

Table of Contents

Acknowledgments	xiii
Foreword	xiv
Preface	xv
Preface to the First Edition	xvii



1 Surface Anatomy

Surface Anatomy	2
-----------------------	---

2 Bones, Ligaments & Joints

Vertebral Column: Overview	4
Vertebral Column: Elements	6
Cervical Vertebrae	8
Thoracic & Lumbar Vertebrae	10
Sacrum & Coccyx	12
Intervertebral Disks	14
Joints of the Vertebral Column: Overview	16
Joints of the Vertebral Column: Craniovertebral Region	18
Vertebral Ligaments: Overview & Cervical Spine	20
Vertebral Ligaments: Thoracolumbar Spine	22

3 Muscles

Muscles of the Back: Overview	24
Intrinsic Muscles of the Cervical Spine	26
Intrinsic Muscles of the Back	28
Muscle Facts (I)	30
Muscle Facts (II)	32
Muscle Facts (III)	34

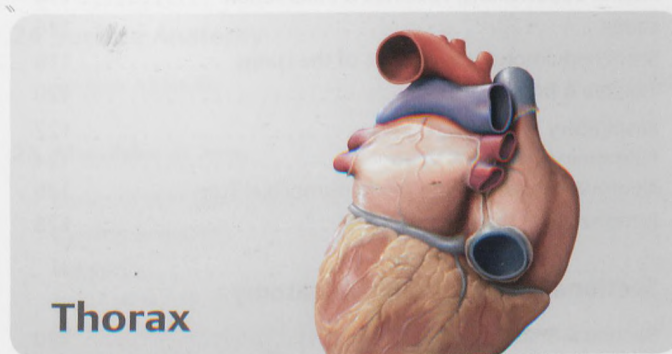
4 Neurovasculature

Arteries & Veins of the Back	36
Nerves of the Back	38

Spinal Cord	40
Spinal Cord Segments & Spinal Nerves	42
Arteries & Veins of the Spinal Cord	44
Neurovascular Topography of the Back	46

5 Sectional & Radiographic Anatomy

Radiographic Anatomy of the Back (I)	48
Radiographic Anatomy of the Back (II)	50



6 Surface Anatomy

Surface Anatomy	54
-----------------------	----

7 Thoracic Wall

Thoracic Skeleton	56
Sternum & Ribs	58
Joints of the Thoracic Cage	60
Thoracic Wall Muscle Facts	62
Diaphragm	64
Neurovasculature of the Diaphragm	66
Arteries & Veins of the Thoracic Wall	68
Nerves of the Thoracic Wall	70
Neurovascular Topography of the Thoracic Wall	72
Female Breast	74
Lymphatics of the Female Breast	76

8 Thoracic Cavity

Divisions of the Thoracic Cavity	78
Arteries of the Thoracic Cavity	80
Veins of the Thoracic Cavity	82
Lymphatics of the Thoracic Cavity	84
Nerves of the Thoracic Cavity	86

9 Mediastinum

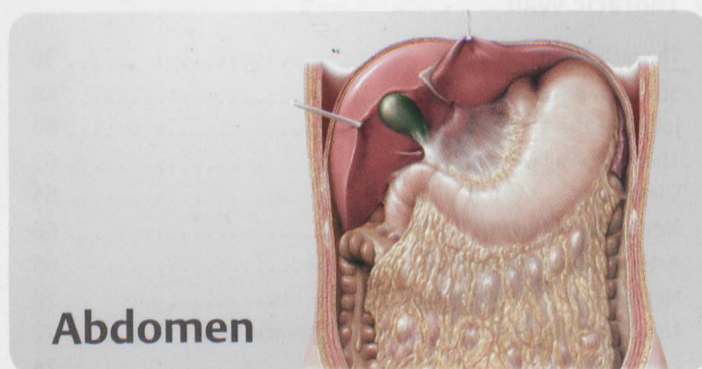
Mediastinum: Overview	88
Mediastinum: Structures	90
Heart: Functions and Relations	92
Pericardium	94
Heart: Surfaces & Chambers	96
Heart: Valves	98
Arteries & Veins of the Heart	100
Conduction & Innervation of the Heart	102
Pre- & Postnatal Circulation	104
Esophagus	106
Neurovasculature of the Esophagus	108
Lymphatics of the Mediastinum	110

10 Pulmonary Cavities

Pulmonary Cavities	112
Pleura: Subdivisions, Recesses & Innervation	114
Lungs	116
Bronchopulmonary Segments of the Lungs	118
Trachea & Bronchial Tree	120
Respiratory Mechanics	122
Pulmonary Arteries & Veins	124
Neurovasculature of the Tracheobronchial Tree	126
Lymphatics of the Pleural Cavity	128

11 Sectional & Radiographic Anatomy

Sectional Anatomy of the Thorax	130
Radiographic Anatomy of the Thorax (I)	132
Radiographic Anatomy of the Thorax (II)	134
Radiographic Anatomy of the Thorax (III)	136



12 Surface Anatomy

Surface Anatomy	140
-----------------------	-----

13 Abdominal Wall

Bony Framework for the Abdominal Wall	142
Muscles of the Anterolateral Abdominal Wall	144

Muscles of the Posterior Abdominal Wall & Diaphragm ...	146
Abdominal Wall Muscle Facts	148
Inguinal Region & Canal	150
Spermatic Cord, Scrotum & Testis	152
Anterior Abdominal Wall & Inguinal Hernias	154

14 Abdominal Cavity & Spaces

Divisions of the Abdominopelvic Cavity	156
Peritoneal Cavity & Greater Sac	158
Omental Bursa, or Lesser Sac	160
Mesenteries & Posterior Wall	162

15 Internal Organs

Stomach	164
Duodenum	166
Jejunum & Ileum	168
Cecum, Appendix & Colon	170
Liver: Overview	172
Liver: Lobes & Segments	174
Gallbladder & Bile Ducts	176
Pancreas & Spleen	178
Kidneys & Suprarenal Glands (I)	180
Kidneys & Suprarenal Glands (II)	182

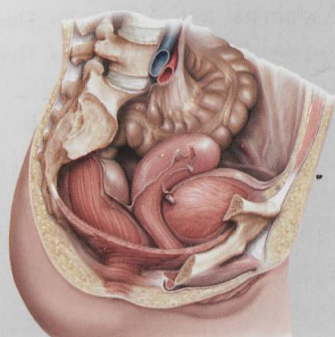
16 Neurovasculature

Arteries of the Abdomen	184
Abdominal Aorta & Renal Arteries	186
Celiac Trunk	188
Superior & Inferior Mesenteric Arteries	190
Veins of the Abdomen	192
Inferior Vena Cava & Renal Veins	194
Portal Vein	196
Superior & Inferior Mesenteric Veins	198
Lymphatics of the Abdominal Organs	200
Lymph Nodes of the Posterior Abdominal Wall	202
Lymph Nodes of the Supracolic Organs	204
Lymph Nodes of the Infracolic Organs	206
Nerves of the Abdominal Wall	208
Autonomic Innervation: Overview	210
Autonomic Plexuses	212
Innervation of the Abdominal Organs	214
Innervation of the Intestines	216

17 Sectional & Radiographic Anatomy

Sectional Anatomy of the Abdomen	218
Radiographic Anatomy of the Abdomen (I)	220
Radiographic Anatomy of the Abdomen (II)	222

Pelvis & Perineum



18 Surface Anatomy

Surface Anatomy	226
-----------------------	-----

19 Bones, Ligaments & Muscles

Pelvic Girdle	228
Female & Male Pelvis	230
Female & Male Pelvic Measurements	232
Pelvic Ligaments	234
Muscles of the Pelvic Floor & Perineum	236
Pelvic Floor & Perineal Muscle Facts	238

20 Spaces

Contents of the Pelvis	240
Peritoneal Relationships	242
Pelvis & Perineum	244

21 Internal Organs

Rectum & Anal Canal	246
Ureters	248
Urinary Bladder & Urethra	250
Overview of the Genital Organs	252
Uterus & Ovaries	254
Ligaments & Fascia of the Deep Pelvis	256
Vagina	258
Female External Genitalia	260
Penis, Testis & Epididymis	262
Male Accessory Sex Glands	264

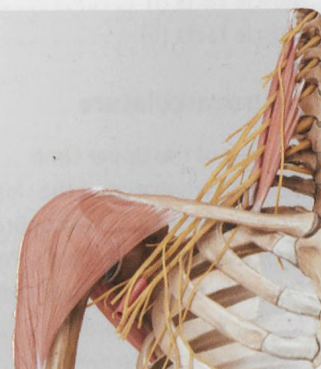
22 Neurovasculature

Arteries & Veins of the Pelvis	266
Arteries & Veins of the Rectum & Genitalia	268
Lymph Nodes of the Abdomen & Pelvis	270
Lymph Nodes of the Genitalia	272
Autonomic Plexuses of the Pelvis	274
Autonomic Innervation: Urinary & Genital Organs & Rectum	276
Neurovasculature of the Female Perineum & Genitalia	278
Neurovasculature of the Male Perineum & Genitalia	280

23 Sectional & Radiographic Anatomy

Sectional Anatomy of the Pelvis & Perineum	282
Radiographic Anatomy of the Female Pelvis	284
Radiographic Anatomy of the Male Pelvis	286

Upper Limb



24 Surface Anatomy

Surface Anatomy	290
-----------------------	-----

25 Shoulder & Arm

Bones of the Upper Limb	292
Clavicle & Scapula	294
Humerus	296
Joints of the Shoulder	298
Joints of the Shoulder: Glenohumeral Joint	300
Subacromial Space & Bursae	302
Anterior Muscles of the Shoulder & Arm (I)	304
Anterior Muscles of the Shoulder & Arm (II)	306
Posterior Muscles of the Shoulder & Arm (I)	308
Posterior Muscles of the Shoulder & Arm (II)	310
Muscle Facts (I)	312
Muscle Facts (II)	314
Muscle Facts (III)	316
Muscle Facts (IV)	318

26 Elbow & Forearm

Radius & Ulna	320
Elbow Joint	322
Ligaments of the Elbow Joint	324
Radioulnar Joints	326
Muscles of the Forearm: Anterior Compartment	328
Muscles of the Forearm: Posterior Compartment	330
Muscle Facts (I)	332
Muscle Facts (II)	334
Muscle Facts (III)	336

27 Wrist & Hand

Bones of the Wrist & Hand	338
The Carpal Bones	340
Joints of the Wrist & Hand	342

Ligaments of the Hand	344
Ligaments and Compartments of the Wrist	346
Ligaments of the Fingers	348
Muscles of the Hand: Superficial & Middle Layers	350
Muscles of the Hand: Middle & Deep Layers	352
Dorsum of the Hand	354
Muscle Facts (I)	356
Muscle Facts (II)	358

28 Neurovasculature

Arteries of the Upper Limb	360
Veins & Lymphatics of the Upper Limb	362
Nerves of the Upper Limb: Brachial Plexus	364
Supraclavicular Branches & Posterior Cord	366
Posterior Cord: Axillary & Radial Nerves	368
Medial & Lateral Cords	370
Median & Ulnar Nerves	372
Superficial Veins & Nerves of the Upper Limb	374
Posterior Shoulder & Arm	376
Anterior Shoulder	378
Axilla	380
Anterior Arm & Cubital Region	382
Anterior and Posterior Forearm	384
Carpal Region	386
Palm of the Hand	388
Dorsum of the Hand	390

29 Sectional & Radiographic Anatomy

Sectional Anatomy of the Upper Limb	392
Radiographic Anatomy of the Upper Limb (I)	394
Radiographic Anatomy of the Upper Limb (II)	396
Radiographic Anatomy of the Upper Limb (III)	398



30 Surface Anatomy

Surface Anatomy	402
-----------------------	-----

31 Hip & Thigh

Bones of the Lower Limb	404
Femur	406
Hip Joint: Overview	408
Hip Joint: Ligaments & Capsule	410
Anterior Muscles of the Hip, Thigh & Gluteal Region (I) ...	412

Anterior Muscles of the Hip, Thigh & Gluteal Region (II) ..	414
Posterior Muscles of the Hip, Thigh & Gluteal Region (I) ..	416
Posterior Muscles of the Hip, Thigh & Gluteal Region (II) ..	418
Muscle Facts (I)	420
Muscle Facts (II)	422
Muscle Facts (III)	424

32 Knee & Leg

Tibia & Fibula	426
Knee Joint: Overview	428
Knee Joint: Capsule, Ligaments & Bursae	430
Knee Joint: Ligaments & Menisci	432
Cruciate Ligaments	434
Knee Joint Cavity	436
Muscles of the Leg: Anterior & Lateral Compartments	438
Muscles of the Leg: Posterior Compartment	440
Muscle Facts (I)	442
Muscle Facts (II)	444

33 Ankle & Foot

Bones of the Foot	446
Joints of the Foot (I)	448
Joints of the Foot (II)	450
Joints of the Foot (III)	452
Ligaments of the Ankle & Foot	454
Plantar Vault & Arches of the Foot	456
Muscles of the Sole of the Foot	458
Muscles & Tendon Sheaths of the Foot	460
Muscle Facts (I)	462
Muscle Facts (II)	464

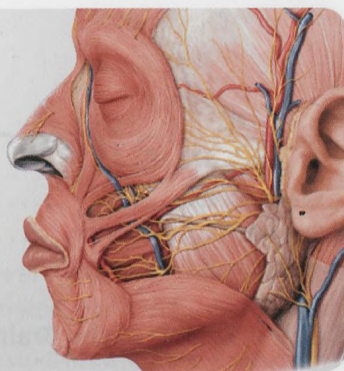
34 Neurovasculature

Arteries of the Lower Limb	466
Veins & Lymphatics of the Lower Limb	468
Lumbosacral Plexus	470
Nerves of the Lumbar Plexus	472
Nerves of the Lumbar Plexus: Obturator & Femoral Nerves	474
Nerves of the Sacral Plexus	476
Nerves of the Sacral Plexus: Sciatic Nerve	478
Superficial Nerves & Vessels of the Lower Limb	480
Topography of the Inguinal Region	482
Topography of the Gluteal Region	484
Topography of the Anterior, Medial & Posterior Thigh	486
Topography of the Posterior Compartment of the Leg & Foot	488
Topography of the Lateral & Anterior Compartments of the Leg and Dorsum of the Foot	490
Topography of the Sole of the Foot	492

35 Sectional & Radiographic Anatomy

Sectional Anatomy of the Lower Limb	494
Radiographic Anatomy of the Lower Limb (I)	496
Radiographic Anatomy of the Lower Limb (II)	498
Radiographic Anatomy of the Lower Limb (III)	500

Head & Neck



36 Surface Anatomy

Surface Anatomy	504
-----------------------	-----

37 Bones of the Head

Anterior & Lateral Skull	506
Posterior Skull & Calvaria	508
Base of the Skull	510
Neurovascular Pathways Exiting or Entering the Cranial Cavity	512
Ethmoid & Sphenoid Bones	514

38 Muscles of the Skull & Face

Muscles of Facial Expression & of Mastication	516
Muscle Origins & Insertions on the Skull	518
Muscle Facts (I)	520
Muscle Facts (II)	522

39 Cranial Nerves

Cranial Nerves: Overview	524
CN I & II: Olfactory & Optic Nerves	526
CN III, IV & VI: Oculomotor, Trochlear & Abducent Nerves	528
CN V: Trigeminal Nerve	530
CN VII: Facial Nerve	532
CN VIII: Vestibulocochlear Nerve	534
CN IX: Glossopharyngeal Nerve	536
CN X: Vagus Nerve	538
CN XI & XII: Accessory & Hypoglossal Nerves	540
Autonomic Innervation	542

40 Neurovasculature of the Skull & Face

Innervation of the Face	544
Arteries of the Head & Neck	546
External Carotid Artery:	
Anterior, Medial & Posterior Branches	548
External Carotid Artery: Terminal Branches	550
Veins of the Head & Neck	552
Meninges	554
Dural Sinuses	556
Topography of the Superficial Face	558
Topography of the Parotid Region & Temporal Fossa	560
Topography of the Infratemporal Fossa	562
Topography of the Pterygopalatine Fossa	564

41 Orbit & Eye

Bones of the Orbit	566
Muscles of the Orbit	568
Neurovasculature of the Orbit	570
Topography of the Orbit	572
Orbit & Eyelid	574
Eyeball	576
Cornea, Iris & Lens	578

42 Nasal Cavity & Nose

Bones of the Nasal Cavity	580
Paranasal Air Sinuses	582
Neurovasculature of the Nasal Cavity	584

43 Temporal Bone & Ear

Temporal Bone	586
External Ear & Auditory Canal	588
Middle Ear: Tympanic Cavity	590
Middle Ear: Ossicular Chain & Tympanic Membrane	592
Arteries of the Middle Ear	594
Inner Ear	596

44 Oral Cavity & Pharynx

Bones of the Oral Cavity	598
Temporomandibular Joint	600
Teeth	602
Oral Cavity Muscle Facts	604
Innervation of the Oral Cavity	606
Tongue	608
Topography of the Oral Cavity & Salivary Glands	610
Tonsils & Pharynx	612
Pharyngeal Muscles	614
Neurovasculature of the Pharynx	616

45 Neck

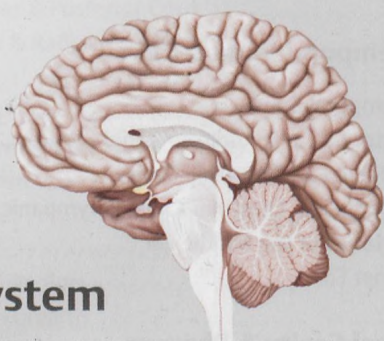
Muscle Facts (I)	618
Muscle Facts (II)	620
Muscle Facts (III)	622
Arteries & Veins of the Neck	624
Lymphatics of the Neck	626
Innervation of the Neck	628
Larynx: Cartilage & Structure	630
Larynx: Muscles & Levels	632
Neurovasculature of the Larynx, Thyroid & Parathyroids	634
Topography of the Neck: Regions & Fascia	636
Topography of the Anterior Cervical Region	638
Topography of the Anterior & Lateral Cervical Regions	640
Topography of the Lateral Cervical Region	642
Topography of the Posterior Cervical Region	644

46 Sectional & Radiographic Anatomy

Sectional Anatomy of the Head & Neck (I)	646
Sectional Anatomy of the Head & Neck (II)	648

Sectional Anatomy of the Head & Neck (III)	650
Sectional Anatomy of the Head & Neck (IV)	652
Sectional Anatomy of the Head & Neck (V)	654
Radiographic Anatomy of the Head & Neck (I)	656
Radiographic Anatomy of the Head & Neck (II)	658
Radiographic Anatomy of the Head & Neck (III)	660

Brain & Nervous System



47 Brain

Nervous System: Overview	664
Brain, Macroscopic Organization	666

Diencephalon	668
Brainstem & Cerebellum	670
Ventricles & CSF Spaces	672

48 Blood Vessels of the Brain

Veins and Venous Sinuses of the Brain	674
Arteries of the Brain	676

49 Functional Systems

Anatomy & Organization of the Spinal Cord	678
Sensory & Motor Pathways	680

50 Autonomic Nervous System

Autonomic Nervous System (I): Overview	682
Autonomic Nervous System (II)	684

51 Sectional & Radiographic Anatomy

Sectional Anatomy of the Nervous System	686
Radiographic Anatomy of the Nervous System	688

Index	691
-------------	-----