Lab 5: Skeletal and Muscular Systems

LABORATORY OBJECTIVES

- · Identify a male versus a female skeleton
- Identify the bones that make up the human body
- To investigate articulations and synovial joint movement
- To investigate muscles and bones working together-using dissection of a chicken wing
- muscle fatigue



INTRODUCTION:

Our skeletal and muscular systems work together to support our bodies and allow us to move in the various ways we do. The skeletal system also does other important things for our bodies; it protects our soft body parts, produces blood cells, and stores minerals and fats.

Our muscular system also has other functions; it helps maintain internal body temperature and assists with movement of fluid in our veins and lymphatic vessels - it also protects the organs of the abdominal region, and stabilizes joints.

ACTIVITY 1: Is the skeleton male or female?

MATERIALS

Sammy the skeleton (Sammy could stand for Samuel or Samanthal)

METHODS

"The pelvis tells the story: Distinct features adapted for childbearing distinguish adult females from males. Other bones and the skull also have features that can indicate sex, though less reliably. In young children, these sex-related features are less obvious and more difficult to interpret. Subtle sex differences are detectable in younger skeletons, but they become more defined following puberty and sexual maturation."

The differences:

Female pelvic bones

- Broader sciatic notch
- Raised auricular surface

Male pelvic bones

- Narrower sciatic notch
- flat auricular surface

From Smithsonian Institute: http://anthropology.si.edu/enthronoloonic/activity/pdf/skeleton_male_or_temale.pdf

Skeletal And Muscular Systems Lab Manual

Connie Allen, Valerie Harper

Skeletal And Muscular Systems Lab Manual:

Skeletal and Muscular Systems Deloris Johnson, 1997-12-01 Part - Anatomy & Physiology Laboratory Manual -E-Book Kevin T Patton, PhD,2014-12-02 Effectively master various physiology dissection identification and anatomic explorations in the laboratory setting with the Anatomy Physiology Laboratory Manual 9th Edition This practical full color lab manual contains 55 different A P lab exercises that cover labeling anatomy identification dissection physiological experiments computerized experiments and more The manual also includes safety tips a comprehensive instruction and preparation guide for the laboratory and tear out worksheets for each of the 55 exercises In addition 8 e Lab modules offer authentic 3D lab experiences online for virtual lab instruction 8 interactive eLabs further your laboratory experience in the digital environment Complete list of materials for each exercise offers a thorough checklist for planning and setting up laboratory activities Over 250 illustrations depict proper procedures and common histology slides Step by step guidance for dissection of anatomical models and fresh or preserved specimens with accompanying illustrations helps you become acclimated to the lab environment Physiology experiments centering on functional processes of the human body offer immediate and exciting examples of physiological concepts Easy to evaluate tear out lab reports contain checklists drawing exercises and guestions that help you demonstrate your understanding of the labs they have participated in Reader friendly spiral binding allows for hands free viewing in the lab setting Labeling and coloring exercises provide opportunities to identify critical structures examined in the lab and lectures Brief learning aids such as Hints Landmark Characteristics and Safety First are found throughout the manual to help reinforce and apply knowledge of anatomy and function Modern anatomical imaging techniques such as MRIs CTs and ultrasonography are introduced where appropriate Boxed hints and safety tips provide you with special insights on handling specimens using equipment and managing lab activities UPDATED Fresh activities keep the manual current and ensure a strong connection with the new edition of the AP textbook NEW Updated illustrations and design offer a fresh and upbeat look for the full color design and learning objectives NEW Expanded and improved student resources on the Evolve companion website include a new version of the Body Spectrum electronic coloring book Anatomy & Physiology Laboratory Manual and E-Labs E-Book Kevin T. Patton, 2018-01-24 Using an approach that is geared toward developing solid logical habits in dissection and identification the Laboratory Manual for Anatomy and coloring exercises offer a kinesthetic experience useful in retention of content User friendly spiral binding allows for hands free viewing in the lab setting Step by step dissection instructions with accompanying illustrations and photos cover anatomical models and fresh or preserved specimens and provide needed guidance during dissection labs The dissection of tissues organs and entire organisms clarifies anatomical and functional relationships 250 illustrations including common histology slides and depictions of proper procedures accentuate the lab manual s usefulness by providing clear visuals and guidance Easy to evaluate tear out Lab Reports contain checklists drawing exercises and questions that help you

demonstrate your understanding of the labs you have participated in They also allow instructors to efficiently check student progress or assign grades Learning objectives presented at the beginning of each exercise offer a straightforward framework for learning Content and concept review questions throughout the manual provide tools for you to reinforce and apply knowledge of anatomy and function Complete lists of materials for each exercise give you and your instructor a thorough checklist for planning and setting up laboratory activities allowing for easy and efficient preparation Modern anatomical imaging techniques such as computed tomography CT magnetic resonance imaging MRI and ultrasonography are introduced where appropriate to give future health professionals a taste for and awareness of how new technologies are changing and shaping health care Boxed hints throughout provide you with special tips on handling specimens using equipment and managing lab activities Evolve site includes activities and features for students as well as resources for instructors

Anatomy and Physiology, Laboratory Manual Connie Allen, Valerie Harper, 2016-12-28 The Allen Laboratory Manual for Anatomy and Physiology 6th Edition contains dynamic and applied activities and experiments that help students both visualize anatomical structures and understand complex physiological topics Lab exercises are designed in a way that requires students to first apply information they learned and then critically evaluate it With many different format options available and powerful digital resources it s easy to customize this laboratory manual to best fit your course Manual for Clinical Anatomy and Physiology for Veterinary Technicians - E-Book Thomas P. Colville, Joanna M. Bassert, 2023-01-18 Learn to apply your A P learning in the lab setting with the Laboratory Manual for Clinical Anatomy and Physiology for Veterinary Technicians 4th Edition This practical laboratory resource features a variety of activities such as terminology exercises illustration identification and labelling case presentations and more to help reinforce your understanding of veterinary anatomy and physiology The laboratory manual also features vivid illustrations lists of terms and structures to be identified and step by step dissection guides to walk you through the dissection process Clinically oriented learning exercises introduce you to the language of anatomy and physiology as you identify structures and learn concepts Clear step by step dissection instructions for complex organs such as the heart familiarize you with the dissection process in a very visual easy to understand format Learning objectives the clinical significance of the content and lists of terms and structures to be identified appear at the beginning of each chapter Review activities and study exercises are included in every chapter to reinforce important information High quality full color illustrations provide a solid understanding of the Laboratory Manual for Anatomy and Physiology Connie Allen, Valerie details of anatomic structure Harper, 2020-12-10 Laboratory Manual for Anatomy Physiology 7th Edition contains dynamic and applied activities and experiments that help students both visualize anatomical structures and understand complex physiological topics Lab exercises are designed in a way that requires students to first apply information they learned and then critically evaluate it With many different format options available and powerful digital resources it s easy to customize this laboratory manual to

best fit your course While the Laboratory Manual for Anatomy and Physiology is designed to complement the latest 16th edition of Principles of Anatomy Physiology it can be used with any two semester A P text Laboratory Manual for Clinical Anatomy and Physiology for Veterinary Technicians Thomas P. Colville, Joanna M. Bassert, 2015-03-13 NEW Overview at a Glance sections outline the main proficiencies of each chapter and include a list of all exercises in the chapter and Dissection of the Rat Warren F. Walker, Dominique G. Homberger, 1997-12-15 The careful explanation of each step of the dissection helpful diagrams and illustrations and detailed discussion of the structure and function of each system in Anatomy and Dissection of the Rat Third Edition optimize the educational value of the dissection process These laboratory exercises are available as a bound set for the first time ever They re still offered separately as well This popular series which includes Anatomy and Dissection of the Frog and Anatomy and Dissection of the Fetal Pig is geared toward introductory courses in biology comparative anatomy and zoology **Anatomy and Physiology Laboratory Manual Catherine Parker** Anthony, 1975 Clinical Guide to Sonography - E-Book Charlotte Henningsen, Kathryn Kuntz, Diane J. Youngs, 2023-04-07 I really like the design and clinical focus of this book and believe that it will stimulate critical thinking among its transatlantic target audience Hazel Edwards Senior Sonographer Lister Hospital Stevenage Organized by clinical problem rather than by body system Clinical Guide to Sonography enables you to guickly find information related to the symptom being reported by the patient This unique format covers various pathologies that may be related to a patient s symptoms and features illustrations and sonograms that demonstrate each pathology The book is divided into five major sections abdomen obstetrics gynecology superficial structures and a miscellaneous section to include pediatric and vascular clinical indications Each chapter within those sections focuses on a clinical indication and incorporates background information a clinical scenario discussions of pathologies and differential diagnoses illustrations sonograms patient scenarios with multiple choice and case based questions to ensure you have a solid understanding of the material This book covers a wide range of ultrasound examinations looking at the clinical question first Reviewed by Allison Harris Clinical Co Ordinator City University London Date Oct 14 I really like the design and clinical focus of this book and believe that it will stimulate critical thinking among its transatlantic target audience For UK readers though I feel it has less appeal Reviewed by RAD Magazine Date July 2014 Symptom based presentation makes it easy for beginning and experienced sonographers to quickly find information related to the patient's symptom Summary tables of differential diagnoses and sonographic findings provide you with a brief overview of all chapter material for quick reference Clinical scenarios at the beginning of each chapter help you learn to apply information to the clinical setting Case studies and discussion questions give you the opportunity to enhance your critical thinking skills and measure your comprehension of material Over 900 ultrasound images correlated to the pathology illustrate what you ll encounter in the clinical setting Glossary helps you define important terminology New chapters provide you with more complete coverage of the pathology sonographers encounter in practice New case studies with critical

thinking questions set up realistic situations for you to use as a frame of reference 600 updated images produced by the latest technology keep you on the cutting edge of sonography Instructor access to multiple choice and image based test questions A Laboratory manual for comparative vertebrate anatomy Libbie Henrietta Hyman, 1922 Laboratory Manual of the Foetal Pig William Jacob Baumgartner, 1924 A Laboratory Manual and Text-book of Embryology Charles William Prentiss, 1917 A Laboratory Manual for Elementary Zoölogy Libbie Henrietta Hyman, 1915

Dissection Guide & Atlas to the Rat Michael P. Schenk, David G. Smith, 2001-01-01 Superior full color photographs and illustrations distinguish this manual from others This dissection guide and atlas provides carefully worded directions that allow students to learn basic mammalian anatomy through the use of a rat specimen Great care has gone into the preparation of accurate and informative illustrations and the presentation of high quality color photographs and photomicrographs The text is clearly written and dissection instructions are set apart from the text to assist students in the lab Each chapter begins with a list of objectives and tables are utilized to summarize key information The dissection guide is published in loose leaf three hole drilled format for convenient use in the laboratory A Dissection Guide & Atlas to the Fetal Pig David G. Smith, Michael P. Schenk, 2012-01-01 A Dissection Guide Atlas to the Fetal Pig 3rd Ed by David G Smith and Michael P Schenk is designed to provide students with a comprehensive introduction to the anatomy of the fetal pig This full color dissection guide and atlas gives the student carefully worded directions for learning basic mammalian anatomy through the A Laboratory Manual of the Anatomy of the Rat Harrison Randall Hunt, 1924 Laboratory use of a fetal pig specimen Guide for the Study of the Frog Bertram Garner Smith, 1917 Basic Anatomy: A Laboratory Manual B. L. Allen, 1987 Designed for undergraduate courses emphasizing human anatomy and using the cat for dissection this popular manual organized by system offers exercises that highlight the differences and similarities between feline and human anatomy

Laboratory Manual for Anatomy & Physiology Michael G. Wood,2005 Michael G Wood s straightforward and complete lab manual guides students through hands on exercises that reinforce concepts they we learned in their anatomy physiology lecture course The full color illustrations and step by step instructions are designed to help students visualize structures understand three dimensional relationships and comprehend complex physiological processes Many of the illustrations are the same as the illustrations by William Ober and Claire Garrison that appear in Martini Fundamentals of Anatomy Physiology Seventh Edition making this lab manual a perfect companion to that textbook

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