Cardiovascular System Human Anatomy And Physiology

How does the heart work? How is it linked to other parts of the human body? Find out all about the heart in this fascinating and engaging book that uses flowcharts, text boxes and brightly coloured design to bring science to life. Magnetic resonance imaging (MRI) is a technique used in biomedical imaging and radiology to visualize internal structures of the body. Because MRI provides excellent contrast between different soft tissues, the technique is especially useful for diagnostic imaging of the brain, muscles, and heart. In the past 20 years, MRI technology has improved significantly with the introduction of systems up to 7 Tesla (7 T) and with the development of numerous post-processing algorithms such as diffusion tensor imaging (DTI), functional MRI (fMRI), and spectroscopic imaging. From these developments, the diagnostic potentialities of MRI have improved impressively with an exceptional spatial resolution and the possibility of analyzing the morphology and function of several kinds of pathology. Given these exciting developments, the Magnetic Resonance Imaging Handbook: Imaging of the Cardiovascular System, Thorax, and Abdomen is a timely addition to the growing body of literature in the field. Offering comprehensive coverage of cutting-edge imaging modalities, this book: Discusses MRI of the heart, blood vessels, lungs, breasts, diaphragm, liver, gallbladder, spleen, pancreas, adrenal glands, and gastrointestinal tract Explains how MRI can be used in vascular, posttraumatic, postsurgical, and computer-aided diagnostic (CAD) applications Highlights each organ’s anatomy and pathological processes with high-quality images Examines the protocols and potentialities of advanced MRI scanners such as 7 T systems Includes extensive references at the end of each chapter to enhance further study Thus, the Magnetic Resonance Imaging Handbook: Imaging of the Cardiovascular System, Thorax, and Abdomen provides radiologists and imaging specialists with a valuable, state-of-the-art reference on MRI.

This authoritative book presents the basic knowledge and state-of-the-art techniques necessary to carry out investigations of the cardiovascular system using modeling and simulation. This volume contains chapters on anatomy, physiology, continuum mechanics, as well as pathological changes in the vasculature walls including the heart and their treatments. Methods of numerical simulations are given and illustrated in particular by application to wall diseases. Ross en Wilson is de eerste keuze van reeds meer dan een miljoen studenten sinds de eerste publicatie meer dan 50 jaar geleden. Als een van de meest populaire handboeken voor anatomie en fysiologie introduceert het de systemen en functies van het menselijk lichaam en de effecten van ziektes en aandoeningen op het normaal functioneren van het lichaam. Meer dan eender welk handboek is Ross and Wilson gekenmerkt door het gebruik van heldere taal aangevuld met kleurrijke illustraties en een groot aanbod van interactieve online-activiteiten voor een boeiende leerervaring. Ross
and Wilson is noodzakelijk studie en leesmateriaal voor ieder in de ziekenzorg en vooral voor professionelen in opleiding in de verpleging en aanverwande beroepen, complementaire/alternatieve geneeskunde of voor paramedici en ambulancepersoneel. Zorvuldig herwerkte tekst zonder onnodige details om verwarring bij de student, nieuw aan dit leervak, te vermijden Vele duidelijke illustraties in kleur met diagrammen en foto’s Reeks van paragrafen, punten- en bulletlijst helpen bij het leren en herhalen van de leerstof Leerdoelen voor paragrafen in elk hoofdstuk Lijst met veel gebruikte voorzetsels, achtervoegsels en woordstammen in anatomie en fysiologie Appendix met biologische waarden als referentie Toegang tot extra electronische bronnen, inclusief animaties, inkleur oefeningen, studies, zelftestactiviteiten, en weblinks Volledig herziende tekst met focus op de meest voorkomende aandoeningen Nieuwe paragrafen over de invloed van het verouderen op de lichaamssystemen om de kernonderdelen van de leerstof te bestendigen en het weerspiegelt ook de veroudering van onze bevolking Een nieuw en gemakkelijk te gebruiken functie is toegevoegd voor de uitgebreide en variërende selectie van populair web gebaseerde online zelfevaluatie taken Extrra gekleurde micrografie en foto’s evenals bijgewerkte illustraties Aangevulde verklarende woordenlijst voor een vlug en gemakkelijk te gebruiken referentie naar veel gebruikte terminologie.

Though only about the size of a clenched fist, the human heart bears the immense burden of sustaining human life and activity. Functioning to circulate blood throughout the body, the heart is an organ on which all others intimately depend. This volume relates the anatomy of the heart and the effects of the diseases to which it is sometimes prone. Annotated diagrams and illustrations bolster the narrative and highlight significant aspects of cardiology and the incredible cardiovascular system.

The Cardiovascular System

Volume One, The Musculoskeletal System, opens with the building blocks of your body—the cells. Your body is built from many kinds of cells and tissues, and you will learn how they work. Even the bones and muscles that give you strength and speed depend on many types of cells. This book will: Show you the ins and outs of the bones in your skeleton and how they functionGive detail as to how your marvelous muscles move youProvide a detailed glossary in the back for quick reference! Throughout the book you will learn things to do to keep your body healthy. But in a fallen, cursed world things are bound to go wrong. We will look at what happens when disease or injury affects bones and muscles. Volume Two, Cardiovascular and Respiratory Systems. From the level of the cell to the organs themselves, we will examine these systems in depth. Here you will learn: The incredible design of the human heart and how it is really “two pumps in one!”How blood moves through an incredible network of arteries and veinsWhat “blood pressure” is and the marvelous systems that help regulate itHow the respiratory system allows us to get the “bad air out “ and the “good air in” Along
the way, we will see what happens when things go wrong. We will also suggest things to do to keep the heart and lungs healthy. Although the world insists that our bodies are merely the result of time and chance, as you examine the human body closely, you will see that it cannot be an accident. It can only be the product of a Master Designer. "Did you know that there are around 60,000 miles (95,500 kilometers) of blood vessels in the human body? More than half of the body's blood is made of a substance called plasma. Discover more fascinating facts in How the Human Body Works - The Cardiovascular System. This series guides readers through the fascinating inner workings of the human body. The human body contains several complex systems that work closely together to support life and allow the body to function properly. Each book explores the characteristics and interactions of these systems, their makeup, and their importance."--

Discusses the organs and function of the human circulatory system, the vital functions of blood, and the medical diagnosis and treatment of heart disease and other circulatory disorders.

The Cardiovascular System at a Glance is a concise and accessible systems-based textbook. Updated throughout, the second edition uses an integrated approach to take the reader through the basic anatomy, physiology, histology, biochemistry, pathophysiology, and clinical aspects of the cardiovascular system. Following the classic double-page spread format of the At a Glance series, each double page presents clear, memorable diagrams that illustrate essential information with accompanying text that covers key topics in more detail. The text progresses from basic science to clinical application: a general introduction to the cardiovascular system is followed by anatomy and histology; blood and body fluids; biochemistry and excitation-contraction coupling; form and function; integration and regulation; and pathology and therapeutics. Four clinical case studies at the end of the book reinforce the integrated systems-based approach to this subject. Additionally, two new chapters covering Revascularisation as well as Emerging Concepts and Treatments have been included. The second edition of The Cardiovascular System at a Glance is an ideal resource for medical students, whilst students of other health professions and specialist cardiology nurses will also find it invaluable. Examination candidates who need an authoritative yet concise guide to the cardiovascular system will find it extremely useful. This book has been designed to fit into the budget and reading time of busy students, and is recommended as primary or supplementary reading for a lecture-based course, and/or as a book for revision prior to examinations.

Through engaging text, readers learn about the human body's circulatory system, which consists of the heart, the blood vessels, and the blood that is pumped through them. Readers discover that the circulatory system transports oxygen and nutrients throughout the body, carries away waste products, sends out disease fighters, and regulates the body's temperature. Topics discussed include the lungs, the kidneys, and diseases that affect the circulatory system. A detailed diagram allows readers to follow a drop of blood through the circulatory system. Ways to maintain a healthy circulatory system are also highlighted. Full-color photos, phonetics, glossary, and index enhance the text.
Introduces each of the eleven organ systems of the human body, noting the physiological processes, cell and tissue types, and the role each organ plays within the larger system.

Color Your Way To A Better Understanding Of Anatomy And Physiology Of Human Body! Featuring over 500 colorable anatomy and physiology illustrations, this creative study tool helps you learn to identify anatomical features and remember physiological concepts. 15 Chapters cover all the human body systems individually like, SKELETAL SYSTEM ARTICULATIONS NERVOUS SYSTEM SENSE ORGANS ENDOCRINE SYSTEM CARDIOVASCULAR SYSTEM THE LYMPH SYSTEM RESPIRATORY SYSTEM DIGESTIVE SYSTEM ... And more Whether you are taking an anatomy course or are just curious about how the body works, this illustrated resource will help you master anatomy and physiology with ease, and have fun doing it With Brief definitions of all parts of the human body anatomy 500 detailed line drawings of anatomy and physiology pictures that are designed to be colored in provide fun tactile exercises to strengthen students' understanding of anatomy. Self-quizzing for all illustration to better memorize all parts of the human anatomy and physiology

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"The most critically acclaimed of all of Dr. Frank H. Netter's works, this fully illustrated single book from the 8-volume/13-book reference collection includes: hundreds of world-renowned illustrations by Frank H. Netter, MD; informative text by recognized medical experts; anatomy, physiology, and pathology; and diagnostic and surgical procedures."--Publisher's website.

When you need just the essentials of human anatomy and physiology, this Easy Outlines book is there to help If you are looking for a quick nuts-and-bolts overview of human anatomy and physiology, it's got to be Schaum's Easy Outline. This book is a pared-down, simplified, and tightly focused version of its Schaum's Outline cousin, with an emphasis on clarity and conciseness. Graphic elements such as sidebars, reader-alert icons, and boxed highlights stress selected points from the text, illuminate keys to learning, and give you quick pointers to the essentials. Perfect if you have missed class or need extra review Gives you expert help from teachers who are authorities in their fields So small and light that it fits in your backpack! Topics include: Introduction to the Human Body, Cellular Chemistry, Cell Structure and Function, Tissues, Integumentary System, Skeletal System, Muscle

Detailed 3D anatomical images of the cardiovascular system, and the heart in particular, make it easy to visualize the workings of this important biological system. Readers will learn about the different parts of the heart itself, as well as the circulatory system, the various kinds of blood cells, and how the kidneys clean blood. The proper functioning of the heart is discussed in detail, as are the common diseases of the heart and cardiovascular system that endanger health. Filled with fun facts and dazzling, high-definition images, this is an ideal Life Science resource, particularly for visual learners.

Lecturio Lectures - Cardiovascular System: Anatomy of Thoracic Viscera

This book focuses on adaptation and control of the cardiovascular system, along with myocardial and vascular reactions that provide the optimal blood flow under physical activity. New information on the main hemodynamic values measured with the help of updated methods used in the research of heart and great vessels is described, and a number of new parameters, such as arterial impedance, are introduced. The information presented in this book is of value to research cardiologists, experts in sports medicine and physiology as well as for physicians and physiologists connected with the use of muscular activity.

Say goodbye to dry presentations, grueling formulas, and abstract theories that would put Einstein to sleep -- now there's an easier way to master the disciplines you really need to know. McGraw-Hill's Demystified Series teaches complex subjects in a unique, easy-to-absorb manner, and is perfect for users without formal training or unlimited time. They're also the most time-efficient, interestingly written "brush-ups" you can find. Organized as self-teaching guides, they come complete with key points, background information, questions at the end of each chapter, and even final exams. You'll be able to learn more in less time, evaluate your areas of strength and weakness and reinforce your knowledge and confidence. This clear, heavily-illustrated guide to the human body covers anatomy of cells and tissues, muscle tissue, major muscles of the body, nervous tissue, membranes, organs, cancer, the skin, the human skeleton, the nervous system, glands, the senses, the cardiovascular system, the immune system, the respiratory system, digestion, genitourinary system, the embryo, and more.

The third edition of this popular introduction to human anatomy and physiology has been revised, enlarged and redesigned to make it even more accessible. By using glossaries, tables, clear illustrations and well structured text, the book describes and explains the eight body systems, histology, and the accessory organs. William Arnould-Taylor MSc PhD (Physiology) has a distinguished record in the field of physiology. His contributions to promotion of education have been considerable, as an international examiner, author and broadcaster. This book will prove invaluable for anyone requiring an understanding of the structure and function of the human body. It will be particularly useful for students of courses related to sport, physical therapy or beauty therapy.

System 10. Digestive
The heart is a vital organ in the human body. Diagrams and full-color photographs and illustrations, paired with accessible and informative text, showcase how the heart works and what its job is in the human body.
Describes the heart, blood, and other parts of the body's circulatory system and explains how each component functions.
Now in its Third Edition, Pathophysiology of Heart Disease is a concise introduction to diseases of the cardiovascular system. Introductory chapters review basic cardiac anatomy and physiology, heart sounds and murmurs, imaging and catheterization techniques, and the electrocardiogram. Early chapters review the structure and function of the heart. The main body of the book addresses the major groups of cardiovascular disease: atherosclerosis, ischemic heart disease, acute myocardial infarction, valvular heart disease, heart failure, cardiomyopathies, mechanisms of arrhythmias and their diagnosis, hypertension, diseases of the pericardium, diseases of peripheral vasculature, and congenital heart disease.
The last chapter of the book is devoted to cardiovascular drugs.
KEY BENEFIT: This concise lab manual is designed for instructors who wish to avoid “cookbook”-style lab instruction for Anatomy & Physiology. Through the use of an engaging “connective learning” methodology, author Stephen Sarikas builds each lab exercise step on the previous one, helping readers to understand complex ideas and make connections between concepts.
Most of us take our body for granted and are never aware of its amazing capabilities. This book looks at how the seven octillion atoms that make up the human body are grouped into organs, tissues, nerves, fibres, fluids and more in such a way that the entire system runs smoothly without us ever knowing about it. It explains the hidden world of hormones and enzymes, the battleground of your immune system, the senses and much more. It also reveals the astonishing secrets of the human body, from the 15 'other senses' we have beyond the known five, to the reason we have eyes capable of
seeing the Andromeda galaxy 2.5 million light years away. Chapters include: Cells, tissues and body structure The skin, skeleton and muscles The cardiovascular system Internal protectors: warriors behind the scenes The respiratory system The Cardiovascular System: Design, Control and Function, Volume 36A, a two- volume set, not only provides comprehensive coverage of the current knowledge in this very active and growing field of research, but also highlights the diversity in cardiovascular morphology and function and the anatomical and physiological plasticity shown by fish taxa that are faced with various abiotic and biotic challenges. Updated topics in this important work include chapters on Heart Morphology and Anatomy, Cardiomyocyte Morphology and Physiology, Electrical Excitability of the Fish Heart, Cardiac Energy Metabolism, Heart Physiology and Function, Hormonal and Intrinsic Biochemical Control of Cardiac Function, and Vascular Anatomy and Morphology. In addition, chapters integrate molecular and cellular data with the growing body of knowledge on heart and in vivo cardiovascular function, and as a result, provide insights into some of the most important questions that still need to be answered. Presents a comprehensive overview of cardiovascular structure and function in fish Covers topics in a way that is ideal for researchers in fish physiology and for audiences within the fields of comparative morphology, histology, aquaculture and ecophysiology Provide insights into some of the most important questions that still need to be answered
This book is Anatomy and Physiology of The Human Body Special Distribution Version : Things You Should Know (Questions and Answers) series. It contains the following topics: · The Cell and Cell Division · Chemistry and the Body · The Skin and its Tissues · Bones and Movements · Muscles and Movements · The Nervous System and our senses · The Respiratory System · The Cardiovascular System · The Digestive System and Nutrition · The Urinary System · Human Genetics · The Endocrine System · The Reproductive System · The Lymphatic System · The Immune System · Pregnancy and its Evolution This book helps break down difficult topics and makes these topics easier to understand. Hearts and Heart-Like Organs, Volume 1: Comparative Anatomy and Development focuses on the complexities of the heart and heart-like organs in various species, from the invertebrates and the lower vertebrates to humans. More specifically, it investigates the hearts of worms and mollusks, urochordates and cephalochordates, fishes, amphibians, reptiles, birds, mammals, and humans. Organized into 11 chapters, this volume begins with an overview of myogenic hearts and their origin, the circulatory system of the annelids, and the nervous control and pharmacology of mollusk hearts. It then discusses the phyletic relationships and circulation systems of primitive chordates, cardiovascular function in the lower vertebrates, fine structure of the heart and heart-like organs in cyclostomes, and fine structure as well as impulse propagation and ultrastructure of lymph hearts in amphibians and reptiles. It also explains the neural control of the avian heart, functional and nonfunctional determinants of mammalian cardiac anatomy, postnatal development of the
heart, and anatomy of the mammalian heart. The book concludes with a chapter on the anatomy of the human pericardium and heart. This book is a valuable resource for biological and biomedical researchers concerned with the anatomy and physiology of the heart.

The circulatory system doesn't just move blood around the body. It moves nutrients, oxygen, hormones, and electrolytes to exactly where they need to go, from the brain to the feet. Every body system relies on the network of veins, arteries, and capillaries throughout the body. While important, the circulatory system is also incredibly interesting! Readers learn the basics of blood cells and blood vessels in fun, surprising, and even gross facts on each page. Diagrams and full-color photographs aid readers' understanding and provide a close encounter with parts of the body they may never see.

This is one of a series of ten workbooks which are designed to supplement texts in anatomy and physiology, serving as a quick and efficient study review for nursing and allied health students, or to supplement other courses that cover the body's systems. Each book covers one system of the body, with this text looking at the cardiovascular system. The series consists of labelled images, accompanied by descriptive text and exercises.

The human circulatory system is essential for pumping blood throughout a person's body. Without it, humans wouldn't be able to live. This guide explores the main elements of the circulatory system, introduces key parts such as blood vessels and the heart, and examines problems with this system. Complete with fact boxes and intriguing sidebars, accessible language, discussion questions, and descriptive photographs and diagrams, this introduction will appeal to readers of all levels.

Discusses what the circulatory system is, how it works, and how it responds to exercise and hemorrhage.

If you are studying anatomy and physiology in college but don't have a lot of time for studying keep reading...... You are no doubt a busy student with a lot of things going on! It can be challenging to find the time to study and review your anatomy and physiology textbook! That is why the author Michael Van Sluyters, developed the College Level Anatomy & Physiology Study Guide! This Edition is a complete review edition. It covers all aspects of human anatomy and physiology. It comes in text format, so that you can bring it anywhere! It's sections include: Introduction to Anatomy and Physiology Cell Anatomy and Physiology Body Tissues The Integumentary System The Musculoskeletal System The Central Nervous System Peripheral Nervous System The Autonomic Nervous System The Endocrine System The Cardiovascular System The Anatomy and Physiology of the Heart Blood And Blood Vessels The Lymphatic System And Immune System The Respiratory System Digestive System Metabolism and Human Nutrition Urinary System Fluids, Electrolytes, and the Acid-Base System Reproductive System Physiology Developmental Anatomy and Physiology Immune System Physiology The Kidney Conclusion MUCH, MUCH MORE! Each section is divided into further subsections making sure all aspects are covered! If you read our study guide, and take the time to really understand the concepts, we are confident you will be on your way to an exciting new career!

The cardiovascular system (the heart and blood vessels) is the most vitally important organ system in the body. Your heart pumps blood, and your blood vessels channel and deliver nutrient-rich oxygenated blood throughout your body. The heart is a pump about the size of your fist. In your lifetime, this little pump beats about 2 billion times (without stopping) and pumps over 100 million gallons of blood. This blood travels through over 60 thousand miles of blood vessels arteries, arterioles, capillaries, and veins to bring nourishment and oxygen to all parts of
your body. You may be surprised to learn that the heart is actually two pumps: one pumps blood to the lungs and the other pumps blood to the rest of the body. The Bible says the blood is the life. Indeed, our life critically depends on about 30 trillion blood cells consisting of red cells that exchange oxygen for carbon dioxide and white cells that help to prevent infection and reject foreign materials. Part 1: 48 mins. Part 2: 37 mins."

Cardiovascular Physiology Concept Short Book Description An Introduction to Cardiovascular Physiology provides the student with the key concepts of cardiovascular physiology. Cardiovascular Physiology Questions for Self Assessment With Illustrated Answers. Cardiovascular Physiology Concept full Book Description Overview of the cardiovascular system The cardiac cycle Cardiac myocyte excitation and contraction Initiation and nervous control of heart beat Electrocardiography and arrhythmias Control of stroke volume and cardiac output Assessment of cardiac output and peripheral pulse Haemodynamics: flow, pressure and resistance The endothelial cell The microcirculation and solute exchange Circulation of fluid between plasma, interstitium and lymph Vascular smooth muscle: excitation, contraction and relaxation Control of blood vessels: I. Intrinsic control Control of blood vessels II. Extrinsic control by nerves and hormones Specialization in individual circulations Cardiovascular receptors, reflexes and central control Co-ordinated cardiovascular responses Cardiovascular responses in pathological situations. The aim of this collection of over 230 questions is to offer students an element of self-assessment, as they progress through the companion book or revise for examinations. Lecturers may find some of the questions useful as a template when setting questions of their own, but should note that the questions are primarily educational in intent; their discriminatory power has not been tested. The questions are grouped under the same headings as the chapters of the companion textbook, so they become progressively more advanced (see Contents). Occasional statements call for information from later chapters. Medically relevant questions are introduced wherever they are appropriate. I have set at least one question on each learning objective given at the start of the chapter in the companion volume, to help you assess your achievement of the learning objectives. Some questions require you to integrate information from other chapters too. The questions aim to test basic understanding, fundamental principles and medical relevance. Hopefully they avoid excessive detail - always the examiner's easy option! The questions. Most of the questions are multiple choice questions (MCQs), generally with five true/false statements, but occasionally more or less than five. Although some 'educationalists' now demand single correct answer questions (SAQs, one correct answer out of four or five options), these test less knowledge, so the MCQ style has been retained here. To add variety, there is a sprinkling of other styles of question, such as 'extended matching questions' (i.e. choose the best answer from a list), data interpretation problems, and little numerical problems that test reasoning power and ability to do simple calculations. The answers. Each answer is accompanied by a brief explanation, and very often an illustrative figure, which should help if you got the answer wrong. Most of the figures are from the accompanying textbook, but there are also new, explanatory diagrams after some questions. It is sometimes difficult to avoid ambiguity in MCQ questions; so use your common sense - choose the answer that will be right most of the time, rather than a remote, rare possibility. Nevertheless, if you disagree with the 'official' answer, do let me know.

A thorough overview of the cardiovascular system including cardiovascular anatomy, cardiac physiology, blood composition, assessment of the cardiovascular system, diagnostic tests for assessment, cardiovascular disorders, and vascular disorders. Also includes practice exercises with detailed answer explanations.

Blood in Motion is a textbook in Cardiovascular Science. It sets out to introduce, entice and explain the cardiovascular system to the reader using a classical system in teaching anatomy, physiology, general operation and specific systems. It is specifically designed to support the
interests of students, experienced physiologists and clinicians. The book is subdivided into three parts, comprising a total of 11 chapters. Part I presents an historical perspective of cardiovascular knowledge and complements it with current insight into the physiology of the cardiovascular system. Part II explores sections of the circulatory loop, starting with an in-depth treatment of the veins, and including the lymphatic, the microcirculation, the arterial system and the heart. Part III incorporates approaches to the cardiovascular system as a whole, both in physiology and in science, such as modeling. This section introduces impedance-defined flow and offers the reader its application in mathematical modeling. At the end of each chapter, the reader will find questions designed to reinforce the information presented. Each chapter can be read or studied as an independent unit.

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