

LUNG ANATOMY DOG

LUNG ANATOMY DOG IS A CRITICAL ASPECT OF VETERINARY MEDICINE AND ANIMAL BIOLOGY THAT HELPS PET OWNERS AND PROFESSIONALS UNDERSTAND HOW DOGS BREATHE AND HOW THEIR RESPIRATORY SYSTEM FUNCTIONS. THIS ARTICLE WILL DELVE INTO THE INTRICATE DETAILS OF LUNG ANATOMY IN DOGS, DISCUSSING THE STRUCTURE AND FUNCTION OF THE LUNGS, COMMON RESPIRATORY DISEASES, AND THE DIFFERENCES BETWEEN CANINE LUNG ANATOMY AND THAT OF OTHER SPECIES. ADDITIONALLY, WE WILL EXPLORE DIAGNOSTIC METHODS USED TO ASSESS LUNG HEALTH IN DOGS AND CONSIDERATIONS FOR MAINTAINING OPTIMAL RESPIRATORY FUNCTION. WITH THIS COMPREHENSIVE OVERVIEW, READERS WILL GAIN VALUABLE INSIGHTS INTO THE IMPORTANCE OF LUNG ANATOMY IN DOGS AND ITS IMPLICATIONS FOR THEIR OVERALL HEALTH.

- INTRODUCTION TO LUNG ANATOMY IN DOGS
- BASIC STRUCTURE OF DOG LUNGS
- FUNCTION OF THE LUNGS
- COMMON RESPIRATORY DISEASES IN DOGS
- DIFFERENCES BETWEEN CANINE AND HUMAN LUNG ANATOMY
- DIAGNOSTIC METHODS FOR LUNG HEALTH
- MAINTAINING LUNG HEALTH IN DOGS
- CONCLUSION

INTRODUCTION TO LUNG ANATOMY IN DOGS

THE LUNGS IN DOGS ARE VITAL ORGANS THAT PLAY A CRUCIAL ROLE IN RESPIRATION, ENABLING THE EXCHANGE OF OXYGEN AND CARBON DIOXIDE. UNDERSTANDING THE ANATOMY OF DOG LUNGS IS ESSENTIAL FOR DIAGNOSING RESPIRATORY CONDITIONS AND ENSURING THE OVERALL WELL-BEING OF CANINES. THE CANINE RESPIRATORY SYSTEM COMPRISES VARIOUS COMPONENTS, INCLUDING THE TRACHEA, BRONCHI, AND ALVEOLI, EACH SERVING SPECIFIC FUNCTIONS IN THE BREATHING PROCESS. THIS SECTION PROVIDES A DETAILED OVERVIEW OF THE BASIC STRUCTURE OF DOG LUNGS, EMPHASIZING THE UNIQUE ADAPTATIONS THAT CATER TO THEIR PHYSIOLOGICAL NEEDS.

BASIC STRUCTURE OF DOG LUNGS

THE LUNGS OF A DOG ARE DIVIDED INTO TWO HALVES, EACH LOCATED WITHIN THE THORACIC CAVITY. THE RIGHT LUNG IS TYPICALLY LARGER THAN THE LEFT LUNG AND IS FURTHER DIVIDED INTO THREE LOBES: THE CRANIAL, MIDDLE, AND CAUDAL LOBES. THE LEFT LUNG CONSISTS OF TWO LOBES: THE CRANIAL AND CAUDAL LOBES. UNDERSTANDING THE LOBULAR DIVISION IS IMPORTANT FOR DIAGNOSING LUNG DISEASES, AS CERTAIN CONDITIONS MAY AFFECT SPECIFIC LOBES.

COMPONENTS OF THE LUNG STRUCTURE

EACH LUNG LOBE CONSISTS OF SMALLER UNITS CALLED LOBULES, WHICH CONTAIN NUMEROUS ALVEOLI, THE TINY AIR SACS WHERE GAS EXCHANGE OCCURS. THE MAJOR COMPONENTS OF DOG LUNG ANATOMY INCLUDE:

- **BRONCHI:** THE MAIN AIRWAYS THAT BRANCH FROM THE TRACHEA AND LEAD INTO EACH LUNG LOBE.
- **BRONCHIOLES:** SMALLER BRANCHES OF THE BRONCHI THAT FURTHER DIVIDE AND LEAD TO THE ALVEOLI.

- **ALVEOLI:** MICROSCOPIC AIR SACS WHERE OXYGEN IS ABSORBED INTO THE BLOOD, AND CARBON DIOXIDE IS EXPELLED.
- **PLEURA:** THE PROTECTIVE MEMBRANE SURROUNDING THE LUNGS, CONSISTING OF TWO LAYERS: THE VISCERAL PLEURA (ATTACHED TO THE LUNG SURFACE) AND THE PARIETAL PLEURA (LINING THE THORACIC CAVITY).

FUNCTION OF THE LUNGS

THE PRIMARY FUNCTION OF THE LUNGS IN DOGS IS TO FACILITATE THE EXCHANGE OF GASES DURING RESPIRATION. INHALATION BRINGS FRESH OXYGEN INTO THE ALVEOLI, WHERE IT DIFFUSES INTO THE BLOODSTREAM AND IS TRANSPORTED TO CELLS THROUGHOUT THE BODY. SIMULTANEOUSLY, CARBON DIOXIDE—A BYPRODUCT OF CELLULAR METABOLISM—IS CARRIED BACK TO THE LUNGS TO BE EXPELLED DURING EXHALATION.

RESPIRATORY CYCLE

THE RESPIRATORY CYCLE CONSISTS OF TWO MAIN PHASES: INHALATION AND EXHALATION. DURING INHALATION, THE DIAPHRAGM CONTRACTS AND MOVES DOWNWARD, EXPANDING THE THORACIC CAVITY AND ALLOWING AIR TO FLOW INTO THE LUNGS. DURING EXHALATION, THE DIAPHRAGM RELAXES, AND THE ELASTIC RECOIL OF THE LUNG TISSUE HELPS EXPEL AIR. THE EFFICIENCY OF THIS PROCESS IS INFLUENCED BY VARIOUS FACTORS, INCLUDING LUNG COMPLIANCE AND AIRWAY RESISTANCE.

COMMON RESPIRATORY DISEASES IN DOGS

RESPIRATORY DISEASES CAN SIGNIFICANTLY IMPACT A DOG'S HEALTH AND QUALITY OF LIFE. UNDERSTANDING COMMON CONDITIONS AFFECTING LUNG ANATOMY IN DOGS IS VITAL FOR PREVENTION AND TREATMENT. SOME PREVALENT RESPIRATORY DISEASES INCLUDE:

- **CANINE BRONCHITIS:** INFLAMMATION OF THE BRONCHIAL TUBES, OFTEN CAUSED BY INFECTIONS OR IRRITANTS.
- **PNEUMONIA:** INFECTION OF THE LUNG TISSUE, LEADING TO INFLAMMATION AND FLUID ACCUMULATION IN THE ALVEOLI.
- **LUNG TUMORS:** ABNORMAL GROWTHS WITHIN THE LUNGS THAT CAN INTERFERE WITH NORMAL RESPIRATORY FUNCTION.
- **HEARTWORM DISEASE:** PARASITIC INFECTION THAT CAN LEAD TO LUNG DAMAGE AND RESPIRATORY DISTRESS.

DIFFERENCES BETWEEN CANINE AND HUMAN LUNG ANATOMY

WHILE THE FUNDAMENTAL PRINCIPLES OF LUNG FUNCTION ARE SIMILAR ACROSS SPECIES, THERE ARE NOTABLE DIFFERENCES BETWEEN CANINE AND HUMAN LUNG ANATOMY. UNDERSTANDING THESE DIFFERENCES CAN AID IN VETERINARY DIAGNOSTICS AND TREATMENT.

STRUCTURAL DIFFERENCES

ONE SIGNIFICANT DIFFERENCE IS THE NUMBER OF LUNG LOBES; DOGS HAVE MORE LOBES THAN HUMANS, WHICH MAY AFFECT THE PRESENTATION OF RESPIRATORY DISEASES. ADDITIONALLY, THE SIZE AND SHAPE OF THE TRACHEA AND BRONCHI DIFFER, IMPACTING AIRFLOW DYNAMICS. CANINE LUNGS ARE ALSO GENERALLY MORE COMPLIANT, ALLOWING FOR GREATER EXPANSION DURING INHALATION.

DIAGNOSTIC METHODS FOR LUNG HEALTH

VETERINARIANS USE VARIOUS DIAGNOSTIC METHODS TO EVALUATE LUNG HEALTH IN DOGS. THESE METHODS INCLUDE:

- **RADIOGRAPHY:** X-RAYS PROVIDE IMAGES OF THE LUNG STRUCTURE, HELPING IDENTIFY ABNORMALITIES SUCH AS FLUID ACCUMULATION OR TUMORS.
- **ULTRASOUND:** THIS IMAGING TECHNIQUE CAN HELP ASSESS PLEURAL EFFUSION AND OTHER LUNG CONDITIONS.
- **BRONCHOSCOPY:** A PROCEDURE WHERE A FLEXIBLE TUBE IS INSERTED INTO THE AIRWAYS TO VISUALIZE AND COLLECT SAMPLES FROM THE LUNGS.
- **BLOOD TESTS:** THESE TESTS CAN INDICATE INFECTIONS OR INFLAMMATION THAT MAY AFFECT LUNG FUNCTION.

MAINTAINING LUNG HEALTH IN DOGS

MAINTAINING OPTIMAL LUNG HEALTH IS ESSENTIAL FOR A DOG'S OVERALL WELL-BEING. PET OWNERS CAN TAKE SEVERAL PROACTIVE STEPS TO SUPPORT THEIR DOG'S RESPIRATORY SYSTEM:

- **AVOIDING SMOKE AND POLLUTANTS:** REDUCING EXPOSURE TO CIGARETTE SMOKE AND ENVIRONMENTAL POLLUTANTS CAN HELP PREVENT RESPIRATORY ISSUES.
- **REGULAR EXERCISE:** ENCOURAGING DAILY PHYSICAL ACTIVITY PROMOTES HEALTHY LUNG FUNCTION AND OVERALL FITNESS.
- **ROUTINE VETERINARY CHECKUPS:** REGULAR VISITS TO THE VETERINARIAN CAN HELP IDENTIFY AND ADDRESS POTENTIAL RESPIRATORY PROBLEMS EARLY.
- **HEALTHY DIET:** PROVIDING A BALANCED DIET SUPPORTS THE IMMUNE SYSTEM AND OVERALL HEALTH, WHICH IS CRUCIAL FOR RESPIRATORY FUNCTION.

BY UNDERSTANDING THE ANATOMY AND FUNCTION OF A DOG'S LUNGS AND TAKING PREVENTIVE MEASURES, PET OWNERS CAN CONTRIBUTE SIGNIFICANTLY TO THEIR DOG'S RESPIRATORY HEALTH. AWARENESS OF COMMON DISEASES AND SYMPTOMS ALLOWS FOR PROMPT VETERINARY INTERVENTION, LEADING TO BETTER OUTCOMES AND HEALTHIER LIVES FOR CANINE COMPANIONS.

Q: WHAT ARE THE MAIN PARTS OF A DOG'S LUNGS?

A: THE MAIN PARTS OF A DOG'S LUNGS INCLUDE THE BRONCHI, BRONCHIOLES, AND ALVEOLI. THE LUNGS ARE DIVIDED INTO LOBES, WITH THE RIGHT LUNG HAVING THREE LOBES AND THE LEFT LUNG HAVING TWO LOBES. EACH PART PLAYS A CRUCIAL ROLE IN THE RESPIRATORY PROCESS.

Q: HOW CAN I TELL IF MY DOG HAS A RESPIRATORY PROBLEM?

A: SIGNS OF RESPIRATORY PROBLEMS IN DOGS INCLUDE PERSISTENT COUGHING, DIFFICULTY BREATHING, NASAL DISCHARGE, LETHARGY, AND LOSS OF APPETITE. IF YOU NOTICE THESE SYMPTOMS, IT IS ESSENTIAL TO CONSULT A VETERINARIAN FOR A THOROUGH EVALUATION.

Q: ARE THERE SPECIFIC BREEDS MORE PRONE TO LUNG ISSUES?

A: YES, CERTAIN BREEDS, PARTICULARLY BRACHYCEPHALIC BREEDS LIKE BULLDOGS AND PUGS, ARE MORE PRONE TO RESPIRATORY ISSUES DUE TO THEIR UNIQUE ANATOMICAL FEATURES. ADDITIONALLY, OLDER DOGS AND THOSE WITH PRE-EXISTING HEALTH CONDITIONS MAY BE AT HIGHER RISK.

Q: WHAT IS THE ROLE OF ALVEOLI IN A DOG'S LUNGS?

A: ALVEOLI ARE TINY AIR SACS IN THE LUNGS WHERE GAS EXCHANGE OCCURS. THEY ALLOW OXYGEN TO ENTER THE BLOODSTREAM AND FACILITATE THE REMOVAL OF CARBON DIOXIDE FROM THE BODY, PLAYING A CRUCIAL ROLE IN THE RESPIRATORY PROCESS.

Q: HOW OFTEN SHOULD MY DOG HAVE A VETERINARY CHECKUP FOR LUNG HEALTH?

A: IT IS RECOMMENDED THAT DOGS HAVE A VETERINARY CHECKUP AT LEAST ONCE A YEAR. HOWEVER, OLDER DOGS OR THOSE WITH KNOWN RESPIRATORY ISSUES MAY REQUIRE MORE FREQUENT EVALUATIONS TO MONITOR THEIR LUNG HEALTH.

Q: CAN LUNG DISEASES IN DOGS BE TREATED?

A: YES, MANY LUNG DISEASES IN DOGS CAN BE TREATED EFFECTIVELY, ESPECIALLY WHEN DIAGNOSED EARLY. TREATMENT MAY INCLUDE MEDICATIONS, ANTIBIOTICS, OR IN SOME CASES, SURGICAL INTERVENTION, DEPENDING ON THE SPECIFIC CONDITION.

Q: WHAT PREVENTIVE MEASURES CAN I TAKE TO PROTECT MY DOG'S LUNGS?

A: TO PROTECT YOUR DOG'S LUNGS, AVOID EXPOSING THEM TO SMOKE AND POLLUTANTS, ENSURE THEY GET REGULAR EXERCISE, MAINTAIN A HEALTHY DIET, AND SCHEDULE ROUTINE VETERINARY CHECKUPS TO MONITOR THEIR RESPIRATORY HEALTH.

Q: WHAT IS CANINE PNEUMONIA, AND HOW IS IT TREATED?

A: CANINE PNEUMONIA IS AN INFLAMMATION OF THE LUNG TISSUE, OFTEN CAUSED BY INFECTIONS. TREATMENT TYPICALLY INVOLVES ANTIBIOTICS, ANTI-INFLAMMATORIES, AND SUPPORTIVE CARE, DEPENDING ON THE SEVERITY OF THE CONDITION.

Q: HOW DOES HEARTWORM DISEASE AFFECT A DOG'S LUNGS?

A: HEARTWORM DISEASE CAN LEAD TO LUNG DAMAGE AND RESPIRATORY DISTRESS AS THE ADULT WORMS RESIDE IN THE PULMONARY ARTERIES, CAUSING INFLAMMATION AND OBSTRUCTION, WHICH CAN SEVERELY AFFECT LUNG FUNCTION.

Q: ARE THERE ANY SPECIFIC SYMPTOMS OF LUNG TUMORS IN DOGS?

A: SYMPTOMS OF LUNG TUMORS IN DOGS MAY INCLUDE PERSISTENT COUGHING, LABORED BREATHING, UNEXPLAINED WEIGHT LOSS, AND LETHARGY. IF THESE SIGNS ARE OBSERVED, A VETERINARY ASSESSMENT IS CRUCIAL FOR DIAGNOSIS AND TREATMENT PLANNING.

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lung anatomy dog: Handbook of Animal Models in Transplantation Research Donald V. Cramer, Luis G. Podesta, Leonard Makowka, 2024-11-01 Handbook of Animal Models in Transplantation Research is a new surgical handbook that provides detailed information concerning the transplantation of a variety of tissues in experimental animals. The text provides a practical guide for experienced investigators to develop new surgical transplantation models for application in a laboratory setting. Each chapter gives consistent descriptions of the anatomical considerations, the surgical model, and potential applications of the procedure. The organ systems covered include the heart and/or lung, liver, small bowel, kidneys, and bone marrow. The species selected for representation of each experimental model is based upon the usefulness and frequency of the model for studies in transplantation research. This book is important for all experimental surgeons, transplantation biologists, and students of surgical research.

lung anatomy dog: Comparative Biology of the Normal Lung Richard A. Parent, 2015-03-13 Comparative Biology of the Normal Lung, Second Edition, offers a rigorous and comprehensive reference for all those involved in pulmonary research. This fully updated work is divided into sections on anatomy and morphology, physiology, biochemistry, and immunological response. It continues to provide a unique comparative perspective on the mammalian lung. This edition includes several new chapters and expanded content, including aging and development of the normal lung, mechanical properties of the lung, genetic polymorphisms, the comparative effect of stress of pulmonary immune function, oxygen signaling in the mammalian lung and much more. By addressing scientific advances and critical issues in lung research, this 2nd edition is a timely and valuable work on comparative data for the interpretation of studies of animal models as compared to the human lung. - Edited and authored by experts in the field to provide an excellent and timely review of cross-species comparisons that will help you interpret and compare data from animal studies to human findings - Incorporates lung anatomy and physiology, cell specific interactions and immunological responses to provide you with a single and unique multidisciplinary source on the comparative biology of the normal lung - Includes new and expanded content on neonatal and aged lungs, developmental processes, cell signaling, antioxidants, airway cells, safety pharmacology and much more - Section IV on Physical and Immunological Defenses has been significantly updated with 9 new chapters and an increased focus on the pulmonary immunological system

lung anatomy dog: Atlas of Small Animal Diagnostic Imaging Clifford R. Berry, Nathan C. Nelson, Matthew D. Winter, 2023-04-25 Der Atlas of Small Animal Diagnostic Imaging bietet eine umfassende, multimodale Übersicht über die diagnostische Bildgebung bei Kleintieren mit hochwertigen Darstellungen von Aufnahmen, die mithilfe von Radiographie, Szintigraphie, Ultraschall, Computertomographie und Magnetresonanztomographie angefertigt wurden. Ausgehend von einem traditionellen Ansatz der Körpersysteme dient das Buch mit seinen zahlreichen Illustrationen als Nachschlagewerk, um die Interpretation von Röntgenaufnahmen durch andere bildgebende Verfahren zu unterstützen. Der Atlas enthält klinisch relevante Informationen für Tierärzte und Studierende der Kleintiermedizin. Sämtliche Körperstrukturen werden anhand zahlreicher Abbildungen gründlich betrachtet, wobei die Stärken und Schwächen der verschiedenen Verfahren in unterschiedlichen Szenarien erörtert werden. Der Atlas of Small Animal Diagnostic Imaging wird von drei erfahrenen Radiologen herausgegeben und behandelt die folgenden Themen:
* Grundlagen der diagnostischen Bildgebung, physikalische Hintergründe der diagnostischen

Bildgebung, insbesondere in Bezug auf CT, MRT, Ultraschall und Nuklearmedizin * Normale anatomische Varianten des Muskel-Skelett-Systems, entwicklungsbedingte orthopädische Krankheiten, Gelenkerkrankungen, Frakturen und Heilung von Frakturen, aggressive Knochenerkrankungen sowie Bildgebung von Kopf und Wirbelsäule * Anatomie des Thorax, Varianten und Paradigmen zur Interpretation, extrathorakale Strukturen, Pleurahöhle, Lungenparenchym und Mediastinum * Anatomie des Abdomens, Varianten und Paradigmen zur Interpretation, extraabdominale Strukturen und Körperwand, Peritoneum und Retroperitoneum, Leber, Galle und Milz Durch die umfassende Darstellung der Inhalte und Hunderte hochwertiger Abbildungen, die ein schnelles und gründliches Verständnis ermöglichen, ist der Atlas of Small Animal Diagnostic Imaging ein unverzichtbares Nachschlagewerk für Tierärzte und Studierende der Kleintiermedizin, Veterinärradiologen und Kleintierexperten in verschiedenen Fachbereichen.

lung anatomy dog: *The Lung* Kent Pinkerton, Richard Harding, Elizabeth Georgian, 2024-11-19 Approx.590 pagesApprox.590 pages

lung anatomy dog: Textbook of Small Animal Surgery Douglas H. Slatter, 2003-01-01 This two-volume masterwork offers explicit guidelines for evaluating patients, selecting the right operation, and implementing clinically proven procedures. It covers major topics relevant to the field such as oncology, ophthalmology, dentistry, the nervous system, the urinary and reproductive systems, and more. The up-to-date 3rd edition features an increased emphasis on decision-making algorithms and high-quality images that depict relevant anatomy, diagnostic features, and sequential steps in operative procedures. Expanded, detailed coverage assists the reader with learning and applying the latest surgical techniques. Contributors from three different continents and 17 countries, outstanding in their fields, lend a global perspective to the work. Extensive, high-quality illustrations aid the reader in clear visualization of techniques, instrumentation, and diagnosis. References for each chapter direct the reader to further sources of information. An appendix of normal laboratory values for the dog and cat put this essential information within easy reach. A cardiopulmonary resuscitation algorithm is printed on the inside front cover for quick and easy reference. A quick guide to evaluation and initial stabilization of life-threatening cardiopulmonary complications is printed on the inside back cover for immediate access to crucial information. The section on critical care has been expanded to include more complete information. 10 new section editors and 146 new contributors bring new insight to topics in their areas of expertise. 38 new chapters, including a chapter on arthroscopy, reflect current knowledge and advances. Detailed coverage of surgery techniques present explicit, easy-to-follow guidelines and procedures. An increased emphasis on decision-making algorithms makes the book even more clinically useful. Each chapter has been thoroughly revised, providing the most comprehensive scope of coverage for each topic.

lung anatomy dog: *Air Pollution and Health* Robert L. Maynard, Stephen T. Holgate, Hillel S. Koren, Jonathan M. Samet, 1999-04-21 Concern about the impact of air pollution has led governments and local authorities across the world to regulate, among other things, the burning of fossil fuels, industrial effluence, cigarette smoke, and aerosols. This legislation has often followed dramatic findings about the impact of pollution on human health. At the same time there have been significant developments in our ability to detect and quantify pollutants and a proliferation of urban and rural air pollution networks to monitor levels of atmospheric contamination. *Air Pollution and Health* is the first fully comprehensive and current account of air pollution science and its impact on human health. It ranges in scope from meteorology, atmospheric chemistry, and particle physics to the causes and scope of allergic reactions and respiratory, cardiovascular, and related disorders. The book has substantial international coverage and includes sections on cost implications, risk assessment, regulation, standards, and information networks. The multidisciplinary approach and the wide range of issues covered makes this an essential book for all concerned with monitoring and regulating air pollution as well as those concerned with its impact on human health. - Only comprehensive text covering all the important air pollutants and relating these to human health and regulatory bodies - Brings together a wide range of issues concerning air pollution in an easily

accessible format - Contributions from government agencies in the US and UK provide information on public policy and resource networks in the areas of health promotion and environmental protection

lung anatomy dog: Encyclopedia of Marine Mammals William F. Perrin, Bernd Würsig, J.G.M. Thewissen, 2009-02-26 This thorough revision of the classic Encyclopedia of Marine Mammals brings this authoritative book right up-to-date. Articles describe every species in detail, based on the very latest taxonomy, and a host of biological, ecological and sociological aspects relating to marine mammals. The latest information on the biology, ecology, anatomy, behavior and interactions with man is provided by a cast of expert authors - all presented in such detail and clarity to support both marine mammal specialists and the serious naturalist. Fully referenced throughout and with a fresh selection of the best color photographs available, the long-awaited second edition remains at the forefront as the go-to reference on marine mammals. - More than 20% NEW MATERIAL includes articles on Climate Change, Pacific White-sided Dolphins, Sociobiology, Habitat Use, Feeding Morphology and more - Over 260 articles on the individual species with topics ranging from anatomy and behavior, to conservation, exploitation and the impact of global climate change on marine mammals - New color illustrations show every species and document topical articles FROM THE FIRST EDITION This book is so good...a bargain, full of riches...packed with fascinating up to date information. I recommend it unreservedly to individuals, students, and researchers, as well as libraries. --Richard M. Laws, MARINE MAMMALS SCIENCE ...establishes a solid and satisfying foundation for current study and future exploration --Ronald J. Shusterman, SCIENCE

lung anatomy dog: The Surgery of the Heart and Lungs Benjamin Merrill Ricketts, 1904

lung anatomy dog: Models of Lung Disease Joan Gil, 2020-08-11 This research-level reference provides a review of the morphological techniques that have become a primary method of anatomical study correlating structure and function in lung physiology and pathology. Detailing the evolution of anatomy as a research discipline, it explores general structural techn

lung anatomy dog: The Lung Circulation Domingo M. Aviado, 2013-10-22 The Lung Circulation deals with important aspects of the lung circulation, with emphasis on the physiology of the pulmonary and bronchial circulation and autonomic pharmacology. Topics covered range from the role of anoxia in pulmonary circulation to reflexes arising from the pulmonary circulation and neighboring structures. The release of chemical substances from the pulmonary and bronchial circulation is also discussed. This volume is comprised of 10 chapters and begins with a review of the influence of anoxia on pulmonary circulation as well as four pertinent effects of anoxemia, namely, respiratory stimulation; cardiac stimulation; systemic vasoconstriction and vasodilatation; and pulmonary vasoconstriction and vasodilatation). The following chapters focus on the regulation of bronchial circulation; autonomic nervous control of pulmonary circulation involving acetylcholine, anticholinesterases, and atropine; and the pharmacology of sympathomimetic drugs, sympathetic blocking drugs, ganglion stimulants, and blocking drugs. The final chapter is devoted to the pharmacology of the autonomic nervous system and considers drugs that stimulate chemoreflexes arising from the lung circulation, including veratrum alkaloids. This book will appeal to physiologists and pharmacologists.

lung anatomy dog: Point-of-Care Ultrasound Techniques for the Small Animal Practitioner

Gregory R. Lisciandro, 2021-03-30 Dieses wegweisende Fachbuch wurde gründlich überarbeitet und aktualisiert. Präsentiert werden fokussierten Ultraschalluntersuchungen des Abdomens, Thorax, Bewegungssystems und des Auges in der veterinärmedizinischen Praxis. Auch die 2. Auflage ist das Referenzwerk für gezielte Ultraschalluntersuchungen in der klinischen Praxis. Neue Anwendungen werden vorgestellt und weitere Tierarten berücksichtigt. Videoclips der verschiedenen Verfahren können auf der begleitenden Website abgerufen werden. Gezeigt werden Ultraschallaufnahmen aus der Praxis, die als Vergleich dienen können und die Fachrichtung verdeutlichen. Die 2. Auflage von Point-of-Care Ultrasound Techniques for the Small Animal Practitioner enthält neue Kapitel zu ultraschallgestützten Nervenblockaden, Ultraschalluntersuchungen des Bewegungsapparats, des

Gehirns sowie Anwendungsbereiche des Verfahrens bei Katzen, Exoten und Meeressäugern. Das Buch ist ein Muss für Veterinärmediziner die Ultraschalluntersuchungen in ihrer Praxis anbieten möchten. - Präsentiert einen Standardansatz für den Einsatz von Ultraschall als Erweiterung der körperlichen Untersuchung bei Traumata, sonstigen Ursachen und Monitoring-Anwendungen. - Zeigt neue Verfahren für fokussierte Ultraschalluntersuchungen, u. a. der Lunge, in der Anästhesie, ultraschallgestützten Nervenblockaden, bei transkraniellen Bildgebungsverfahren, Untersuchungen des Bewegungsapparats, zur Evaluation des Volumenstatus und der schnellen Diagnostik bei behandelbaren Schockzuständen. - Zeigt die Verfahren jetzt auch bei Katzen, Exoten, Wildtieren und Meeressäugetieren, neben den bisherigen Leitlinien für Hunde. - Erläutert insbesondere die Vorteile von Ultraschall zur Optimierung der Patientenversorgung und für eine präzise Diagnostik. - Begleitende Website mit Videoclips zu klinisch-relevanten Lernbeispielen. Die 2. Auflage von *Point-of-Care Ultrasound Techniques for the Small Animal Practitioner* ist ein ausgezeichnetes Referenzwerk für Veterinärmediziner, von Veterinärmediziner für Haustiere bis hin zu Spezialisten in Tierkliniken, darunter Tierärzte der Fachrichtungen Innere Medizin, Onkologie, Kardiologie, Notfall- und Intensivmedizin, Anästhesie, Augenheilkunde, Fachtierärzte für Exoten und Zootiere, sowie für Studenten der Veterinärmedizin.

lung anatomy dog: Veterinary Surgical Oncology Simon T. Kudnig, Bernard Séguin, 2012-02-24 *Veterinary Surgical Oncology* provides in-depth coverage of surgical techniques for treating cancer in small animal patients. Organized by body system, each chapter presents detailed, well-illustrated descriptions of surgical procedures, with additional information on diagnostic testing, aftercare, outcomes, and prognosis. Edited and authored by members of the Veterinary Society of Surgical Oncologists, *Veterinary Surgical Oncology's* comprehensive coverage of surgical treatments for cancer provides an invaluable decision-making tool and is equally useful for veterinary surgeons and veterinary oncologists. The book begins with introductory chapters on the principles of surgical oncology, multimodal therapy, and interventional radiology, then presents chapters on surgical techniques in all anatomical structures, including procedures not well covered in existing literature. The first book to focus on the surgical aspects of cancer treatment, *Veterinary Surgical Oncology* is an essential reference for anyone with an interest in surgical oncology.

lung anatomy dog: Focused Ultrasound Techniques for the Small Animal Practitioner Gregory R. Lisciandro, 2014-01-28 *Focused Ultrasound Techniques for the Small Animal Practitioner* offers a highly practical guide to incorporating abbreviated ultrasound exams into the veterinary practice. Focused point-of-care exams are an effective way to quickly detect conditions and complications not readily apparent through the physical exam, laboratory diagnostics, or radiographic findings. Encompassing all the information needed to begin performing these techniques, *Focused Ultrasound Techniques for the Small Animal Practitioner* is a useful tool for improving patient outcomes in clinical practice. Covering focused exams in all body systems, the book also outlines the principles of interventional radiology, medical documentation, and the basic fundamentals of using an ultrasound machine. A companion website offers 87 video clips of AFAST, TFAST, and Vet Blue examinations with normal, abnormal, and incidental findings at www.wiley.com/go/lisciandro/ultrasound. *Focused Ultrasound Techniques for the Small Animal Practitioner* is an essential purchase for veterinary practitioners and specialists wanting to implement these techniques in their veterinary practice.

lung anatomy dog: Archives of Surgery, 1928

lung anatomy dog: Veterinary Cytology Leslie C. Sharkey, M. Judith Radin, Davis M. Seelig, 2020-08-04 This book offers a state-of-the-art, evidence-based reference to all aspects of veterinary cytology. Truly multidisciplinary in its approach, chapters are written by experts in fields ranging from clinical pathology to internal medicine, surgery, ophthalmology, and dermatology, drawing the various specialties together to create a comprehensive picture of cytology's role in diagnosis and treatment of animal disease. Firmly grounded in the primary literature, the book focuses on companion animals, with special chapters for species with fewer publications. Chapters are logically organized by body system, with additional chapters on tumors of particular import and diagnostic decision making. The first two sections of *Veterinary Cytology* focus on cytology techniques, quality

control, and special laboratory techniques. Subsequent sections are organ/tissue-based and reflect what is known about the canine, feline, and equine species. This is followed by chapters on non-traditional species, including exotic companion mammals, rabbits, cattle, camelids, non-human primates, reptiles and birds, amphibians, fish, invertebrates, and sheep and goats. The last section highlights some unique features of the applications of cytology in industry settings. Provides a gold-standard reference to data-driven information about cytologic analysis in companion animal species Brings together authors from a wide range of specialties to present a thorough survey of cytology's use in veterinary medicine Offers broader species coverage and greater depth than any cytology reference currently available Veterinary Cytology is an essential resource for clinical and anatomic pathologists and any specialist in areas using cytology, including veterinary oncologists, criticalists, surgeons, ophthalmologists, dermatologists, and internists.

lung anatomy dog: Veterinary Endoscopy for the Small Animal Practitioner Timothy C. McCarthy, 2021-01-12 Veterinary Endoscopy for the Small Animal Practitioner, Second Edition, gives veterinarians guidance in incorporating diagnostic endoscopy, interventional endoscopy, and minimally invasive soft tissue surgery into their small animal practices. This highly practical reference supports practitioners in adding and effectively using endoscopy techniques in their practices. With a clinically oriented approach, it focuses on applications for rigid and flexible endoscopy, making comprehensive information on these techniques easily accessible. The book covers soft tissue endoscopy, including airway endoscopy, gastrointestinal endoscopy, diagnostic and operative laparoscopy, diagnostic and operative thoracoscopy, urogenital endoscopy, and otoscopy. Thousands of images, including endoscope images and clinical photographs, enhance the text. Covers diagnostic endoscopy, interventional endoscopy, and minimally invasive soft tissue surgery Includes thousands of images to illustrate endoscopy concepts for veterinarians Provides a clinically oriented reference book for using rigid and flexible endoscopy in a small animal practice Supports veterinarians who are seeking to increase their services and enhance their revenue streams Any practitioner who is using or preparing to use endoscopic techniques will find Veterinary Endoscopy for the Small Animal Practitioner an essential practice resource.

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