

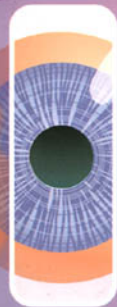
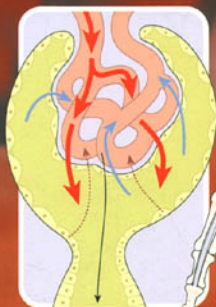
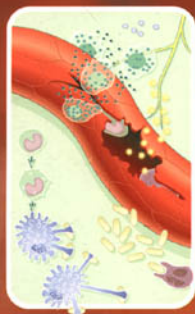
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Ross and Wilson

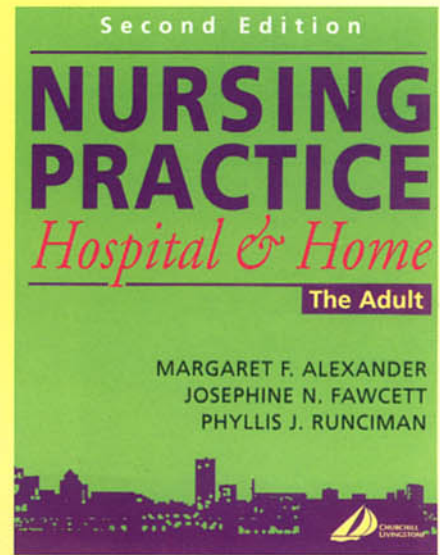
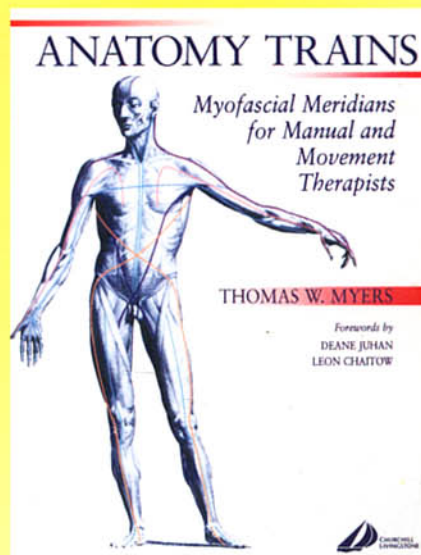
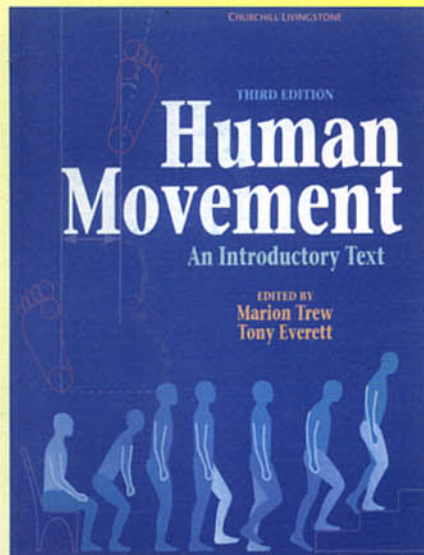
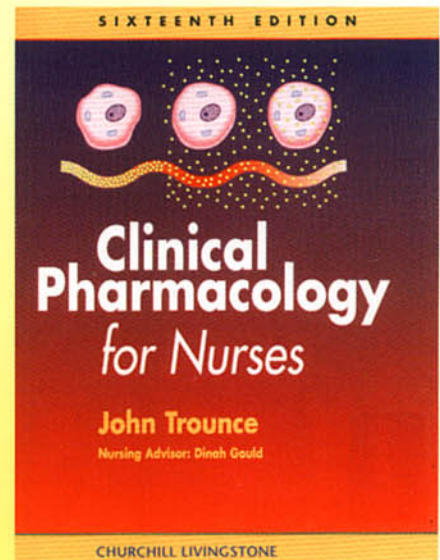
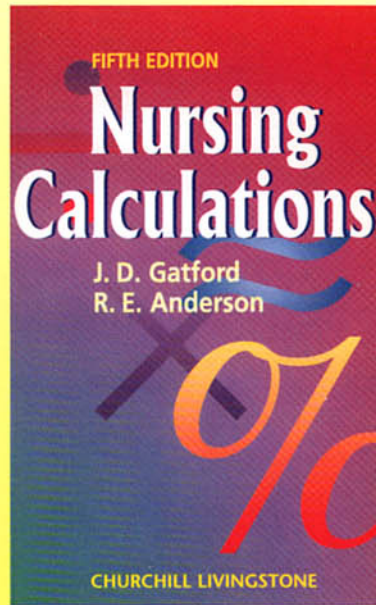
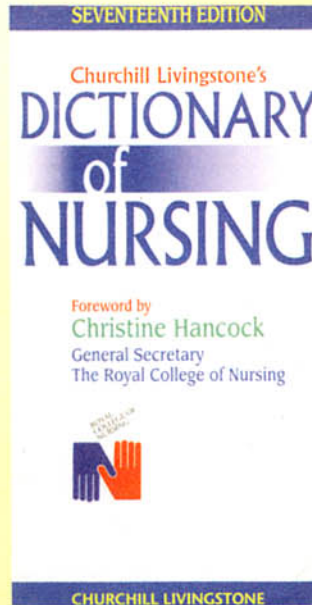
Anatomy and Physiology in Health and Illness

Anne Waugh • Allison Grant



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Anatomy *and* Physiology *in Health and Illness*

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Note

Medical knowledge is constantly changing. As new information becomes available, changes in treatment, procedures, equipment and the use of drugs become necessary. The authors and the publishers have taken care to ensure that the information given in this text is accurate and up to date. However, readers are strongly advised to confirm that the information, especially with regard to drug usage, complies with the latest legislation and standards of practice.

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Preface

Ross and Wilson has been a core text for students of anatomy and physiology for almost 40 years. This latest edition is aimed at health care professionals including nurses, nursing students, students of the professions allied to medicine, paramedics, ambulance technicians and complementary therapists. It retains the straightforward approach to the description of body systems and how they work, and the normal anatomy and physiology is followed by a section that covers common disorders and diseases: the pathology.

The human body is described system by system. The reader must, however, remember that physiology is an integrated subject and that, although the systems are considered in separate chapters, they must all function together for the human body to operate as a healthy unit. The first three chapters provide an overview of the body and describe its main constituents. A new section on introductory biochemistry is included, forming the basis of a deeper understanding of body function.

The later chapters are gathered together into three further sections, reflecting three areas essential for normal body function: communication; intake of raw materials and elimination of waste; and protection and survival. Much of the material for this edition has been extensively revised and rewritten. There is a new chapter on immunology, reflecting the growing importance of this subject in physiology.

The artwork has been completely redrawn using full colour, and many new diagrams have been included.

A new list of common prefixes, suffixes and roots has been prepared for this edition, giving meanings and providing examples of common terminology used in the study of anatomy and physiology. Some biological values have been extracted from the text and presented as an Appendix for easy reference. In some cases, slightly different 'normals' may be found in other texts and used by different medical practitioners.

Edinburgh 2001

Anne Waugh
Allison Grant

Acknowledgements

The ninth edition of this textbook would not have been possible without the efforts of many people. In preparing this edition, we have built on the foundations established by Kathleen Wilson and we would like to acknowledge her immense contribution to the success of this title.

We are grateful to Graeme Chambers for the preparation of the new artwork for the ninth edition.

We are grateful to readers of the eighth edition for their constructive comments, many of which have influenced the content of the ninth.

We are also grateful to the staff of Churchill Livingstone, particularly Mairi McCubbin and Kirsty Guest, for their support and hospitality.

Thanks are also due to our families, Andy, Michael, Seona and Struan, for their patience and acceptance of lost evenings and weekends.

Common prefixes, suffixes and roots

The terminology used in the book is easier to learn and use when it is understood. To facilitate this, the common parts of such terms: prefixes (beginnings), roots (middle parts) and suffixes (endings), are listed here, in alphabetical order. Meanings are also given, along with some examples of their uses.

Prefix/suffix/root	To do with	Examples in the text	Prefix/suffix/root	To do with	Examples in the text
a-/an-	<i>lack of</i>	anuria, agranulocyte, asystole, anaemia	-itis	<i>inflammation</i>	appendicitis, hepatitis, cystitis, gastritis
-aemia	<i>of the blood</i>	anaemia, hypoxaemia, uraemia, hypovolaemia	lact-	<i>milk</i>	lactation, lactic, lacteal
angio-	<i>vessel</i>	angiotensin, haemangioma	lymph-	<i>lymph tissue</i>	lymphocyte, lymphatic, lymphoedema
anti-	<i>against</i>	antidiuretic, anticoagulant, antigen, antimicrobial	lyso-/lysis	<i>breaking down</i>	lysosome, glycolysis, lysozyme
-blast	<i>germ, bud</i>	reticuloblast, osteoblast	-mega-	<i>large</i>	megaloblast, acromegaly, splenomegaly, hepatomegaly
brady-	<i>slow</i>	bradycardia	micro-	<i>small</i>	microbe, microtubules, microvilli
broncho-	<i>bronchus</i>	bronchiole, bronchitis, bronchus	myo-	<i>muscle</i>	myocardium, myoglobin, myopathy, myosin
card-	<i>heart</i>	cardiac, myocardium, tachycardia	neo-	<i>new</i>	neoplasm, gluconeogenesis, neonate
chole-	<i>bile</i>	cholecystokinin, cholecystitis, cholangitis	nephro-	<i>kidney</i>	nephron, nephrotic, nephroblastoma, nephrosis
cyto-/cyte	<i>cell</i>	erythrocyte, cytosol, cytoplasm, cytotoxic	neuro-	<i>nerve</i>	neurone, neuralgia, neuropathy
derm-	<i>skin</i>	dermatitis, dermatome, dermis	-oid	<i>resembling</i>	myeloid, sesamoid, sigmoid
dys-	<i>difficult</i>	dysuria, dyspnoea, dysmenorrhoea, dysplasia	-oma	<i>tumour</i>	carcinoma, melanoma, fibroma
-ema	<i>swelling</i>	oedema, emphysema, lymphoedema	-ophth-	<i>eye</i>	xerophthalmia, ophthalmic, exophthalmos
endo-	<i>inner</i>	endocrine, endocytosis, endothelium	-ory	<i>referring to</i>	secretory, sensory, auditory, gustatory
erythro-	<i>red</i>	erythrocyte, erythropoietin, erythropoiesis	osteo-	<i>bone</i>	osteocyte, osteoarthritis, osteoporosis
exo-	<i>outside</i>	exocytosis, exophthalmos	-path-	<i>disease</i>	pathogenesis, neuropathy, nephropathy
extra-	<i>outside</i>	extracellular, extrapyramidal	-plasm	<i>substance</i>	cytoplasm, neoplasm
-fferent	<i>carry</i>	afferent, efferent	pneumo-	<i>lung/air</i>	pneumothorax, pneumonia, pneumotoxic
gast-	<i>stomach</i>	gastric, gastrin, gastritis, gastrointestinal	poly-	<i>many</i>	polypeptide, polyuria, polycythaemia
-gen-	<i>origin/production</i>	gene, genome, genetic, antigen, pathogen, allergen	-rrhagia	<i>excessive flow</i>	menorrhagia
-globin	<i>protein</i>	myoglobin, haemoglobin	-rrhoea	<i>discharge</i>	dysmenorrhoea, diarrhoea, rhinorrhoea
haem-	<i>blood</i>	haemostasis, haemorrhage, haemolytic	sub-	<i>under</i>	subphrenic, subarachnoid, sublingual
-hydr-	<i>water</i>	dehydration, hydrostatic, hydrocephalus	tachy-	<i>excessively fast</i>	tachycardia
hepat-	<i>liver</i>	hepatic, hepatitis, hepatomegaly, hepatocyte	thrombo-	<i>clot</i>	thrombocyte, thrombosis, thrombin, thrombus
hyper-	<i>excess/above</i>	hypertension, hypertrophy, hypercapnia	-tox-	<i>poison</i>	toxin, cytotoxic, hepatotoxic
hypo-	<i>below/under</i>	hypoglycaemia, hypotension, hypovolaemia	-uria	<i>urine</i>	anuria, polyuria, haematuria, nocturia
intra-	<i>within</i>	intracellular, intracranial, intraocular	vas, vaso-	<i>vessel</i>	vasoconstriction, vas deferens, vascular
-ism	<i>condition</i>	hyperthyroidism, dwarfism, rheumatism			