

Study smart with

Student Consult

GRAY'S

ATLAS

OF ANATOMY

SECOND EDITION



10044074

ห้องสมุด วพบ. สุรินทร์

Richard L. Drake A. Wayne Vogl Adam W. M. Mitchell
Richard M. Tibbitts Paul E. Richardson

ELSEVIER

1 THE BODY

Anatomical position, terms, and planes	2
Anatomical planes and imaging	3
Surface anatomy: anterior view	4
Surface anatomy: posterior view	5
Skeleton: anterior	6
Skeleton: posterior	7
Muscles: anterior	8
Muscles: posterior	9
Vascular system: arteries	10
Vascular system: veins	11
Lymphatic system	12
Nervous system	13
Sympathetics	14
Parasympathetics	15
Dermatomes	16
Cutaneous nerves	17

2 BACK

Surface anatomy	20
Vertebral column	21
Regional vertebrae	22
Cervical vertebrae	23
Thoracic vertebrae	26
Lumbar vertebrae	28
Sacrum	31
Intervertebral foramina and discs	32
Intervertebral disc problems	33
Joints and ligaments	35
Back musculature: surface anatomy	36
Superficial musculature	37
Intermediate musculature	39
Deep musculature	40
Back musculature: transverse section	42
Suboccipital region	43
Spinal nerves	44
Spinal cord	45
Spinal cord vasculature	46
Venous drainage of spinal cord	47

Meninges	48
Spinal cord: imaging	50
Transverse section: thoracic region	52
Dermatomes and cutaneous nerves	53
Tables	54

3 THORAX

Surface anatomy with bones	62
Bony framework	63
Ribs	65
Articulations	66
Breast	68
Pectoral region	70
Thoracic wall muscles	72
Diaphragm	73
Arteries of the thoracic wall	74
Veins of the thoracic wall	75
Nerves of the thoracic wall	76
Lymphatics of the thoracic wall	77
Intercostal nerves and arteries	78
Pleural cavities and mediastinum	79
Parietal pleura	80
Surface projections of pleural recesses	81
Right lung	82
Left lung	83
Lung lobes: surface relationship	84
Lung lobes: imaging	85
Bronchial tree	86
Bronchopulmonary segments	87
Pulmonary vessels and plexus	88
Pulmonary vessels: imaging	89
Mediastinum	91
Pericardium	92
Pericardial layers	93
Anterior surface of heart	94
Base and diaphragmatic surface of heart	95
Right atrium	96
Right ventricle	97
Left atrium	98
Left ventricle	99

CONTENTS

<i>Aortic valve and cardiac skeleton</i>	100	<i>Abdominal viscera</i>	153
<i>Cardiac chambers and heart valves</i>	101	<i>Peritoneal cavity</i>	154
<i>Coronary vessels</i>	102	<i>Abdominal sagittal section</i>	155
<i>Coronary arteries and variations</i>	103	<i>Abdominal coronal section</i>	156
<i>Cardiac conduction system</i>	105	<i>Arterial supply of viscera</i>	157
<i>Auscultation points and heart sounds</i>	106	<i>Stomach</i>	158
<i>Cardiac innervation</i>	107	<i>Spleen</i>	159
<i>Superior mediastinum: thymus</i>	108	<i>Arteries of stomach and spleen</i>	160
<i>Superior mediastinum: veins and arteries</i>	109	<i>Duodenum</i>	162
<i>Superior mediastinum: arteries and nerves</i>	110	<i>Small intestine</i>	164
<i>Superior mediastinum: imaging</i>	111	<i>Large intestine</i>	166
<i>Superior mediastinum: veins and trachea</i>	112	<i>Ileocecal junction</i>	168
<i>Mediastinum: imaging</i>	113	<i>Gastrointestinal tract: imaging</i>	169
<i>Mediastinum: view from right</i>	114	<i>Mesenteric arteries</i>	170
<i>Mediastinum: imaging – view from right</i>	115	<i>Liver</i>	172
<i>Mediastinum: view from left</i>	116	<i>Vessels of the liver</i>	174
<i>Mediastinum: imaging – view from left</i>	117	<i>Segments of the liver</i>	175
<i>Posterior mediastinum</i>	118	<i>Pancreas and gallbladder</i>	176
<i>Mediastinum: imaging</i>	120	<i>Vasculature of pancreas and duodenum</i>	179
<i>Transverse section: TVIII level</i>	124	<i>Venous drainage of viscera</i>	180
<i>Dermatomes and cutaneous nerves</i>	125	<i>Portosystemic anastomoses</i>	182
<i>Visceral efferent (motor) innervation of the heart</i>	126	<i>Posterior wall</i>	183
<i>Visceral afferents</i>	127	<i>Vessels of the posterior wall</i>	184
<i>Tables</i>	128	<i>Diaphragm</i>	185
		<i>Kidneys</i>	186
		<i>Gross structure of kidneys</i>	188
		<i>Kidneys: imaging</i>	189
		<i>Renal vasculature</i>	190
		<i>Branches of the abdominal aorta</i>	192
		<i>Inferior vena cava</i>	193
		<i>Abdominal aorta and inferior vena cava: imaging</i>	194
		<i>Lumbar plexus</i>	196
		<i>Lumbar plexus: cutaneous distribution</i>	197
		<i>Lymphatics</i>	198
		<i>Abdominal innervation</i>	199
		<i>Splanchnic nerves</i>	200
		<i>Visceral efferent (motor) innervation diagram</i>	201
		<i>Visceral afferent (sensory) innervation and referred pain diagram</i>	202
		<i>Kidney and ureter visceral afferent (sensory) diagram</i>	204
		<i>Tables</i>	206

4 ABDOMEN

<i>Surface anatomy</i>	134
<i>Quadrants and regions</i>	135
<i>Abdominal wall</i>	136
<i>Muscles</i>	138
<i>Muscles: rectus sheath</i>	141
<i>Vessels of the abdominal wall</i>	142
<i>Arteries and lymphatics of the abdominal wall</i>	143
<i>Nerves of the abdominal wall</i>	144
<i>Dermatomes and cutaneous nerves</i>	145
<i>Inguinal region</i>	146
<i>Inguinal canal</i>	148
<i>Inguinal hernias</i>	150
<i>Anterior abdominal wall</i>	151
<i>Greater omentum</i>	152

5 PELVIS AND PERINEUM

Surface anatomy and articulated pelvis in men	212	Deep pouch and perineal membrane	259
Surface anatomy and articulated pelvis in women	214	Muscles and erectile tissues in men	260
Pelvic girdle	216	Erectile tissue in men: imaging	261
Pelvic girdle: imaging	217	Muscles and erectile tissues in women	262
Lumbosacral joint	218	Erectile tissue in women: imaging	263
Sacro-iliac joint	219	Internal pudendal artery and vein	264
Pelvic inlet and outlet	220	Pudendal nerve	265
Orientation of pelvic girdle and pelvic brim	221	Vasculature of perineum	266
Pelvic viscera and perineum in men	222	Nerves of perineum	267
Pelvic viscera and perineum in men: imaging	223	Lymphatics of pelvis and perineum in men	268
Pelvic viscera and perineum in women	224	Lymphatics of pelvis and perineum in women	269
Pelvic viscera and perineum in women: imaging	225	Lymphatics	270
Lateral wall of pelvic cavity	226	Dermatomes	271
Floor of pelvic cavity: pelvic diaphragm	227	Innervation of reproductive system in men	272
Rectum and bladder in situ	230	Innervation of reproductive system in women	273
Rectum	231	Innervation of bladder	274
Bladder in men	232	Pelvic cavity imaging in men	275
Bladder in women	233	Pelvic cavity imaging in women	278
Reproductive system in men	234	Tables	284
Prostate	235		
Prostate and seminal vesicles	237		
Scrotum	238		
Testes	239		
Penis	240		
Reproductive system in women	241		
Uterus and ovaries	242		
Uterus	243		
Uterus: imaging	244		
Pelvic fascia	245		
Arterial supply of pelvis	246		
Venous drainage of pelvis	247		
Vasculature of the pelvic viscera	248		
Vasculature of uterus	249		
Venous drainage of prostate and penis	250		
Venous drainage of rectum	251		
Sacral and coccygeal nerve plexuses	252		
Pelvic nerve plexus	253		
Hypogastric plexus	254		
Surface anatomy of the perineum	255		
Borders and ceiling of the perineum	258		

6 LOWER LIMB

Surface anatomy	292
Bones of the lower limb	293
Pelvic bones and sacrum	294
Articulated pelvis	295
Proximal femur	296
Hip joint	297
Hip joint: structure and arterial supply	299
Gluteal region: attachments and superficial musculature	300
Gluteal region: superficial and deep muscles	301
Gluteal region: arteries and nerves	302
Distal femur and proximal tibia and fibula	304
Thigh: muscle attachments	305
Thigh: anterior superficial musculature	306
Thigh: posterior superficial musculature	307
Thigh: anterior compartment muscles	308
Thigh: medial compartment muscles	309
Femoral triangle	310

<i>Imaging of the hand and wrist joint</i>	427	<i>Maxilla and palatine bone</i>	487
<i>Bones of the hand</i>	428	<i>Skull: muscle attachments</i>	488
<i>Joints and ligaments of the hand</i>	429	<i>Scalp and meninges</i>	490
<i>Muscle attachments of forearm</i>	430	<i>Dural partitions</i>	491
<i>Anterior compartment of forearm: muscles</i>	431	<i>Dural arteries and nerves</i>	492
<i>Anterior compartment of forearm:</i>		<i>Dural venous sinuses</i>	493
<i>arteries and nerves</i>	434	<i>Brain</i>	494
<i>Posterior compartment of forearm: muscles</i>	435	<i>Brain: imaging</i>	496
<i>Posterior compartment of forearm:</i>		<i>Cranial nerves</i>	498
<i>arteries and nerves</i>	437	<i>Arterial supply to brain</i>	500
<i>Transverse sections: forearm</i>	438	<i>Cutaneous distribution of trigeminal nerve [V]</i>	503
<i>Carpal tunnel</i>	440	<i>Facial muscles</i>	504
<i>Muscle attachments of the hand</i>	442	<i>Vasculature, facial nerve [VII] and lymphatics</i>	506
<i>Superficial palmar region (palm) of hand</i>	443	<i>Deep arteries and veins of parotid region</i>	507
<i>Tendon sheaths of hand</i>	444	<i>Bony orbit</i>	508
<i>Lumbrical muscles</i>	445	<i>Section through orbit and structures of eyelid</i>	509
<i>Intrinsic muscles of hand</i>	446	<i>Eyelids and lacrimal apparatus</i>	510
<i>Palmar region (palm) of hand: arteries and nerves</i>	448	<i>Innervation of the lacrimal gland</i>	511
<i>Arteries of the hand</i>	450	<i>Muscles of the eyeball</i>	512
<i>Innervation of the hand: median and ulnar nerves</i>	451	<i>Innervation of the orbit and eyeball</i>	513
<i>Dorsum of hand</i>	452	<i>Eye movements</i>	514
<i>Dorsal hoods</i>	453	<i>Vasculature of orbit</i>	515
<i>Dorsum of hand: arteries</i>	454	<i>Eyeball</i>	516
<i>Dorsum of hand: nerves</i>	455	<i>Eye imaging</i>	517
<i>Anatomical snuffbox</i>	456	<i>Ear surface and sensory innervation</i>	520
<i>Superficial veins and lymphatics of forearm</i>	457	<i>Ear</i>	521
<i>Anterior cutaneous nerves of forearm</i>	458	<i>Middle ear</i>	522
<i>Posterior cutaneous nerves of upper limb</i>	459	<i>Internal ear</i>	524
<i>Tables</i>	460	<i>Ear imaging</i>	525
		<i>Temporal and infratemporal fossae</i>	526
		<i>Bones of the temporal and infratemporal fossae</i>	527
		<i>Temporal and infratemporal fossae</i>	528
		<i>Temporomandibular joint</i>	530
		<i>Mandibular division of the trigeminal nerve [V]</i>	531
		<i>Parasympathetic innervation</i>	532
		<i>Arteries and veins of temporal and</i>	
		<i>infratemporal fossae</i>	533
		<i>Pterygopalatine fossa</i>	534
		<i>Neck surface anatomy</i>	536
		<i>Bones of the neck</i>	537
		<i>Compartments and fascia of the neck</i>	538
		<i>Superficial veins of the neck</i>	539

8 HEAD AND NECK

<i>Surface anatomy with bones</i>	476		
<i>Bones of the skull</i>	477		
<i>Skull: anterior view</i>	478		
<i>Skull: lateral view</i>	480		
<i>Skull: posterior view</i>	482		
<i>Skull: superior view and roof</i>	483		
<i>Skull: inferior view</i>	484		
<i>Skull: cranial cavity</i>	485		
<i>Ethmoid, lacrimal bone, inferior concha, and vomer</i>	486		

CONTENTS

<i>Muscles of the neck</i>	540	<i>Nasal cavity: mucosal linings</i>	568
<i>Nerves in the neck</i>	542	<i>Vasculature and innervation of the nasal cavity</i>	569
<i>Cranial nerves in the neck</i>	543	<i>Sinus imaging</i>	570
<i>Cervical plexus and sympathetic trunk</i>	544	<i>Oral cavity: bones</i>	572
<i>Arteries of the neck</i>	546	<i>Teeth</i>	573
<i>Root of the neck: arteries</i>	548	<i>Teeth: imaging</i>	574
<i>Lymphatics of the neck</i>	550	<i>Anatomy of teeth</i>	575
<i>Pharynx</i>	552	<i>Vessels and nerves supplying teeth</i>	576
<i>Muscles of the pharynx</i>	554	<i>Innervation of teeth and gums</i>	577
<i>Innervation of the pharynx</i>	556	<i>Muscles and salivary glands of the oral cavity</i>	578
<i>Vasculature of the pharynx</i>	557	<i>Vessels and nerves of the tongue</i>	579
<i>Larynx</i>	558	<i>Tongue</i>	580
<i>Laryngeal cavity</i>	560	<i>Hard and soft palate</i>	581
<i>Muscles of the larynx</i>	561	<i>Palate</i>	582
<i>Innervation of the larynx</i>	562	<i>Innervation of oral cavity</i>	583
<i>Thyroid gland</i>	563	<i>Cranial nerves</i>	584
<i>Vasculature of the thyroid gland</i>	564	<i>Visceral motor pathways in the head</i>	586
<i>Nose and paranasal sinuses</i>	566	<i>Tables</i>	588
<i>Nasal cavity: bones</i>	567		
		<i>INDEX</i>	609