

Contents

Contributors	xi		
1 Introduction	1	5 Muscles and fasciae	265
A short glossary of some general anatomical terms	9	D. C. SINCLAIR	
References and further reading	10	General introduction	265
Radiographic anatomy and organ imaging	11	Muscles of the vertebral column, neck, and head	277
		Fasciae of the vertebral column, neck, and head	307
		Muscles of the upper limb	310
		Fasciae of the upper limb	346
		Muscles of the trunk	349
		Fascia of the trunk	371
		Muscles of the lower limb	374
		Fasciae of the lower limb	404
		References and further reading	407
2 Introduction to human embryology	15	6 The digestive system	411
R. G. HARRISON		F. R. JOHNSON	
Germ cells	16	The mouth	412
The pre-embryonic period	24	Glands of the digestive system	425
The formation of the embryo	48	The pharynx	429
The embryo	49	The abdominal cavity	440
References	72	The peritoneum	441
		The stomach	445
		The small intestine	454
		The large intestine	462
3 Bones	75	The development of the alimentary canal	471
R. J. HARRISON		The liver	475
Introduction	75	The extrahepatic biliary apparatus	481
The skeleton	88	The pancreas	485
The vertebral column	89	References	488
The sternum	103		
The ribs	104		
The skull	108		
The individual bones of the cranium	136		
The bones of the upper limb	150		
The bones of the lower limb	174		
References	208		
4 Joints	211	7 The respiratory system	491
R. A. STOCKWELL		R. J. SCOTHORNE	
Classification of joints	211	The nose	492
Joints of the vertebral column and head	220	The larynx	498
Joints of the ribs and sternum	226	The trachea	506
Joints of the upper limb	228	The principal bronchi	507
Joints of the lower limb	242	The thoracic cavity	508
References	263		



The pleura	511	11 The peripheral nervous system	739
The lungs	514	G. J. ROMANES	
Development of the respiratory tract	525	The cranial nerves	740
References	528	Olfactory nerve	741
		Optic nerve	745
		Oculomotor nerve	745
		Trochlear nerve	747
	531	Trigeminal nerve	748
8 The urogenital system		Abducent nerve	756
R. G. HARRISON		Facial nerve	756
The urinary organs	531	Vestibulocochlear nerve	759
The genital organs	554	Glossopharyngeal nerve	760
The development of the urogenital organs	576	Vagus nerve	761
The mammary glands	583	Accessory nerve	764
References	585	Hypoglossal nerve	764
		The spinal nerves	765
		Dorsal rami of spinal nerves	768
9 The ductless glands	587	Ventral rami of spinal nerves	769
R. G. HARRISON		The cervical plexus	770
The suprarenal glands	588	The brachial plexus	774
The organs of the pharyngeal pouches	594	Thoracic ventral rami	788
The thyroid gland	595	The lumbar plexus	791
The parathyroid glands	598	The sacral plexus	796
The thymus	598	The coccygeal plexus	806
The hypophysis	602	Distribution of spinal nerves to the skin and	
The pineal body	607	muscles of the limbs	806
References	607	Blood supply of peripheral nerves	808
		Development of spinal nerves and ganglia	808
10 The central nervous system	609	The autonomic nervous system	810
G. J. ROMANES		The parasympathetic part	812
Introduction	609	The sympathetic part	814
The cellular elements of the nervous system	611	The sympathetic plexuses	822
The development and gross anatomy of the		Development of the autonomic nervous system	825
nervous system	618	References	826
The spinal medulla	619	12 The skin and the sensory organs	829
The brain (encephalon)	627	G. J. ROMANES	
The hindbrain	629	The skin	829
The cerebellum	629	Organs of general sensation	834
The brain stem	634	Organs of the special senses	837
The cranial nerves	646	Organ of vision—the eyeball	837
The forebrain	651	The organs of hearing and equilibration	850
Microscopic anatomy	689	The external ear	850
The sensory cells and long ascending pathways	690	The middle ear	852
The auditory system	700	The internal ear	858
The visual system	703	Development of the ear	864
The reticular formation of the brain stem	706	Olfactory organ	867
The vestibular system	707	The organ of taste	867
The cerebellum	708	References	868
The diencephalon	712		
The nuclei of the telencephalon	715	13 The blood vascular and lymphatic	
The cerebral cortex	718	systems	
The meninges	728	E. W. WALLS	871
Craniocerebral topography	733	The blood vascular system	871
References	736	Tissues of the vascular system	872

	Contents	ix
The heart	875	
The chambers of the heart	879	942
The structure of the heart	885	942
The pericardium	890	
The pulmonary circulation	891	943
The systemic circulation	893	
Arteries	893	
The aorta	894	956
Branches of the ascending aorta	896	962
Branches of the arch of the aorta	897	964
Arteries of the head and neck	899	964
Arteries of the upper limb	912	973
Branches of the thoracic aorta	922	976
Branches of the abdominal aorta	923	
Arteries of the lower limb	935	
Veins	942	
The systemic veins	942	
Superior vena cava	943	
Inferior vena cava	956	
The portal system of veins	962	
The development of the blood vascular system	964	
The development of the heart and arteries	964	
The development of veins	973	
The foetal circulation	976	
References	977	
The lymphatic system	981	
The development of the lymphatic system	1005	
The spleen	1005	
References	1007	
Atlas	1009	
Index	1039	

