

## **The Laboratory Rabbit Guinea Pig Hamster And Other Rodents American College Of Laboratory Animal Medicine**

*A Guide to Laboratory Animal Technology is a compilation of experiences of animal technicians with regard to laboratory animals in both research and breeding establishments. This book discusses common laboratory species individually with reference to anatomy, reproduction, maintenance, methods of handling, and identification. Studies on the common diseases found on these species are also provided. All aspects of laboratory animal husbandry are considered including equipment, SPF techniques, transport, and law. This selection also includes a guide to examination technique and basic mathematics section that can help students with little experience in either field. This text aims to provide an introduction and guide for the newcomers and students of the profession, as well as a useful comprehensive reference work for all those concerned with animals.*

*This CD contains QuickTime movies that illustrate anaesthetic techniques for use in the rabbit and guinea pig. The movies are captioned to emphasise essential points.*

*Animals and Medicine: The Contribution of Animal Experiments to the Control of Disease offers a detailed, scholarly historical review of the critical role animal experiments have played in advancing medical knowledge. Laboratory animals have been essential to this progress, and the knowledge gained has saved countless lives—both human and animal. Unfortunately, those opposed to using animals in research have often employed doctored evidence to suggest that the practice has impeded medical progress. This volume presents the articles Jack Botting wrote for the Research Defence Society News from 1991 to 1996, papers which provided scientists with the information needed to rebut such claims. Collected, they can now reach a wider readership interested in understanding the part of animal experiments in the history of medicine—from the discovery of key vaccines to the advancement of research on a range of diseases, among them hypertension, kidney failure and cancer. This book is essential reading for anyone curious about the role of animal experimentation in the history of science from the nineteenth century to the present.*

*Anesthesia and Analgesia in Laboratory Animals focuses on the special anesthetic, analgesic, and postoperative care requirements associated with experimental surgery. Fully revised and updated this new edition provides the reader with agents, methods, and techniques for anesthesia and analgesia that ensure humane and successful procedural outcomes. \* Provides researchers with the most comprehensive and up-to-date review of the use of anesthesia and analgesia in laboratory animals \* Thoroughly updated with new material on ferrets, birds, reptiles, amphibians, fish, and invertebrates \* Includes hot topic areas such as pain research, ethical issues, legal issues, and imaging studies*

**Small Mammals 2 Rabbit and Guinea Pig**

**Rodents and the Rabbit**

**The Contribution of Animal Experiments to the Control of Disease**

**Stories Rabbits Tell**

**Guide for the Care and Use of Laboratory Animals**

**Handbook of Rodent and Rabbit Medicine**

*With laboratory animals, especially rabbits, playing such an important role in biomedical research, the humane care of these animals is an ongoing concern. The Laboratory Rabbit, Second Edition presents basic information and common procedures in detail to provide a quick reference for caretakers, technicians, and researchers in a laboratory setting. Now in full color, the second edition of this book illustrates management practices and technical procedures with numerous figures and tables. It includes updated tables on anesthetic agents, methods of euthanasia, recommended needle sizes, injection sites, approximate values for injection, and sedative and immobilization agents. Plastic comb-bound for convenient and frequent use, this guide also provides sources and suppliers of additional information on rabbits, feed, and sanitation supplies.*

*Research Regulatory Compliance offers the latest information on regulations and compliance in the laboratory. With the increasing complexity of regulations and need for institutional infrastructure to deal with compliance of animal use issues, as well as a requirement surrounding human subjects, this publication provides reputable guidance and information. The book is extremely helpful as a resource for researchers, administrators, and technicians in the laboratory, and is also a great asset for faculty or new researchers coming in to the laboratory environment. It will help prepare users for the deluge of regulatory and compliance issues they will face while conducting their scientific programs. The book is edited and authored by known leaders in the field of compliance and regulations, and contains extensive research on the topics. It represents the new standard for information in every laboratory. Provides a "one-stop" , go-to resource for the many regulatory and compliance issues that affect laboratory study and research models Extremely helpful as a resource for researchers, administrators, and technicians in the laboratory, and also a great asset for faculty or new researchers coming in to the laboratory environment Focuses on United States regulations, covering both animal models and human subjects Written and edited by known leaders in the field of regulatory compliance who bring many years of collective experience to the book This book provides a comprehensive text covering all aspects of guinea pig medicine. This updated edition will be of value to veterinary surgeons and students, veterinary nurses,*

breeders and all those working in the animal care industry. Written in note form the book assists in the formulation of a diagnostic plan when the practitioner is faced with a sick animal. Sections on clinical signs, diagnoses and treatments, allow rapid reference in successive chapters on the reproductive, digestive, respiratory, musculoskeletal and urinary systems, the skin, head and neck, nervous system and husbandry. All the latest drug information has been included and full details of dose rates, contraindications and components of the proprietary preparations are listed in chapter 11. A new chapter has been written providing information on herbal and homeopathic remedies.

This book comprehensively reviews the anatomy, physiology, genetics and pathology of laboratory animals as well as the principles and practices of using laboratory animals for biomedical research. It covers the design of buildings used for laboratory animals, quality control of laboratory animals, and toxicology, and discusses various animal models used for human diseases. It also highlights aspects, such as handling and restraint and administration of drugs, as well as breeding and feeding of laboratory animals, and provides guidelines for developing meaningful experiments using laboratory animals. Further, the book discusses various alternatives to animal experiments for drug and chemical testing, including their advantages over the current approaches. Lastly, it examines the potential effect of harmful pathogens on the physiology of laboratory animals and discusses the state of art in in vivo imaging techniques. The book is a useful resource for research scientists, laboratory animal veterinarians, and students of laboratory animal medicine.

Research Regulatory Compliance

The Biology and Medicine of Rabbits and Rodents

The Laboratory Rabbit, Second Edition

Rabbit Trails

Eighth Edition

**The Laboratory Rabbit, Guinea Pig, Hamster, and Other Rodents is a single volume, comprehensive book sanctioned by the American College of Laboratory Animal Medicine (ACLAM), covering the rabbit, guinea pig, hamster, gerbil and other rodents often used in research. This well illustrated reference includes basic biology, anatomy, physiology, behavior, infectious and noninfectious diseases, husbandry and breeding, common experimental methods, and use of the species as a research model. With many expert contributors, this will be an extremely valuable publication for biomedical researchers, laboratory animal veterinarians and other professionals engaged in laboratory animal science. A new gold standard publication from the American College of Laboratory Animal Medicine series One stop resource for advancements in the humane and responsible care of: rabbit, guinea pig, hamster, gerbil, chinchilla, deer mouse, kangaroo rat, cotton rat, sand rat, and degu Includes up-to-date, common experimental methods Organized by species for easy access during bench research**

Arranging the transportation of animals at research facilities is often an ordeal. There is a confusing patchwork of local, national, and international regulations; a perceived lack of high-quality shipping services; a dearth of science-based good practices; and a lack of biosafety standards. It's a challenge and an impediment to biomedical research. Guidelines for the Humane Transportation of Research Animals identifies the current problems encountered in the transportation of research animals and offers recommendations aimed at local and federal officials to rectify these problems. This book also includes a set of good practices based on the extensive body of literature on transportation of agricultural animals, universal concepts of physiology, and a scientific understanding of species-specific needs and differences. Good practices were developed by the committee to address thermal environment, space requirements, food and water requirements, social interaction, monitoring of transportation, emergency procedures, personnel training, and biosecurity. Guidelines for the Humane Transportation of Research Animals is an essential guide for all researchers, animal care technicians, facilities managers, administrators, and animal care and use committees at research institutions.

The seminal reference on the care of laboratory and captive animals, The UFAW Handbook on the Care and Management of Laboratory and Other Research Animals is a must-have for anyone working in this field. The UFAW Handbook has been the definitive text since 1947. Written for an international audience, it contains contributions from experts from around the world. The book focuses on best practice principles throughout, providing comprehensive coverage, with all chapters being peer reviewed by anonymous referees. As well as addressing the husbandry of laboratory animals, the content is also of great value to zoos and aquaria. Changes for the eighth edition: Revised and updated to reflect developments since publication of the previous edition. New chapters on areas of growing concern, including: the 3Rs; phenotyping; statistics and experimental design; welfare assessment; legislation; training of people caring for lab animals; and euthanasia. All material combined into one volume for ease of reference. This book is published on behalf of UFAW (The Universities Federation for Animal Welfare), with whom we also publish the UFAW/Wiley-Blackwell Animal Welfare Book Series. This major series of books provides an authoritative source of information on worldwide developments, current thinking and best practice in the field of animal welfare science and technology. For details of all of the titles in the series see

<http://www.wiley.com/go/ufaw> www.wiley.com/go/ufaw/a.

This laboratory guidebook provides step-by-step procedures that will aid in the dissection and collection of major organs and tissues of the most common species of small animals used in biomedical research. Through extensive use of photographs and illustrations, the dissector is guided through a complete necropsy of each species for the purpose of

Handbook of Laboratory Animals

Diseases of Domestic Guinea Pigs

## **Electrocardiography of Laboratory Animals**

### **Laboratory Animal Medicine**

#### **The Genetics and Genomics of the Rabbit**

#### **The Biology of the Guinea Pig**

Harkness and Wagner's *Biology and Medicine of Rabbits and Rodents*, Fifth Edition is a practical reference in small mammal husbandry and health, encompassing the fields of laboratory animal medicine and pet practice. Part of ACLAM's series of laboratory animal books, this text offers concise but complete coverage on rabbits and the most common rodent species, with an emphasis on biology, clinical procedures, clinical signs, and diseases and conditions. By providing useful, accessible assessment and diagnostic information, Harkness and Wagner's *Biology and Medicine of Rabbits and Rodents* aids the practitioner in diagnosing and treating conditions in small mammals. *The Biology of the Guinea Pig* focuses on the use of the guinea pig as a substrate in research. This book provides a comprehensive coverage of material related to applied care and management of guinea pigs and their diseases. Topics on guinea pig behavior, genetics, specific pathogen-free technique, bi methodology, and colony husbandry are also covered. This text likewise deals with the noninduced diseases of guinea pigs and use of the guinea pig in nutrition research, otologic research, toxicology, and teratology. This publication is beneficial to the general scientific community that includes investigators using or considering the use of guinea pigs in research, veterinarians, students of veterinary medicine, professionals concerned with the care and management of guinea pigs, commercial producers of guinea pigs, and cavy fanciers.

Revered as a symbol of fertility, sexuality, purity and childhood, beloved as a children's pet and widely represented in the myths, art and collectibles of almost every culture, the rabbit is one of the most popular animals known to humans. Ironically, it has also been one of the most misunderstood and abused. Indeed, the rabbit is the only animal that our culture adores as a pet, idolizes as a storybook hero and slaughters for commercial purposes. *Stories Rabbits Tell* takes a comprehensive look at the rabbit as a wild animal, ancient symbol, pop culture icon, commercial "product" and domestic.

Now in its fourth edition, *Pathology of Laboratory Rodents and Rabbits* has become a standard text for veterinary pathologists, laboratory animal veterinarians, students, and others interested in these species. • The standard reference on the pathogenesis and cardinal diagnostic features of diseases of mice, rats, hamsters, gerbils, guinea pigs, and rabbits • Expanded coverage of rabbit disease, normal anatomic features, and biology • Over 450 color photographs illustrating gross and microscopic pathology • Companion website offering images from the text in PowerPoint

#### **Necropsy Guide**

#### **Mouse and Rat**

#### **A Color Atlas**

#### **Laboratory Animal and Exotic Pet Medicine**

#### **Nutrient Requirements of Laboratory Animals,**

#### **The Laboratory Guinea Pig, Second Edition**

The Laboratory Animal Pocket Reference Series was created to assist anyone who works with laboratory animals, enabling him to provide the most humane and responsible care. These 14 volumes are compact and comb-bound to lay flat for use in the lab. The contents of each includes important biological features, husbandry, management, veterinary care, regulatory concerns, and commonly used and new procedures, as well as a section that includes an invaluable list of suppliers. Each book in the series can be purchased individually or as part of the set. The series includes the following titles: *The Laboratory Cat* *The Laboratory Nonhuman Primate* *The Laboratory Hamster and Gerbil* *The Laboratory Small Ruminant* *The Laboratory Canine* *The Laboratory Xenopus* *The Laboratory Zebrafish* *The Laboratory Ferret* *The Laboratory Swine, Second Edition* *The Laboratory Rabbit, Second Edition* *The Laboratory Guinea Pig, Second Edition* *The Laboratory Mouse, Second Edition* *The Laboratory Rat, Second Edition* *Critical Care Management for Laboratory Mice and Rats*

Rodents & rabbits represent a significant percentage of modern day pets & therefore present a challenge to the veterinarian in animal practice. Written by internationally renowned experts, this text contains chapters covering rabbits, guinea pigs, hamsters, chinchillas, mice, rats & gerbils. Each specific animal chapter covers nutrition, infectious diseases, anaesthesia, metabolic diseases, and parasitic infections. The combined experience outlined in this handbook is comprehensive & will provide the veterinarian with available guidance in this area of medicine.

This combination text and lab manual provides clinically relevant coverage of laboratory animal medicine and procedures. It covers a variety of species, including rats, mice, guinea pigs, hamsters, rabbits, gerbils, ferrets, nonhuman primates, and in a separate section, nontraditional lab animals, such as swine, chinchillas, armadillos, reptiles, amphibians, bats, farm animals, and dogs and cats. Coverage of each species is presented in a consistent format that includes taxonomy, anatomy and physiology, uses in biomedical research, reproduction, behavior, husbandry, restraint and handling, identification methods, injection techniques, medication administration and anesthesia, blood collection, common diseases, and euthanasia. Other key topics include the laboratory setting, regulatory guidelines, and ethical considerations. The lab manual portion of the book features a variety of exercises and observation sheets. Comprehensive coverage of a variety of topics such as animal species, the laboratory setting, regulatory guidelines, and ethical considerations prepares readers for a career in laboratory animal medicine. Familiarizes readers with the handling, behavior, nutrition, and lab and treatment procedures for a large variety of common and nontraditional laboratory animals. The consistent organization of each species chapter makes it easy for readers to quickly identify similarities and differences among various laboratory animals. Laboratory exercises are included in a perforated section at the end of the book, allowing users to apply their knowledge and develop job skills. Features a wealth of user-friendly features such as a two-color design, learning objectives, key points, and review questions. Provides detailed information on specific legal and ethical requirements of lab animal care and use, including the ethics of pain management. Convenient boxes and tables provide quick access to important anatomic and physiologic data for each species.

specific uses of each species in biomedical research, providing readers with a perspective on animal use that allows them to understand the benefits of animal use as required by veterinary technology program accreditation procedures

Rabbits have many uses - as well as being cherished pets, they are bred for their meat and fur, and as laboratory animals. Understanding their genetics and genomics is key to their production and, equally, to their care, welfare and health. Beginning with an introduction to the rabbit, including key information on their evolution, domestication and breed types, this book then concentrates on the genetics and genomics of this valuable animal. Concluding with practical applications such as creating transgenic and genetically edited rabbits, biotechnical applications and the rabbit as a biomedical model, this book brings this important topic fully up-to-date and provides an indispensable resource for animal and veterinary researchers and students, as well as rabbit breeders and laboratory scientists.

The Laboratory Rabbit, Guinea Pig, Hamster, and Other Rodents

Anesthesia and Analgesia in Laboratory Animals

An Atlas of Normal Anatomy and Positioning

Biology and Diseases of the Ferret

An Introduction

A Guide to Laboratory Animal Technology

In the years since the third edition of this indispensable reference was published, a great deal has been learned about the nutritional requirements of common laboratory species: rat, mouse, guinea pig, hamster, gerbil, and vole. The Fourth Revised Edition presents the current expert understanding of the lipid, carbohydrate, protein, mineral, vitamin, and other nutritional needs of these animals. The extensive use of tables provides easy access to a wealth of comprehensive data and resource information. The volume also provides an expanded background discussion of general dietary considerations. In addition to a more user-friendly organization, new features in this edition include: A significantly expanded section on dietary requirements for rats, reporting substantial new findings. A new section on nutrients that are not required but that may produce beneficial results. New information on growth and reproductive performance among the most commonly used strains of rats and mice and on several hamster species. An expanded discussion of diet formulation and preparation - including sample diets of both purified and natural ingredients. New information on mineral deficiency and toxicity, including warning signs. This authoritative resource will be important to researchers, laboratory technicians, and manufacturers of laboratory animal feed.

creation no falsification falsification TI rejected creation etc. Figure 1-1 delivers such a result that the theory must be seen as an extension of Popper's rational procedure discarded. In this way we come at the same time due for theory elimination. to the border between science and non-science: a Popper's naive falsifiability knows only one theory is scientific if it is falsifiable. It is thus way, the elimination of what is weak. The so not scientific to bring additional evidence to sophisticated falsifiability, in contrast, knows only bear in vindication of the theory; the theory elimination in combination with the acceptance would thereby take on the character of an un of an alternative. According to sophisticated falsifiability challengeable certainty of belief ('religion'). falsifiability, a scientific theory T<sub>1</sub> is only abandoned following Popper, others such as Kuhn, with done if its place is taken by another theory T<sub>2</sub> his paradigm theory, have considerably extended which has the following three characteristics: 1 the range of thought over what is scientific and T<sub>2</sub> has more empirical content than T<sub>1</sub>; the new what is not.

The Laboratory Rat, Third Edition features updated information on a variety of topics, including rats as research models in alcoholism, diabetes, metabolic syndrome, obesity, neuroscience, spinal cord injury, traumatic brain injury, biomaterials evaluation and infectious disease. As a premier source of information on the laboratory rat, this book will be of interest to veterinary and medical students, senior graduate students, post-docs and researchers who utilize animals in biomedical research. Contains a plethora of new information on the topic Recognized as the premier source of information on the laboratory rat Features updated information on a variety of topics, including rats as research models in alcoholism, diabetes, metabolic syndrome, obesity, neuroscience, and more

Biology and Diseases of the Ferret, Third Edition has been thoroughly revised and updated to provide a current, comprehensive reference on the ferret. Encyclopedic in scope, it is the only book to focus on the characteristics that make the ferret an important research animal, with detailed information on conditions, procedures, and treatments. Offering basic information on biology, husbandry, clinical medicine, and surgery, as well as unique information on the use of ferrets in biomedical research, Biology and Diseases of the Ferret is an essential resource for investigators using ferrets in the laboratory and for companion animal and comparative medicine veterinarians. The Third Edition adds ten completely new chapters, covering regulatory considerations, black-footed ferret recovery, diseases of the cardiovascular system, viral respiratory disease research, morbillivirus research, genetic engineering, hearing and auditory function, vision and neuroplasticity research, nausea and vomiting research, and lung carcinogenesis research. Additionally, the anesthesia, surgery, and biotechnology chapter has been subdivided into three and thoroughly expanded. The book also highlights the ferret genome project, along with the emerging technology of genetically engineered ferrets, which is of particular importance to the future of the ferret as an animal model in research and will allow the investigation of diseases and their genetic basis in a small, easily maintained, non-rodent species.

Background Lesions in Laboratory Animals E-Book

The Laboratory Rat

Medical History and Physical Examination in Companion Animals

Radiology of Rodents, Rabbits and Ferrets

Harkness and Wagner's Biology and Medicine of Rabbits and Rodents

Guidelines for the Humane Transportation of Research Animals

**Praise for the First Edition "This book is easy to read and has many informative**

**illustrations...I would strongly recommend this book to those interested in a broad introduction to the care and use of laboratory guinea pigs as well as to laboratory animal technicians, managers, veterinarians and scientists who do not have direct access to large, well organized animal resource units with extensive library facilities." —John D. Young, Contemporary Topics The Laboratory Guinea Pig provides a compact and well- illustrated introduction to research on the guinea pig. The second edition of this popular handbook facilitates quick reference to the behavioral and physical traits of the guinea pig, as well as practical information on its unique anatomical and biological features. Numerous tables and color illustrations help the reader identify features of anatomy and understand health issues and care requirements. Supplying a stepwise introduction to common laboratory techniques, the new edition of this trusted reference provides guidance that supports the humane care and use of guinea pigs in the laboratory setting.**

**This remains the only comparative study of the five principal species of small mammals used in biomedical research. In this unique two-volume set, the authors illustrate in superb detail the anatomy of each species, permitting comparisons between species and highlighting morphological differences of clinical significance. An essential reference for anyone performing surgical or post-mortem procedures. Volume one discusses the rabbit and guinea pig; the second volume discusses the rat, mouse and golden hamster. The only atlas of anatomy that features illustrations of the gross anatomy of all of the principal laboratory animals. Includes artwork to illustrate the position and orientation of structures in situ, in the living animal, as they will be encountered in carrying out a physical examination or surgical procedure. Illustrations of cross-sectional anatomy aid interpretation of diagnostic imaging such as ultrasonography.**

**A respected resource for decades, the Guide for the Care and Use of Laboratory Animals has been updated by a committee of experts, taking into consideration input from the scientific and laboratory animal communities and the public at large. The Guide incorporates new scientific information on common laboratory animals, including aquatic species, and includes extensive references. It is organized around major components of animal use: Key concepts of animal care and use. The Guide sets the framework for the humane care and use of laboratory animals. Animal care and use program. The Guide discusses the concept of a broad Program of Animal Care and Use, including roles and responsibilities of the Institutional Official, Attending Veterinarian and the Institutional Animal Care and Use Committee. Animal environment, husbandry, and management. A chapter on this topic is now divided into sections on terrestrial and aquatic animals and provides recommendations for housing and environment, husbandry, behavioral and population management, and more. Veterinary care. The Guide discusses veterinary care and the responsibilities of the Attending Veterinarian. It includes recommendations on animal procurement and transportation, preventive medicine (including animal biosecurity), and clinical care and management. The Guide addresses distress and pain recognition and relief, and issues surrounding euthanasia. Physical plant. The Guide identifies design issues, providing construction guidelines for functional areas; considerations such as drainage, vibration and noise control, and environmental monitoring; and specialized facilities for animal housing and research needs. The Guide for the Care and Use of Laboratory Animals provides a framework for the judgments required in the management of animal facilities. This updated and expanded resource of proven value will be important to scientists and researchers, veterinarians, animal care personnel, facilities managers, institutional administrators, policy makers involved in research issues, and animal welfare advocates.**

**Laboratory Animal Medicine is a compilation of papers that deals with the diseases and biology of major species of animals used in medical research. The book discusses animal medicine, experimental methods and techniques, design and management of animal facilities, and legislation on laboratory animals. Several papers discuss the biology and diseases of mice, hamsters, guinea pigs, and rabbits. Another paper addresses the dog and cat as laboratory animals, including sourcing of these animals, housing, feeding, and their nutritional needs, as well as breeding and colony management. The book also describes ungulates as laboratory animals, including topics on sourcing, husbandry, preventive medical treatments, and housing facilities. One paper addresses primates as test animals, covering the biology and diseases of old world primates, Cebidae, and ferrets. Some papers pertain to the treatment, diseases, and needed facilities for birds, amphibians, and fish. Other papers then deal with techniques of experimentation, anesthesia, euthanasia, and some factors (spontaneous diseases) that complicate animal research. The text can prove helpful for scientists, clinical assistants, and researchers whose work involves laboratory animals.**

**Pathology of Laboratory Rodents and Rabbits**

**Handbook of Laboratory Animal Bacteriology, Second Edition**

**Fourth Revised Edition, 1995**

**The Clinical Chemistry of Laboratory Animals**

**Edison and the Lab Rat / Kiki and the Guinea Pig**

**Inbred and Genetically Defined Strains of Laboratory Animals**

*Colour Atlas of the Anatomy of Small Laboratory Animals* discusses the five principal species of small mammal used in biomedical research. The atlas illustrates in detail the anatomy of the rabbit and guinea pig. It permits comparisons between closely related species and highlights morphological differences of clinical significance. Detailed contents and illustrations grouped by body regions enable scientists to locate material rapidly. The *Colour Atlas of the Anatomy of Small Laboratory Animals* will be of interest to laboratory animal biomedical researchers, veterinary scientists, pharmacologists and students of anatomy.

*The Laboratory Rabbit, Guinea Pig, Hamster, and Other Rodents* Academic Press

"Edison and the Lab Rat" takes place in a science laboratory in the 1950s. The story highlights scientific facts contained in the Bible and emphasizes that the Lord our Creator is powerful and loving. "Kiki and the Guinea Pig" is a historically factual yet fictional story about guarding your heart from the love of money; it's set in the Incan Empire.

*Laboratory Animal Anesthesia* looks at recent significant developments in anesthetic practices in laboratory experiments involving animals. It also provides information about basic standards for proper use of anesthesia. In addition, it examines the equipment and different anesthetic agents that are used in performing an experiment on animals. The book also discusses the profound effects of anesthesia on the physiological aspect of the animals' body systems, such as hypothermia and respiratory depression. The book addresses the proper management and care that should be provided for the animals that undergo anesthesia. Furthermore, it covers different anesthetic procedures that should be used on various kinds of small animals intended for laboratory experiments. The main goal of this book is to provide information about the different anesthetic agents used in experiments, and the proper standards to follow when using anesthetics on lab animals.

- New edition provides new information on anesthesia and analgesia, and has an extensively revised and updated bibliography
- Provides a balanced consideration of the needs of scientific research and the welfare of laboratory animals
- Written by a veterinary anesthetist and scientist with over 30 years' experience in the field, and who is actively engaged in research in this area
- Provides rapid, easily accessed information using tabulated summaries
- Provides those with limited experience of anesthesia with the information they need to carry out procedures effectively, safely, and humanely
- Provides sufficient depth for the more experienced anesthetist moving to this field

*The UFAW Handbook on the Care and Management of Laboratory and Other Research Animals*

*A Colour Atlas of the Anatomy of Small Laboratory Animals*

*Laboratory Animal Anaesthesia*

*Mouse, Rat, Guinea Pig, Rabbit*

*Essentials of Laboratory Animal Science: Principles and Practices*

*Animals and Medicine*

**Clinical Laboratory Animal Medicine: An Introduction, Fourth Edition** offers a user-friendly guide to the unique anatomy and physiology, care, common diseases, and treatment of small mammals and nonhuman primates. Carefully designed for ease of use, the book includes tip boxes, images, and review questions to aid in comprehension and learning. The Fourth Edition adds new information on transgenic mice, drug dosages, techniques, and environmental enrichment, making the book a comprehensive working manual for the care and maintenance of common laboratory animals. The book includes information on topics ranging from genetics and behavior to husbandry and techniques in mice, rats, gerbils, hamsters, guinea pigs, chinchillas, rabbits, ferrets, and nonhuman primates. A companion website provides editable review questions and answers, instructional PowerPoints, and additional images not found in the book. **Clinical Laboratory Animal Medicine** is an invaluable resource for practicing veterinarians, veterinary students, veterinary technicians, and research scientists.

**Key features:** Serves as the detailed, authoritative source of the clinical chemistry of the most commonly used laboratory animals Includes detailed chapters dedicated to descriptions of clinical chemistry-related topics specific to each laboratory species as well as organ/class-specific chapters Presents information regarding evaluation and interpretation of a variety of individual clinical chemistry end points Concludes with detailed chapters dedicated to descriptions of statistical analyses and biomarker development of clinical chemistry-related topics Provides extensive reference lists at the end of each chapter to facilitate further study Extensively updated and expanded since the publication of Walter F. Loeb and Fred W. Quimby's second edition in 1999, the new **The Clinical Chemistry of Laboratory Animals, Third Edition** continues as the most comprehensive reference on in vivo animal studies. By organizing the book into species- and organ/class-specific chapters, this book provides information to enable a conceptual understanding of clinical chemistry across laboratory species as well as information on evaluation and interpretation of clinical chemistry data relevant to specific organ systems. Now sponsored by the American College of Laboratory Animal Medicine (ACLAM), this well-respected resource includes chapters on multiple laboratory species and provides pertinent information on their unique physiological characteristics, methods for sample collection, and preanalytical sources of variation for the particular species. Basic methodology for common procedures for each species is also discussed. **New Chapters in the Third Edition Include:** The Laboratory Zebrafish and Other Fishes Evaluation of Cardiovascular and Pulmonary Function and Injury Evaluation of Skeletal Muscle Function and Injury Evaluation of Bone Function and Injury Vitamins Development of Biomarkers Statistical Methods **The Clinical Chemistry of Laboratory Animals, Third Edition** is intended as a reference for use by veterinary students, clinical veterinarians, veterinary toxicologists, veterinary clinical pathologists, and laboratory animal veterinarians to aid in study design, collection of samples, and interpretation of clinical chemistry data for laboratory species.

**The Handbook of Laboratory Animal Bacteriology, Second Edition** provides comprehensive information on all bacterial

phylae found in laboratory rodents and rabbits to assist managers, veterinary pathologists and laboratory animal veterinarians in the management of these organisms. The book starts by examining the general aspects of bacteriology and how to sample and identify bacteria in animals. It then describes the most relevant species within each phylum and discusses the impact they may have on research. Emphasizing those bacteria known to interfere with research protocols, the book offers methods for isolation and differentiation among related bacteria. It discusses where to purchase reagents for rodent bacteriology and outlines standards for safety in a bacteriological laboratory. Highlights of the second edition: Focuses on modern sequencing techniques based on molecular identification Reorganizes content according to modern systematics based on new identification methods Presents new chapters on mechanisms behind bacterial impact on animal models and on the systematic classification of bacteria Provides information on a range of bacteria interfering with animal models for human disease, not only for those bacteria which cause disease in laboratory animal colonies Includes new figures in color and with enhanced resolution The book is essential reading for those interested in the management of organisms known to interfere with the colony health of rabbits and rodents used in research protocols—including facility managers, clinical veterinarians, veterinary pathologists, and researchers. **Electrocardiography of Laboratory Animals** is the only book covering electrocardiography of laboratory animals, including dogs, mini-pigs, and cynomolgus monkeys. As more countries institute requirements for the care of laboratory animals in research, this publication offers an effective standard on performing and analyzing ECGs. Topics covered include safety electrocardiography, toxicology, safety pharmacology, and telemetry. **Electrocardiography of Laboratory Animals** will assist biological and medical researchers, veterinarians, zoologists, and students in understanding electrocardiography of various species of animals used in research. Covers safety electrocardiography of large laboratory animals Offers comprehensive analysis of ECGs for practical laboratory use Includes a self-evaluation section for testing of ECG reading and analysis

### **Clinical Laboratory Animal Medicine**

#### **Principles and Procedures**

##### **Laboratory Animal**

**Background Lesions in Laboratory Animals** will be an invaluable aid to pathologists needing to recognize background and incidental lesions while examining slides taken from laboratory animals in acute and chronic toxicity studies, or while examining exotic species in a diagnostic laboratory. It gives clear descriptions and illustrations of the majority of background lesions to be encountered. Many of the lesions covered are unusual and can be mistaken for treatment-related findings in preclinical toxicity studies. The Atlas has been prepared with contributions from experienced toxicological pathologists who are experts in each of the laboratory animal species covered and who have published extensively in these areas. over 600 high-definition quality color photographs of background lesions found in rats, mice, dogs, minipigs, non-human primates, hamsters, guinea pigs, and rabbits a separate chapter on lesions in the reproductive systems of all laboratory animals written by Dr Dianne S. Sills, a world expert on testicular lesions in laboratory animals a chapter on common artifacts that may be observed in histological slides extensive references to each lesion described aging lesions encountered in all laboratory animal species, particularly in mice which are used for carcinogenicity studies

This text offers essential coverage of normal radiographic anatomy of small mammal species including rabbit, ferret, chinchilla, hamster, mouse, and rat. Historically used as laboratory animals, these "pocket pets" now have increasingly high companion animal value and owners are more commonly seeking medical care for them. This resource is designed to help veterinarians meet increasing client demand for services. It provides an understanding of normal anatomic and radiographic features that will help clinicians more easily identify abnormal features to reach an accurate diagnosis. This is the only book of its kind for these species, designed to help practitioners expand the range of services offered for exotic and "pocket" pet animals. Includes complete directions for positioning each species during radiographic examination to obtain the highest quality images and accurate interpretation. Includes alternative imaging modalities such as CT, MRI, and ultrasound, for advanced diagnostic interpretation. Features radiographic exposure guidelines for each species and each radiographic view, for determining optimal settings and technique. Helpful line drawings are superimposed on radiographic images for accurate identification of anatomical structures. Covers contrast media studies that can enhance detail for radiographic interpretation in species where soft tissue density detail is poor.