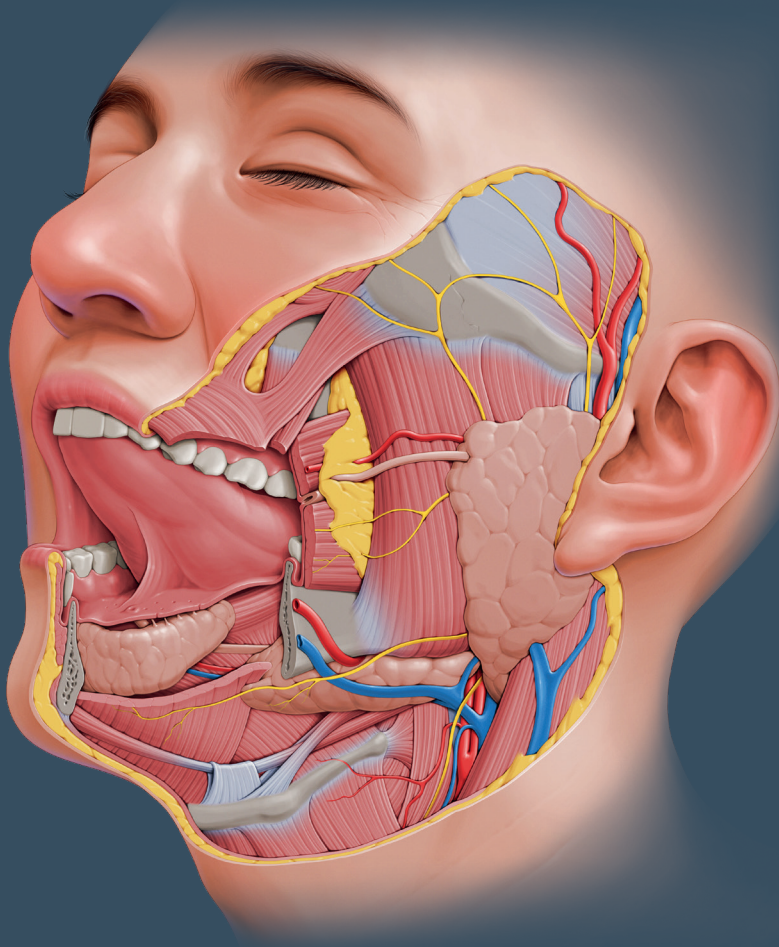


# Atlas of Human Anatomy



BASICS

UPPER LIMB

LOWER LIMB

SPINE AND BACK

THORAX

ABDOMEN

PELVIS AND  
PERINEUM

HEAD AND NECK

NEUROANATOMY

Atlas of  
Human  
Anatomy

Copyright © 2023 by Kenhub GmbH

Originally published in Germany by Kenhub

All rights reserved. No part of this book may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying or recording by any information storage and retrieval system, without written permission from the copyright owner.

To request permissions, contact the copyright owner at [contact@kenhub.com](mailto:contact@kenhub.com).

**Note to the reader:** This book is intended as an informational guide. The text, graphics, images and other materials in this book are for informational purposes only. No material in this book is intended to substitute professional medical advice, diagnosis or care. It should not be used to treat a serious ailment without prior consultation with a qualified health care professional.

ISBN 978-3-96298-318-5 (print)

ISBN 978-3-96298-319-2 (ebook pdf)

ISBN 978-3-96298-320-8 (ebook epub)

Printed and bound in India by Replika Press Pvt. Ltd.

10 9 8 7 6 5 4 3 2 1

**Illustrations** Paul Kim, Irina Münstermann, Liene Znotiņa, Begoña Rodriguez, Samantha Zimmerman, Esther Gollan, Hannah Ely, Mao Miyamoto, Rebecca Betts, and Yousun Koh

**Editor** Mike Pascoe PhD

**Contributors** Abdulmalek Albakkar MD, Alexandru Andrușca MD PhD, Claudia Bednarek MD, Declan Tempany BSc (Hons), Dimitrios Mytilinaios MD PhD, Edwin Ocran MBChB MSc, Egle Pirie BSc (Hons), Elisabeth Friesen, Gordana Sendić MD, Jana Vasković MD, Juliana Walek MD, Kevin Kuschel MD, Marcell Laguna, Marta Krzanowski BMedSc, Milena Vujović MD, Muhammed Albakkar DDS, Nicola McLaren MSc, Nila Nikro, Rafael Lourenço do Carmo MD, Rafaela Linhares MD, Roberto Grujić MD, Sara Ferreira MD, Sophie Stewart MSc

**Text design and layout** Medlar Publishing Solutions Pvt. Ltd., India

To send correspondence to the authors of this book, contact us directly at [contact@kenhub.com](mailto:contact@kenhub.com).

---

# EVOLVING DIVERSITY AND INCLUSION

Diversity is all around us—in nature, culture, art, and in our very being as humans. Society has oftentimes failed to depict the diversity that colors our world, so it's up to everyone as individuals to do their part and contribute towards a diverse and more inclusive culture. We've all seen that this is changing for the better in modern times, since we have come to understand how diversity and inclusion are able to enrich human learning and experience.

Kenhub is a company that greatly values diversity, defined as a broad spectrum of human characteristics and experiences. We foster a culture of inclusion which is reflected in our community of teammates, partners, consumers and customers from all around the world. Our ongoing mission is to create a safe environment for everyone, focusing on cultivating equity, as well as celebrating individual uniqueness and identity.

Representation matters. It is our vision to diversify our content so that everyone feels seen, included, comfortable and respected. We believe that, by representing our differences, we help future healthcare professionals develop and learn new ways of thinking, behaving and caring for their patients. A multicultural exchange of ideas and experiences bolsters new generations, leading to innovation and increased creativity. This is especially pertinent in an educational setting such as Kenhub.

We take pride in making a step towards our vision by diversifying our anatomical models and by shifting away from only featuring the standard white male model of the human body. As many as there are anatomical variations in vessels and nerves of the human body, there can be many different varieties of people, and we're embracing those differences. We understand that we are not exact carbon copies of each other. Thankfully we are all sprinkled with our own unique traits and features and we believe that these individual features should be reflected and celebrated in anatomical education.

---

In addition, we recognize that the lexicon of anatomy is littered with eponymous terms that primarily represent contributions of white, male scientists. The use of these terms further minimizes the contributions of non-white and non-male scientists and adds cognitive burden required to translate these names into structures. For this reason, we have chosen to use toponyms offered by the *Terminologia Anatomica* (2nd edition, 2019) as primary terms whenever possible.

There are still big steps to be made, both on our platform and in society, but we're moving in the right direction—one step at a time, actively working on changes that we believe will make our audience at Kenhub feel seen and heard.



---

# TABLE OF CONTENTS

Preface.....	xiii
How to use this atlas .....	xvi
<b>1 BASICS.....</b>	<b>1</b>
<b>Terminology.....</b>	<b>2</b>
Directional terms and body planes .....	2
Regions of the body .....	3
Body surface anatomy.....	4
Cavities of the body .....	6
<b>2 UPPER LIMB.....</b>	<b>9</b>
<b>Overview.....</b>	<b>10</b>
Regions of the upper limb .....	10
<b>Shoulder and arm .....</b>	<b>12</b>
Clavicle.....	12
Humerus and scapula .....	13
Glenohumeral (shoulder) joint .....	17
Muscles of the arm and shoulder .....	19
<b>Elbow and forearm .....</b>	<b>22</b>
Radius and ulna.....	22
Elbow joint.....	25
Forearm muscles: Anterior compartment .....	27
Forearm muscles: Posterior compartment .....	29
<b>Wrist and hand .....</b>	<b>31</b>
Bones of the wrist and hand.....	31
Ligaments of the wrist and hand.....	33
Muscles of the hand .....	38
<b>Nerves and vessels .....</b>	<b>42</b>
Brachial plexus.....	42

Neurovasculature of the arm and shoulder .....	44
Neurovasculature of the elbow and forearm .....	50
Neurovasculature of the hand .....	56
<b>3 LOWER LIMB .....</b>	<b>61</b>
<b>Overview .....</b>	<b>62</b>
Regions of the lower limb .....	62
<b>Hip and thigh .....</b>	<b>63</b>
Hip bone .....	63
Femur .....	66
Hip joint .....	68
Muscles of the hip and thigh .....	69
<b>Knee and leg .....</b>	<b>74</b>
Tibia and fibula .....	74
Knee joint .....	77
Muscles of the leg .....	82
<b>Ankle and foot .....</b>	<b>86</b>
Bones of the foot .....	86
Talus .....	88
Calcaneus .....	90
Ankle joint .....	92
Joints and ligaments of the foot .....	94
Muscles of the foot .....	98
<b>Nerves and vessels .....</b>	<b>103</b>
Neurovasculature of the hip and thigh .....	103
Muscular innervation .....	105
Cutaneous innervation .....	105
Femoral artery and its branches .....	106
Sciatic nerve and its branches .....	107
Neurovasculature of the leg and knee .....	108
Muscular innervation .....	110
Cutaneous innervation .....	110
Arteries and nerves of the foot .....	110
Muscular innervation .....	112
Cutaneous innervation .....	112
<b>4 SPINE AND BACK .....</b>	<b>113</b>
<b>Overview .....</b>	<b>114</b>
Regions of the back and buttocks .....	114
Vertebral column .....	115

<b>Spine</b> .....	119
Cervical spine.....	119
Thoracic spine.....	124
Lumbar spine.....	126
Sacrum and coccyx.....	128
Arteries of the vertebral column.....	130
Veins of the vertebral column.....	132
<b>Back</b> .....	134
Muscles of the back.....	134
Superficial muscles of the back.....	134
Deep muscles of the back.....	137
Neurovasculature of the back.....	144
<b>5 THORAX</b> .....	147
<b>Thoracic wall</b> .....	148
Sternum.....	148
Ribs.....	150
Costovertebral joints.....	154
Muscles of the thoracic wall.....	156
Thoracic surface of the diaphragm.....	160
Neurovasculature of the thoracic wall.....	161
Neurovasculature of the intercostal space.....	165
<b>Female breast</b> .....	168
Structure of the female breast.....	168
Blood vessels of the female breast.....	169
Lymphatics of the female breast.....	171
<b>Mediastinum</b> .....	173
Borders, divisions and contents of the mediastinum.....	173
Neurovasculature of the posterior mediastinum.....	176
Esophagus.....	180
Lymphatics of the mediastinum.....	181
<b>Lungs</b> .....	184
Trachea.....	184
Bronchial tree and alveoli.....	185
Overview of the lungs.....	189
Lungs <i>in situ</i> .....	192
Lymphatics of the lungs.....	194
<b>Heart</b> .....	196
Heart <i>in situ</i> .....	196
Surface anatomy of the heart.....	199



Right atrium and ventricle .....	202
Left atrium and ventricle .....	206
Heart valves.....	208
Coronary arteries and cardiac veins .....	212
Nerves of the heart .....	214
Lymphatics of the heart.....	217
<b>6 ABDOMEN.....</b>	<b>219</b>
<b>Abdominal wall .....</b>	<b>221</b>
Regions of the abdomen.....	221
Muscles of the abdominal wall.....	223
Abdominal surface of the diaphragm.....	226
Inguinal canal.....	228
Neurovasculature of the abdominal wall.....	230
<b>Peritoneum .....</b>	<b>234</b>
Peritoneal relations.....	234
Mesentery .....	236
Greater omentum.....	237
Omental bursa .....	239
Retroperitoneum.....	241
<b>Stomach .....</b>	<b>243</b>
Stomach <i>in situ</i> .....	243
Structure of the stomach.....	244
<b>Spleen .....</b>	<b>246</b>
Structure of the spleen.....	246
<b>Liver.....</b>	<b>248</b>
Overview of the liver .....	248
Surfaces of the liver .....	250
Gallbladder.....	253
<b>Pancreas.....</b>	<b>254</b>
Pancreas <i>in situ</i> .....	254
Pancreatic duct system .....	256
<b>Small intestine .....</b>	<b>257</b>
Duodenum.....	257
Jejunum and ileum.....	259
Arteries and veins of the small intestine.....	261
Innervation of the small intestine.....	263
Lymphatics of the small intestine .....	265
<b>Large intestine .....</b>	<b>267</b>
Large intestine.....	267
Rectum and anal canal.....	269

Arteries of the large intestine .....	270
Innervation of the large intestine .....	272
Neurovasculature of the rectum and anal canal.....	275
<b>Kidneys and ureters .....</b>	<b>277</b>
Kidneys.....	277
Renal arteries .....	279
Ureters.....	280
<b>Nerves, vessels and lymphatics of the abdomen .....</b>	<b>283</b>
Lumbar plexus .....	283
Arteries of the stomach, liver and gallbladder .....	285
Arteries of the pancreas, duodenum and spleen.....	287
Hepatic portal system.....	289
Lymphatics of the pancreas, duodenum and spleen .....	290
Lymphatics of the stomach, liver and gallbladder.....	292
Lymphatics of the posterior abdominal and pelvic wall .....	295
<b>7 PELVIS AND PERINEUM .....</b>	<b>299</b>
<b>Pelvic girdle and floor .....</b>	<b>300</b>
Bony pelvis.....	300
Ligaments of the pelvis.....	304
Muscles of the pelvic floor and perineum .....	307
<b>Female pelvis and reproductive organs.....</b>	<b>309</b>
Introduction to the female pelvic cavity.....	309
Uterus, uterine tubes and ovaries.....	313
Cervix, vagina and vulva .....	316
Fetus in utero.....	319
<b>Male pelvis and reproductive organs.....</b>	<b>321</b>
Introduction to the male pelvic cavity.....	321
Testis and epididymis.....	323
Scrotum and spermatic cord.....	324
<b>Urinary bladder and urethra.....</b>	<b>327</b>
Male urinary bladder and urethra .....	329
Female urinary bladder and urethra.....	331
<b>Perineum.....</b>	<b>333</b>
Penis .....	333
Female perineum.....	336
Neurovasculature of the female perineum.....	339
<b>Nerves, vessels and lymphatics of the pelvis.....</b>	<b>342</b>
Sacral plexus.....	342
Nerves of the male pelvis .....	344
Nerves of the female pelvis .....	345

Blood supply of the male pelvis .....	347
Blood supply of the female pelvis .....	349
Lymphatics of the urinary organs .....	350
Lymphatics of the male genitalia .....	352
Lymphatics of the female genitalia .....	354
<b>8 HEAD AND NECK</b> .....	<b>357</b>
<b>Overview</b> .....	<b>359</b>
Regions of the head and face .....	359
<b>Skull</b> .....	<b>360</b>
Anterior view of the skull .....	360
Lateral and posterior views of the skull .....	361
Calvaria .....	363
Inferior view of the cranium .....	364
Cranial fossae .....	367
Midsagittal skull .....	370
Ethmoid bone .....	372
Sphenoid bone .....	374
Temporal bone .....	377
Mandible .....	380
<b>Face and scalp</b> .....	<b>383</b>
Muscles of facial expression .....	383
Blood vessels of the face and scalp .....	386
Nerves of the face and scalp .....	393
Arteries of the head: Lateral view .....	396
<b>Infratemporal region and pterygopalatine fossa</b> .....	<b>399</b>
Muscles of mastication .....	399
Temporomandibular joint .....	401
Pterygopalatine fossa .....	403
<b>Orbit and contents</b> .....	<b>408</b>
Bones of the orbit .....	408
Muscles of the orbit .....	410
Neurovasculature of the orbit .....	412
Superior and inferior orbital fissures .....	417
Anatomy of the eyeball .....	419
Blood vessels of the eyeball .....	422
Eyelids and lacrimal apparatus .....	423
<b>Nasal region</b> .....	<b>425</b>
Nasal cavity .....	425
Neurovasculature of the nasal cavity .....	427

<b>Ear</b> .....	430
External ear .....	430
Middle ear.....	432
Internal ear.....	435
<b>Oral cavity</b> .....	439
Overview of the oral cavity.....	439
Surface of the tongue .....	440
Muscles of the tongue.....	442
Neurovasculature of the tongue.....	445
Salivary glands .....	446
<b>Teeth</b> .....	448
Types of teeth.....	448
Anatomy of the tooth.....	450
<b>Pharynx</b> .....	453
Pharyngeal mucosa.....	453
Muscles of the pharynx.....	454
Blood vessels of the pharynx.....	456
Nerves of the pharynx.....	457
<b>Neck</b> .....	459
Hyoid bone.....	459
Muscles of the anterior neck .....	460
Larynx.....	464
Thyroid and parathyroid glands .....	471
Neurovasculature of the neck.....	474
Cervical plexus.....	479
Lymphatics of the head and neck.....	480
Triangles of the neck.....	483
Compartments of the neck .....	486
<b>9 NEUROANATOMY</b> .....	491
<b>Introduction to the brain</b> .....	493
<b>Cerebrum</b> .....	495
Cerebral cortex.....	495
Motor and sensory cortical homunculus .....	499
White matter.....	500
Basal nuclei .....	501
Diencephalon .....	502
<b>Brainstem and cerebellum</b> .....	505
Brainstem.....	505
Cerebellum.....	508

---

<b>Meninges and ventricles of the brain</b> .....	511
Cranial meninges.....	511
Ventricles of the brain .....	512
<b>Blood supply of the brain</b> .....	515
Arteries of the brain .....	515
Veins of the brain .....	519
Dural venous sinuses .....	522
<b>Spinal cord</b> .....	524
Topography and morphology of the spinal cord.....	524
Spinal meninges and nerve roots .....	526
Spinal nerves .....	527
Blood vessels of the spinal cord .....	529
<b>Cranial nerves</b> .....	532
Cranial nerve overview.....	532
Olfactory nerve (CN I) .....	536
Optic nerve (CN II) .....	538
Oculomotor, trochlear and abducens nerves (CN III, IV & VI) .....	540
Trigeminal nerve (CN V) .....	543
Ophthalmic nerve (CN V <sub>1</sub> ).....	543
Maxillary nerve (CN V <sub>2</sub> ) .....	545
Mandibular nerve (CN V <sub>3</sub> ).....	547
Facial nerve (CN VII) .....	550
Vestibulocochlear nerve (CN VIII) .....	553
Glossopharyngeal nerve (CN IX).....	556
Vagus nerve (CN X).....	559
Accessory nerve (CN XI).....	563
Hypoglossal nerve (CN XII).....	564
Taste pathway.....	566
Index .....	567

---

# PREFACE

As of summer 2023, Kenhub.com has helped more than 4 million registered users worldwide to deepen their understanding of the structure and organization of the human body (and pass their exams too). Since launching Kenhub.com in 2012, we've had over 110 million visitors on our website, with this number growing everyday.

Further to this, universities such as Charité—Universitätsmedizin Berlin and the University of Colorado use our learning materials to teach their students, in parallel with textbooks and practical lab teaching.

Kenhub offers you and your university the most accurate and reliable digital anatomy educational tools. Based on regular feedback from our users, it became clear that physical anatomy atlases are still highly valued by students.

That is why we have decided to print a top quality anatomy atlas based on years of experience, constant refinement and user feedback.

## OUR QUALITY COMMITMENT

At Kenhub, we are passionate about providing the most accurate and reliable resources for healthcare professionals that are either learning or teaching anatomy and histology. We work hard to ensure that our content rises to the highest academic standards.

We use multiple academic resources as a reference point, with particular emphasis on those which are familiar to the majority of students and instructors alike. Thus for anatomy related content, our main references are two of the most widely respected anatomy textbooks:

- Gray's Anatomy, The Anatomical Basis of Clinical Practice, 42nd Ed. (Editor in chief: Susan Standring)
- Clinically Oriented Anatomy (by Keith L. Moore, Arthur F. Dalley II, and Anne M. R. Agur)

---

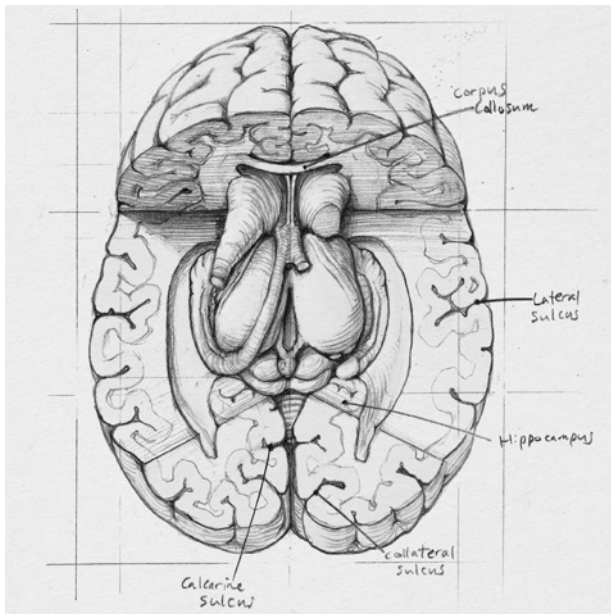
In addition to accuracy, our articles and illustrations on Kenhub.com are continuously updated with the latest findings and discoveries in anatomy and histology. Towards this, our writing and review process involves the appraisal of peer-reviewed scientific literature related to each topic.

Understanding that not everybody enjoys reading dense academic content, we strive to make our articles as light and as easy to read as possible, without scrimping on the details.

Both our atlas of anatomy illustrations and textbook-style articles are available for free upon registration on Kenhub.com. For a faster and more engaging learning experience, we offer hundreds of videos and quizzes as part of our paid Premium product.

## REVIEWED BY EXPERTS

In enlisting our content creation team, we follow the highest educational and scientific standards. The authors of our articles are medical students, junior doctors, or postgrads who are passionate about anatomy, histology and medical education. Our talented authors love teaching their younger fellows and have a great ability to simplify complex topics into easy-to-digest articles. The manuscripts are then reviewed by a group of experts in the medical education field. We collaborate with university professors, senior doctors and Ph.D. candidates from around the world who are experts in anatomy, histology and medical education.



---

We are also proud to collaborate with some of the world's top medical illustrators, including the Netter award winner Paul Kim, and others like Begoña Rodriguez, Esther Gollan, Hannah Ely, Irina Münstermann, Liene Znotiņa, Mao Miyamoto, Rebecca Betts, Samantha Zimmerman, and Yousun Koh. Referencing Netter's Atlas of Human Anatomy and Sobotta Atlas of Human Anatomy (to name a few), our illustrators create original anatomical or histological illustrations. The original illustrations we create are then subject to a rigorous review process (sometimes it takes more than 6 months for an illustration to be published due to the multiple reviewing steps!).

## Atlas content reviewer

For this atlas specifically, we are proud to work together with Dr. Mike Pascoe. Mike is an Associate Professor of Anatomy at the University of Colorado Anschutz Medical Campus.

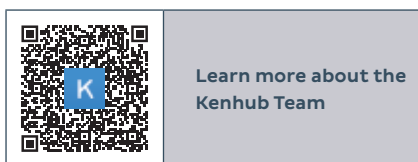
Dr. Pascoe studied the neurophysiology of movement at the University of Colorado Boulder and defended his doctoral dissertation in 2010. He then joined the faculty at Anschutz in 2011 where he develops and delivers gross anatomy curricula to physical therapy, physician assistant, and medical doctor students.

His primary research interest is the investigation of constructivist approaches in technology-enabled learning environments (e.g., wiki usage, interactive modules, Snapchat, etc) to improve learning outcomes and student satisfaction. Of secondary interest is the determination of "need-to-know" anatomy content for physical therapy students.

Dr. Pascoe's service commitments include mentoring students, organizing anatomy laboratory refresher courses for practicing clinicians, community outreach, and service as a peer-reviewer for many anatomy education journals.

This atlas hasn't been possible without the help of the Kenhub team. It consists of diverse, talented individuals which create Kenhub's unique, interdisciplinary perspective on anatomy education. We are a fully remote company meaning that our team is spread out all around the world.

You can find more information about the team here:



**Kenhub is grounded on academic literature and research, validated by experts, and trusted by more than 80 million readers worldwide.**



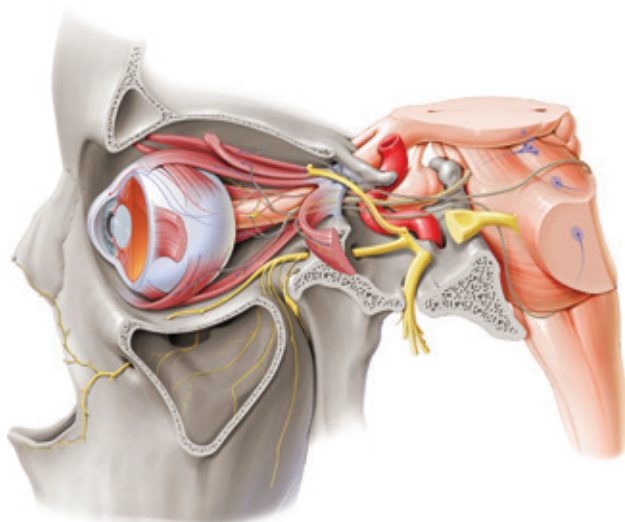
---

# HOW TO USE THIS ATLAS

Mike Pascoe PhD

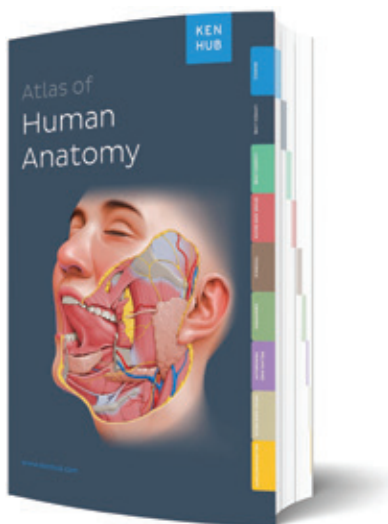
## BUILT FOR LEARNERS

This atlas represents a collection of clear, comprehensible and didactically valuable images from Kenhub.com, intuitively organized to aid you in your mastery of the organization of the human body. The features of this modern print atlas were formulated by direct input from students of anatomy and experienced educators. This print atlas was designed by the preferences of anatomy students to assist in the challenges of identifying structures in the anatomy laboratory *and* to assist in studying for written exams.



---

The ease of navigation is the most important feature of an anatomy atlas! Therefore, this atlas has been organized by region (e.g., upper limb), with various body systems presented therein. A color coding system is used throughout the atlas, as this has been recognized as the most efficient way to find a structure quickly in a print atlas. This atlas provides a series of regional overview images that will assist you in identifying structures in and out of the laboratory based on adjacent key anatomical relations. This is how expert anatomists navigate the body, so don't underestimate the power of having a good understanding of neighboring anatomical structures! Additionally, each overview image is accompanied by text captions in order to convey and describe presented structures in a clear and concise manner.



The small size of the atlas enables you to transport it and use it across many different settings beyond your home, such as the anatomy lab and in the lecture hall on campus.



---

## DIGITALLY ENHANCED LEARNING

This atlas can be used in traditional ways, as mentioned above, and in ways you may not have considered before. A big strength of the atlas is the ability to extend its content into the rich resources on the Kenhub website.

The reader can use their smartphone to access any structure on Kenhub through their atlas and view any additional related images, as well as related articles, videos and quizzes. The atlas can also be used as a reference (i.e., “second screen”) when reviewing lectures at home or on the go.

This is enabled by the Quick Response (QR) codes, which have been included in the atlas as a quick way to connect you to the extensive online resources on the Kenhub platform. To do this, open the camera app on your smartphone, ensuring the rear-facing camera is selected. Point your camera at the QR code and center the box over the code to scan it. Tap on the URL popup banner at the top of the screen, and you’ll be connected directly to the supplemental information on Kenhub.com.



Here we see a learner scanning a QR code in the atlas in order to review further details found on Kenhub.com.

# BASICS

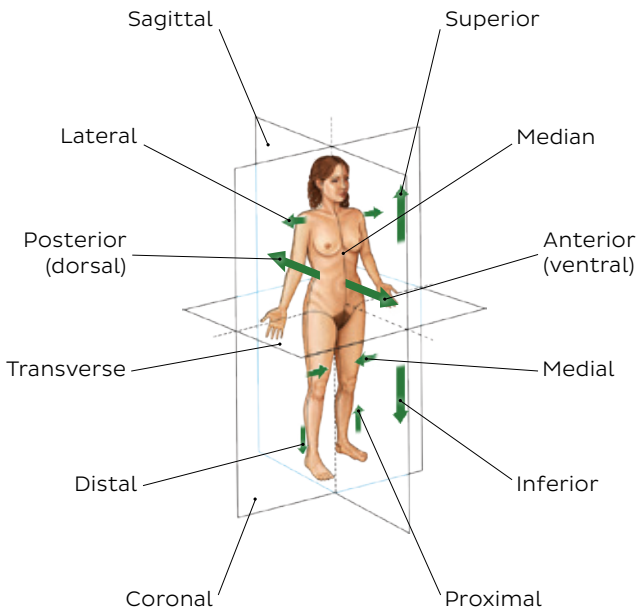
# 1

<b>Terminology.....</b>	<b>2</b>
Directional terms and body planes .....	2
Regions of the body .....	3
Body surface anatomy.....	4
Cavities of the body .....	6

## DIRECTIONAL TERMS AND BODY PLANES

Anatomists use specific terms to help clearly communicate the location of structures within the human body. These are directional terms, regional terms and body planes. To avoid confusion and miscommunication, a standard reference point for these terms is always used, this reference point is the **anatomical position**. The anatomical position is when the body is standing erect, with the face looking forwards, the feet parallel, the arms hanging at the sides, the palms facing forwards and the thumbs pointing away from the body.

Directional terms and body planes allow us to describe the **relationship** between anatomical structures. For example, the wrist is distal to the elbow, the ears are lateral to the eyes, the nose is located in the midsagittal plane.

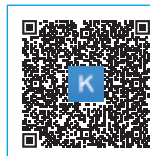


**FIGURE 1.1.** Directional terms and body planes.

Key points about directional terms and body planes	
<b>Body planes</b>	Coronal, sagittal, median, transverse
<b>Directional terms</b>	Superior (cranial), inferior (caudal), anterior (ventral), posterior (dorsal), medial, lateral, proximal, distal, left, right, superficial, deep, central, peripheral, ulnar, radial, rostral, caudal, palmar, plantar



Directional terms and body planes

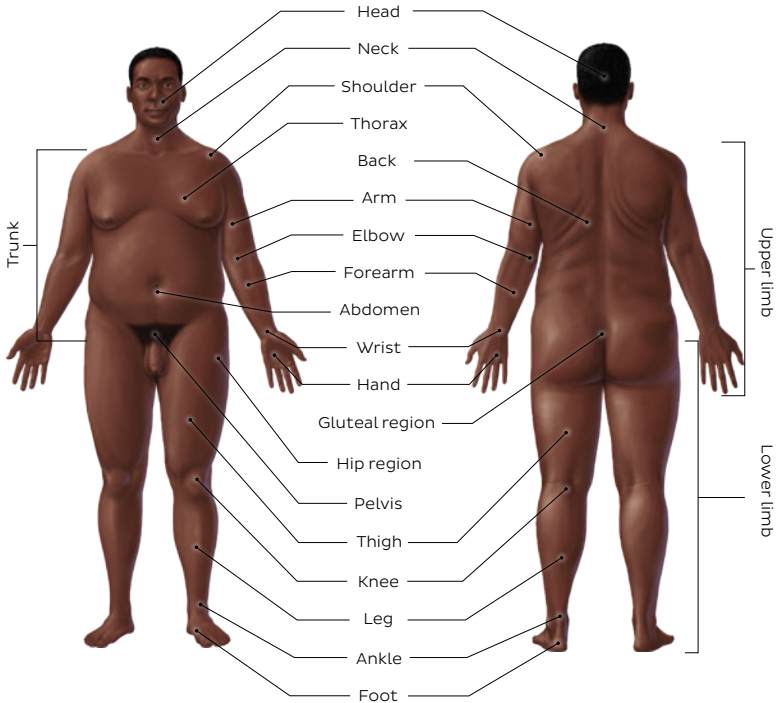


Basic anatomy and terminology

## REGIONS OF THE BODY

The human body can be studied under the umbrella of two primary regions. These are the **axial region**, which encompasses the head, neck and trunk, and the **appendicular region** which describes the upper and lower limbs.

Each of these regions can in turn be broadly divided into a number of smaller sub-regions or parts.



**FIGURE 1.2.** Regions of the body.

Key points about the regions of the body	
<b>Axial regions</b>	Head Neck Trunk (thorax, abdomen, pelvis, back)
<b>Appendicular regions</b>	Upper limb (shoulder, arm, elbow, forearm, wrist, hand) Lower limb (hip, gluteal region, thigh, knee, leg, ankle, foot)



Basic anatomy and terminology

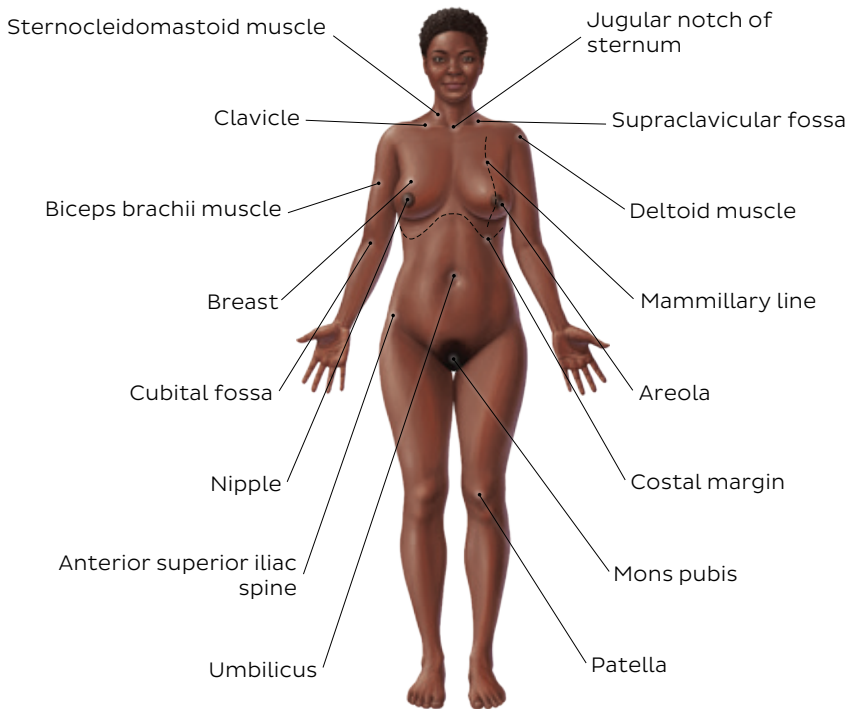


Body regions: Learn with quizzes and labeled diagrams

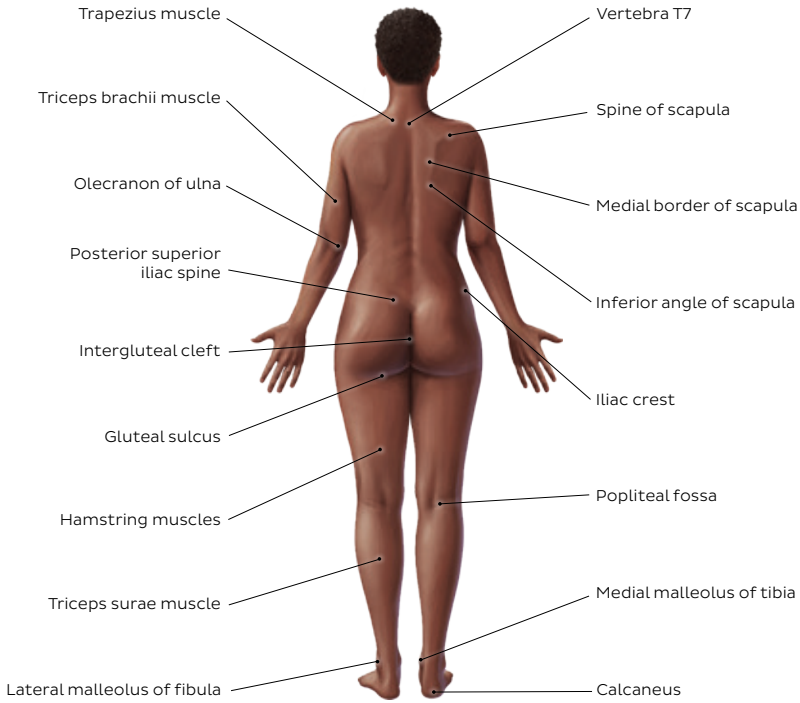
## BODY SURFACE ANATOMY

Surface anatomy teaches about the main anatomical features visible on the surface of the human body. This knowledge helps to identify inner anatomical structures according to their visible features.

A good understanding of surface anatomy is key to interpreting normal and abnormal anatomy in clinical settings, such as medical imaging procedures and physical examination. Many aspects of surface anatomy between the sexes are similar but there are a few differences which mainly relate to sexual differentiation during development.



**FIGURE 1.3.** Female body surface anatomy (anterior view).



**FIGURE 1.4. Female body surface anatomy (posterior view).**

Surface landmarks	Anterior surface	Posterior surface
<b>Head, neck and trunk</b>	Larynx, sternocleidomastoid muscle, supraclavicular fossa, clavicle, pectoralis major muscle, jugular notch of sternum, sternum, sternal angle, xiphoid process, breast, areola, nipple, costal margin, rectus abdominis muscle, linea alba, linea semilunaris, umbilicus, mons pubis, anterior superior iliac spine, inguinal ligament, scrotum, penis, glans penis, vulva	External occipital protuberance, vertebra C7 trapezius muscle, spine of scapula, medial border of scapula, inferior angle of scapula, latissimus dorsi muscle, lumbar triangle (of Petit), iliac crest, posterior superior iliac spine, sacral triangle, sacroiliac joint, anal region
<b>Upper limb</b>	Acromion, deltoid muscle, biceps brachii muscle, cubital fossa, radial foveola (anatomical snuffbox), thenar eminence, hypothenar eminence	Triceps brachii muscle, olecranon
<b>Lower limb</b>	Femoral triangle, quadriceps femoris muscle, patella, tibial tuberosity, tibialis anterior muscle, lateral malleolus, medial malleolus	Gluteal region, intergluteal cleft, gluteal sulcus, iliotibial tract, hamstring muscles, popliteal fossa, triceps surae muscle, calcaneal (Achilles) tendon



## CAVITIES OF THE BODY

The main body cavities are classified into two groups according to their location: Dorsal cavity and ventral cavity. The **dorsal cavity** consists of the cranial cavity, which houses the brain; and the vertebral canal, which houses the spinal cord. The **ventral cavity** is composed of the thoracic cavity and abdominopelvic cavity. The **thoracic cavity** contains several smaller spaces that house the trachea, lungs, esophagus and heart. The **abdominopelvic cavity** can be subdivided into the abdominal and the pelvic cavities, which contain the abdominal and pelvic organs, respectively.

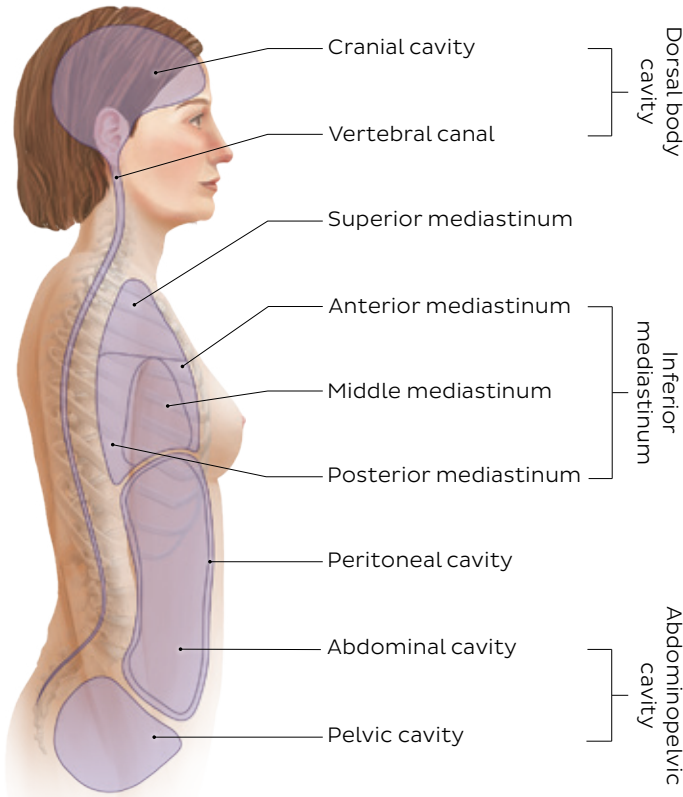
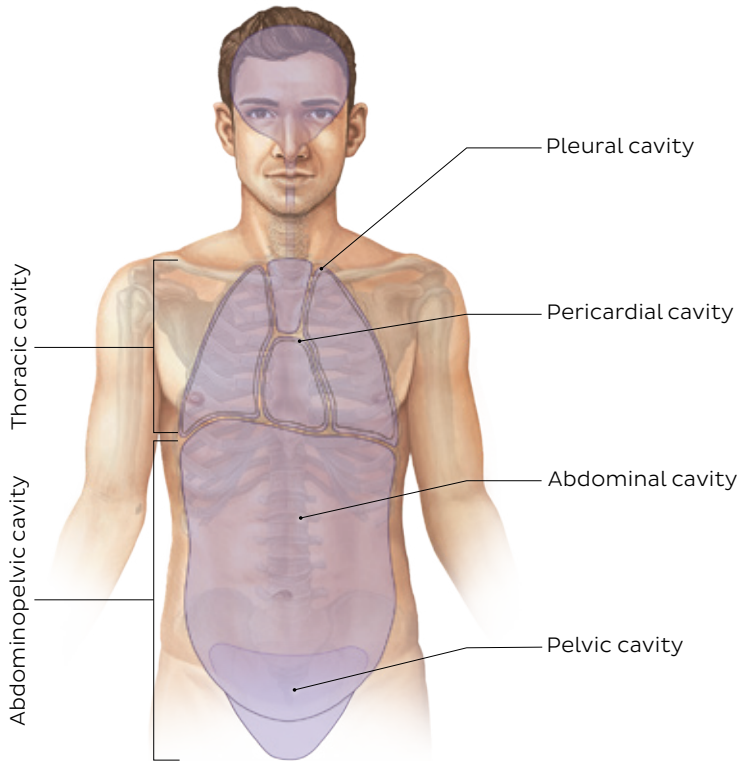


FIGURE 1.5. Cavities of the body (lateral view).



**FIGURE 1.6.** Cavities of the body (anterior view).

Key points about the body cavities	
<b>Main cavities of the body</b>	Dorsal cavity: cranial cavity, vertebral canal Ventral cavity: thoracic cavity, abdominopelvic cavity
<b>Main contents of body cavities</b>	Cranial cavity: brain Vertebral canal: spinal cord Thoracic cavity: Mediastinum contents: heart, trachea, esophagus Mediastinum divisions: superior, inferior (subdivisions: anterior, middle posterior) Pleural cavity: lungs Abdominopelvic cavity: Abdominal cavity: gastrointestinal system Pelvic cavity: reproductive organs, urinary bladder, sigmoid colon and rectum



**Basic medical terminology 101:**  
Learn with quizzes



**Basic anatomy and terminology**

## Learn anatomy faster – register for free

Learning anatomy is hard.  
But it doesn't have to be.  
Learn more and study faster at Kenhub.

- ✓ Study quickly and confidently for your next exam with videos and interactive quizzes.
- ✓ Our content is grounded on peer-reviewed academic literature and research.
- ✓ Trusted by more than 3 million users.

Register at [www.kenhub.com](https://www.kenhub.com)  
for free and try out Kenhub  
without any commitment.



Receive 10% discount on all Kenhub Premium plans through the following link: [khub.me/atlas](https://khub.me/atlas)

