagnostic ultrasound	2
Patient preparation and care	21
Safety considerations	26
References	34
Chapter 2 The upper abdominal organs	39
The pancreas	43
The liver and biliary system	48
The portal venous system	55
The spleen	58
References	63
Chapter 3 The renal tract	67
The kidneys	68
The urinary bladder	78
References	84
Chapter 4 The male reproductive system	87
Transrectal ultrasound (TRUS) of the prostate gland	88
The scrotum and testes	92
The penis	103
References	105

Contents

Chapter 5 The gastrointestinal (GI) tract	107
The salivary glands	108
The adult GI tract	112
Endoscopic ultrasound (EUS)	117
The neonatal GI tract	121
References	124
Chapter 6 The endocrine system - thyroid and adrenal glands	127
The thyroid gland	128
The adrenal glands	135
References	139
Chapter 7 The female reproductive system	141
Gynaecological ultrasound	142
Hysterosalpingo-contrast sonography (HyCoSy)	152
Assisted reproduction	157
References	161
Chapter 8 Obstetric ultrasound	165
Overview	166
Early pregnancy assessment	169
First trimester	175
Second trimester	179
Third trimester	188
References	194
Chapter 9 Breast ultrasound	197
Greyscale, Doppler and contrast-enhanced ultrasound (CEUS)	198
Elastography	204
Volume scanning	206
References	209

Contents

Chapter 10 The cardiovascular system	211
The aorta	212
The extracranial arterial supply to the brain	217
Peripheral arterial - lower limb	223
Peripheral arterial - upper limb	230
Peripheral venous - lower limb	232
Peripheral venous - upper limb	237
Echocardiography	239
Transoesophageal echocardiography	249
Intravascular ultrasound	252
References	255
Chapter 11 The respiratory system - lungs	257
The lungs	258
References	265
Chapter 12 The central nervous system - eye and brain	267
Ocular ultrasound	268
The neonatal brain	272
References	278
Chapter 13 Musculoskeletal ultrasound	279
The shoulder	280
The elbow	285
The wrist and hand	289
The paediatric hip joint	294
The knee	303
The ankle and foot	308
Ultrasound-guided interventions	314
References	318



Contents

Chapter 14 Emergency and interventional ultrasound	321
Emergency ultrasound: FAST	322
Interventional ultrasound	330
References	335
Chapter 15 Additional technologies	337
Contrast-enhanced ultrasound (CEUS)	338
Fusion imaging	341
Artificial intelligence (AI) in ultrasound	344
References	349
<i>Index</i>	351