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Diagnostic Techniques in Veterinary Dermatology - Ariane Neuber 2017-04-20
The first book devoted solely to the techniques used to investigate skin problems in animals A practical everyday reference for veterinary practitioners, Diagnostic Techniques in Veterinary Dermatology focuses on contemporary techniques for investigating skin problems in small animals, horses and exotic pets. Written by experienced specialists in veterinary dermatology, this book offers clear, step-by-step guidance on how to perform tests and interpret their results. The first book devoted exclusively to the subject, this hands-on guide demonstrates how to carry out and interpret a huge range of dermatology tests, as well as how to avoid common mistakes and pitfalls. Featuring full colour photographs and illustrations throughout, key topics include: looking for parasites, hair plucks and trichograms, dermoscopy, cytology, fungal and bacterial cultures, histopathology, allergy testing, immune-mediated skin diseases, endocrine and metabolic skin diseases, infectious diseases, diagnostic imaging, otoscopy and examination of the ear, genetic tests, and more. Diagnostic Techniques in Veterinary Dermatology is a valuable working resource for busy practitioners in first opinion practice, as well as veterinary nurses and technicians. It is also an ideal reference for veterinary students and specialists in-training.
Clinical Cases in Microbiology and Infectious Diseases E-Book - Ghassan Matar 2017-03-15
The book compiles important clinical cases in Microbiology and Infectious Diseases for students and specialists concerning prevalent types of infections and their management. Contributors involved are well known locally, regionally and internationally. The book is designed to address undergraduate med students (Med I and Med II mainly). It serves as a reference for Med III and MED IV students, since it sheds light on a variety of infectious diseases tackling different types of microorganisms. All books currently available deal merely with medical microbiology in relation to Infectious diseases.
Tietz Textbook of Clinical Chemistry and Molecular Diagnostics - Nader Rifai 2017-01-16
The Tietz Textbook of Clinical Chemistry and Molecular Diagnostics, 6th Edition provides the most current and authoritative guidance on selecting, performing, and evaluating the results of new and established laboratory tests. This classic clinical chemistry reference offers encyclopedic coverage detailing everything you need to know, including: analytical criteria for the medical usefulness of laboratory tests, variables that affect tests and results, laboratory medicine, applications of statistical methods, and most importantly clinical utility and interpretation of laboratory tests. It is THE definitive reference in clinical chemistry and molecular diagnostics, now fully searchable and with quarterly content updates, podcasts, clinical cases, animations, and extended content online through Expert Consult. Analytical

criteria focus on the medical usefulness of laboratory procedures. Reference ranges show new approaches for establishing these ranges — and provide the latest information on this topic. Lab management and costs gives students and chemists the practical information they need to assess costs, allowing them to do their job more efficiently and effectively. Statistical methods coverage provides you with information critical to the practice of clinical chemistry. Internationally recognized chapter authors are considered among the best in their field. Two-color design highlights important features, illustrations, and content to help you find information easier and faster. NEW! Internationally recognized chapter authors are considered among the best in their field. NEW! Expert Consult features fully searchable text, quarterly content updates, clinical case studies, animations, podcasts, atlases, biochemical calculations, multiple-choice questions, links to Medline, an image collection, and audio interviews. You will now enjoy an online version making utility of this book even greater. UPDATED! Expanded Molecular Diagnostics section with 12 chapters that focus on emerging issues and techniques in the rapidly evolving and important field of molecular diagnostics and genetics ensures this text is on the cutting edge and of the most value. NEW! Comprehensive list of Reference Intervals for children and adults with graphic displays developed using contemporary instrumentation. NEW! Standard and international units of measure make this text appropriate for any user — anywhere in the world. NEW! 22 new chapters that focus on applications of mass spectrometry, hematology, transfusion medicine, microbiology, biobanking, biomarker utility in the pharmaceutical industry and more! NEW! Expert senior editors, Nader Rifai, Carl Wittwer and Rita Horvath, bring fresh perspectives and help ensure the most current information is presented. UPDATED! Thoroughly revised and peer-reviewed chapters provide you with the most current information possible.

Combating Antimicrobial Resistance and Protecting the Miracle of Modern Medicine - National Academies Of Sciences Engineeri 2022-07-20

The National Strategy for Combating Antibiotic Resistant Bacteria, published in 2014, sets out a plan for government work to mitigate the emergence and spread of resistant bacteria. Direction on the implementation of this strategy is provided in five-year national action plans, the first covering 2015 to 2020, and the second covering 2020 to 2025. Combating Antimicrobial Resistance and Protecting the Miracle of Modern Medicine evaluates progress made against the national strategy. This report discusses ways to improve detection of resistant infections and estimate the risk to human health from environmental sources of resistance. In addition, the report considers the effect of agricultural practices on human and animal health and animal welfare and ways these practices could be improved, and advises on key drugs and diseases for which animal-specific test breakpoints are needed.

Antimicrobial Resistance in Wastewater Treatment Processes - Patricia L. Keen 2017-09-26

Antimicrobial resistance is arguably the greatest threat to worldwide human health. This book evaluates the roles of human water use, treatment and conservation in the development and spread of antimicrobial resistance. Designed as a companion volume to Antimicrobial Resistance in the Environment (Wiley-Blackwell, 2012), this book is a multi-disciplinary synthesis of topics related to antimicrobial resistance and wastewater treatment processes. Antimicrobial Resistance in Wastewater Treatment Processes assembles detailed discussions written by many of the world's best-known experts in microbiology, civil engineering, chemistry, environmental science, public health and related fields. The book presents a collection of subjects that includes: Current knowledge of the role of the environment in development and spread of antimicrobial resistance Chemical analysis of antibiotics in environmental samples Molecular methods for analysis of antimicrobial resistance genes Advanced wastewater treatment processes and antimicrobial resistance effects Public perception of risk related to health consequences of antimicrobial resistance Public health implications of antimicrobial resistance with focus on wastewater treatment processes Antimicrobial resistance has gained a foothold in the global consciousness as a serious public health threat. There is a much greater

appreciation for the role of the environment in the dissemination of antimicrobial resistance and the effects of pollutants that can potentially promote development of resistance in bacteria. Contaminants released from wastewater treatment plants are a concern. In Antimicrobial Resistance in Wastewater Treatment Processes, readers will be guided through examinations of the current science related to this important health issue.

Monitoring and surveillance of antimicrobial resistance in bacteria from healthy food animals intended for consumption - Food and Agriculture Organization of the United Nations 2019-11-13

This Regional Antimicrobial Resistance (AMR) Monitoring and Surveillance Guidelines Volume 1 provides guidance in the development of AMR surveillance plan for food-borne bacteria, underscoring the key elements for harmonized AMR data generation, data collation and reporting of findings, while taking into consideration the standing context of the region. It aims to provide guidelines on the harmonized scheme for antimicrobial susceptibility testing and laboratory-based monitoring for AMR.

Clinical Microbiology Elsevier eBook on VitalSource - Nader Rifai 2019-01-17

Clinical Microbiology E-Book

Antimicrobial Resistance - Maria Cristina Ossiprandi 2015-11-26

Antibiotic resistance has become a worldwide health issue, globally recognized as the first priority by WHO. Many forms of resistance can spread with remarkable speed and cross international boundaries. World health leaders are devoting efforts to the problem by planning strategies for monitoring the effectiveness of public health interventions and detecting new trends and threats. This volume focuses on the problem from different perspectives, taking into consideration geographical dissemination (soil and water), human medicine (methicillin-resistant Staphylococcus aureus and Klebsiella pneumoniae) and veterinary (Enterococcus spp.) impact and molecular analysis. The purpose of this volume is to provide a useful tool for control and prevention and to discuss useful epidemiological data concerning ways of obtaining an accurate picture of resistance in different communities.

Food Borne Pathogens and Antibiotic Resistance - Om V. Singh 2017-01-30

Food is an essential means for humans and other animals to acquire the necessary elements needed for survival. However, it is also a transport vehicle for foodborne pathogens, which can pose great threats to human health. Use of antibiotics has been enhanced in the human health system; however, selective pressure among bacteria allows the development for antibiotic resistance. Foodborne Pathogens and Antibiotic Resistance bridges technological gaps, focusing on critical aspects of foodborne pathogen detection and mechanisms regulating antibiotic resistance that are relevant to human health and foodborne illnesses This groundbreaking guide: • Introduces the microbial presence on variety of food items for human and animal consumption. • Provides the detection strategies to screen and identify the variety of food pathogens in addition to reviews the literature. • Provides microbial molecular mechanism of food spoilage along with molecular mechanism of microorganisms acquiring antibiotic resistance in food. • Discusses systems biology of food borne pathogens in terms of detection and food spoilage. • Discusses FDA’s regulations and Hazard Analysis and Critical Control Point (HACCP) towards challenges and possibilities of developing global food safety. Foodborne Pathogens and Antibiotic Resistance is an immensely useful resource for graduate students and researchers in the food science, food microbiology, microbiology, and industrial biotechnology.

Methods for Dilution Antimicrobial Susceptibility Tests for Bacteria that Grow Aerobically - Mary Jane Ferraro 2003

Antibiotics in Laboratory Medicine - Daniel Amsterdam 2014-08-08

Antibiotics in Laboratory Medicine has been a mainstay resource for practitioners/providers, investigators, and pharmaceutical researchers of new anti-infective compounds for the past 30 years. This edition includes new chapters on the predictive value of in vitro laboratory testing and the improvement of patient care in the hospital environment through antimicrobial stewardship.

Antimicrobial Susceptibility Testing Protocols - Richard Schwalbe 2007-05-22

The clinical microbiology laboratory is often a sentinel for the detection of drug resistant strains of microorganisms. Standardized protocols require continual scrutiny to detect emerging phenotypic resistance patterns. The timely notification of clinicians with susceptibility results can initiate the alteration of antimicrobial chemotherapy and improve patient care. It is vital that microbiology laboratories stay current with standard and emerging methods and have a solid understanding of their function in the war on infectious diseases. Antimicrobial Susceptibility Testing Protocols clearly defines the role of the clinical microbiology laboratory in integrated patient care and provides a comprehensive, up-to-date procedural manual that can be used by a wide variety of laboratorians. The authors provide a comprehensive, up-to-date procedural manual including protocols for bioassay methods and molecular methods for bacterial strain typing. Divided into three sections, the text begins by introducing basic susceptibility disciplines including disk diffusion, macro and microbroth dilution, agar dilution, and the gradient method. It covers step-by-step protocols with an emphasis on optimizing the detection of resistant microorganisms. The second section describes specialized susceptibility protocols such as surveillance procedures for detection of antibiotic-resistant bacteria, serum bactericidal assays, time-kill curves, population analysis, and synergy testing. The final section is designed to be used as a reference resource. Chapters cover antibiotic development; design and use of an antibiogram; and the interactions of the clinical microbiology laboratory with the hospital pharmacy, and infectious disease and control. Unique in its scope, Antimicrobial Susceptibility Testing Protocols gives laboratory personnel an integrated resource for updated lab-based techniques and charts within the contextual role of clinical microbiology in modern medicine.

Antibiotic Pharmacodynamics - John C. Rotschafer 2016-03-23

This text offers state of the art contributions written by world renown experts which provide an extensive background on specific classes of antibiotics and summarize our understanding as to how these antibiotics might be optimally used in a clinical situation. The book explores pharmacodynamics methods for anti-infective agents, pharmacodynamics of antibacterial agents and non-antibacterial agents, as well as pharmacodynamic considerations and special populations. As part of the Methods in Pharmacology and Toxicology series, chapters include detailed insight and practical information for the lab. Comprehensive and cutting-edge, Antibiotic Pharmacodynamics serves as an ideal reference for scientists investigating advances in antibiotic pharmacodynamics now finding their way into the antibiotic development process used for licensing new antibiotics.

Antibacterial Agents - Ranjith Kumavath 2017-05-31

New drugs are frequently entering into the market along with the existing drugs. The antibacterial agents can be discussed in five major classes, i.e. classification based on the type of action, source, spectrum of activity, chemical structure and function. Resistance of bacteria to antibiotics is an urgent problem of the humanity, which leads us to the lack of therapy for serious bacterial infections. Development of new antibiotics has almost ceased in the last decades - even when a new antibiotic is launched, very soon the resistance of bacteria appears. Industrial textiles exposed as awnings, screens, tents; upholstery used in large public areas such as hospitals, hotels and stations; fabrics for transports; protective clothing and personal protective equipment; bed sheets and blankets; textiles left wet between processing steps; intimate apparel, underwear, socks and sportswear, disinfection of air and water for white rooms, hospitals and operating theatres, food and pharma industries, water depuration, drinkable water supplying and air conditioning systems. Many clinicians recommend alternative approaches to using antimicrobial substances. Moreover, the majority of bioagents demonstrate on antibiotics for treatment of a wide range of diseases in human sectors. However, the misuse and mishandling of drugs lead to microbial, particularly bacterial, resistance as well as result in the difficulty of treating microbial diseases. Hence, the proposed book will give more precise information on novel antibacterial compound(s).

Molecular Microbiology - David H. Persing

2020-07-24
Presenting the latest molecular diagnostic techniques in one comprehensive volume The molecular diagnostics landscape has changed dramatically since the last edition of Molecular Microbiology: Diagnostic Principles and Practice in 2011. With the spread of molecular testing and the development of new technologies and their opportunities, laboratory professionals and physicians more than ever need a resource to help them navigate this rapidly evolving field. Editors David Persing and Fred Tenover have brought together a team of experienced researchers and diagnosticians to update this third edition comprehensively, to present the latest developments in molecular diagnostics in the support of clinical care and of basic and clinical research, including next-generation sequencing and whole-genome analysis. These updates are provided in an easy-to-read format and supported by a broad range of practical advice, such as determining the appropriate type and quantity of a specimen, releasing and concentrating the targets, and eliminating inhibitors. Molecular Microbiology: Diagnostic Principles and Practice Presents the latest basic scientific theory underlying molecular diagnostics Offers tested and proven applications of molecular diagnostics for the diagnosis of infectious diseases, including point-of-care testing Illustrates and summarizes key concepts and techniques with detailed figures and tables Discusses emerging technologies, including the use of molecular typing methods for real-time tracking of infectious outbreaks and antibiotic resistance Advises on the latest quality control and quality assurance measures Explores the increasing opportunities and capabilities of information technology Molecular Microbiology: Diagnostic Principles and Practice is a textbook for molecular diagnostics courses that can also be used by anyone involved with diagnostic test selection and interpretation. It is also a useful reference for laboratories and as a continuing education resource for physicians.

Antimicrobial Food Packaging - Jorge Barros-Velazquez 2015-12-27
Antimicrobial Food Packaging takes an interdisciplinary approach to provide a complete and robust understanding of packaging from some of the most well-known international experts. This practical reference provides basic information and practical applications for the potential uses of various films in food packaging, describes the different types of microbial targets (fungal, bacteria, etc.), and focuses on the applicability of techniques to industry. Tactics on the monitoring of microbial activity that use antimicrobial packaging detection of food borne pathogens, the use of biosensors, and testing antimicrobial susceptibility are also included, along with food safety and good manufacturing practices. The book aims to curtail the development of microbiological contamination of food through anti-microbial packaging to improve the safety in the food supply chain. Presents the science behind anti-microbial packaging and films reflecting advancements in chemistry, microbiology, and food science Includes the most up-to-date information on regulatory aspects, consumer acceptance, research trends, cost analysis, risk analysis and quality control Discusses the uses of natural and unnatural compounds for food safety and defense

Performance Standards for Antimicrobial Susceptibility Testing - CDC. 2017
"This document provides updated tables for the Clinical and Laboratory Standards Institute antimicrobial susceptibility testing standards M02-A12, M07-A10, and M11-A8"--Cover.

Bailey & Scott's Diagnostic Microbiology - E-Book - Patricia Tille 2013-08-13
Known as the #1 bench reference for practicing microbiologists and an excellent text for students in clinical laboratory science programs, Bailey & Scott’s Diagnostic Microbiology, 13th Edition helps you develop and refine the skills you need for effective laboratory testing. In-depth information is useful and easily accessible, with step-by-step instructions for all the procedures. This edition features more than 20 NEW chapters plus updated material on the newest advances and the latest trends in clinical microbiology. Written by expert Dr. Patricia Tille, this classic reference addresses the topics and issues most relevant to you and your success on the job. Hands-on procedures include step-by-step instructions, full-color photos, and expected results, helping you achieve more accurate results. Case studies give you the opportunity to apply your skills in a variety of diagnostic

scenarios and help improve your decision-making and critical thinking skills. Genera and Species to be Considered boxes highlight all of the organisms to be discussed in each chapter, including the current name of the species as well as any previous names. Student resources on Evolve enhance your learning with review questions and procedures. Convenient, easy-to-read tables summarize key information. Detailed, full-color illustrations aid comprehension and help you visualize concepts. A glossary of terms is found at the back of the book for quick reference. NEW! Learning objectives begin each chapter, giving you a measurable outcome to achieve by the completing the material. NEW! Review questions on the Evolve companion website are tied to learning objectives, and enhance your understanding and retention of chapter content. NEW! Reader-friendly chapters cover groups of related organisms rather than addressing all at once, including the parasitology, mycology, and virology chapters.

Antimicrobial Pharmacodynamics in Theory and Clinical Practice - Nightingale 2001-09-25

This up-to-the-minute reference explores the pharmacodynamics of antimicrobials as well as the absorption, distribution, metabolism, and elimination of the major classes of antimicrobials-covering new agents such as ketolide antibiotics and highlighting the pharmacodynamic relationship between drug concentration and antimicrobial activity, as well as the relationship of pharmacodynamics to bacterial resistance. Contains specific examples and practical applications for the design of effective dosing regimens! Written by recognized experts in the field, Antimicrobial Pharmacodynamics in Theory and Clinical Practice describes the pharmacodynamic properties of all major classes of antibiotics parameters for microbiological activity of antimicrobial agents such as minimal inhibitory concentration (MIC) and minimal bactericidal concentration (MBC) serum/tissue protein binding and penetration rates differences between in vivo and in vitro postantibiotic effects (PAE) and more! With nearly 1000 references, tables, drawings, and illustrations, Antimicrobial Pharmacodynamics in Theory and Clinical Practice is a state-of-the-art reference for infectious disease specialists, pulmonologists, pharmacists, pharmacologists, microbiologists, biological chemists, epidemiologists, internists, and students in these disciplines.

Antimicrobial Resistance and Food Safety - Chin-Yi Chen 2015-04-15

Antimicrobial Resistance and Food Safety: Methods and Techniques introduces antimicrobial resistant food-borne pathogens, their surveillance and epidemiology, emerging resistance and resistant pathogens. This analysis is followed by a systematic presentation of currently applied methodology and technology, including advanced technologies for detection, intervention, and information technologies. This reference can be used as a practical guide for scientists, food engineers, and regulatory personnel as well as students in food safety, food microbiology, or food science. Includes analysis of all major pathogens of concern Provides many case studies and examples of fundamental research findings Presents recent advances in methodologies and analytical software Demonstrates risk assessment using information technologies in foodborne pathogens

Engineering Microbes for Therapy - Aleš Berlec 2019-05-30

Microbes can play protective role in human health, and the concepts of probiotics and microbiota have been well established in recent years. Probiotics have an important economic impact in food, food supplement and veterinary industry with increasing market size. Engineering microbes for therapy can lead to selection of new microbial strains and mixtures, or targeted improvement of existing microbial strains, achieved by mutagenesis, genetic engineering and synthetic biology. Engineering of microbes can also encompass the development and improvement of their dosage forms. Possible uses of engineered microbes include antigen delivery, immunomodulation, inflammation, cancer, infectious diseases and metabolic disorders. The eBook represents an up-to-date overview, shows new results, as well as demonstrates future trends in the developing field of therapeutic microbial engineering.

Nanostructures for Antimicrobial Therapy - Anton Ficai 2017-05-29

Nanostructures for Antimicrobial Therapy

discusses the pros and cons of the use of nanostructured materials in the prevention and eradication of infections, highlighting the efficient microbicidal effect of nanoparticles against antibiotic-resistant pathogens and biofilms. Conventional antibiotics are becoming ineffective towards microorganisms due to their widespread and often inappropriate use. As a result, the development of antibiotic resistance in microorganisms is increasingly being reported. New approaches are needed to confront the rising issues related to infectious diseases. The merging of biomaterials, such as chitosan, carrageenan, gelatin, poly (lactic-co-glycolic acid) with nanotechnology provides a promising platform for antimicrobial therapy as it provides a controlled way to target cells and induce the desired response without the adverse effects common to many traditional treatments. Nanoparticles represent one of the most promising therapeutic treatments to the problem caused by infectious micro-organisms resistant to traditional therapies. This volume discusses this promise in detail, and also discusses what challenges the greater use of nanoparticles might pose to medical professionals. The unique physiochemical properties of nanoparticles, combined with their growth inhibitory capacity against microbes has led to the upsurge in the research on nanoparticles as antimicrobials. The importance of bactericidal nanobiomaterials study will likely increase as development of resistant strains of bacteria against most potent antibiotics continues. Shows how nanoantibiotics can be used to more effectively treat disease Discusses the advantages and issues of a variety of different nanoantibiotics, enabling medics to select which best meets their needs Provides a cogent summary of recent developments in this field, allowing readers to quickly familiarize themselves with this topic area

M07-ED 11 METHODS FOR DILUTION ANTIMICROBIAL SUSCEPTIBILITY TESTS FOR BACTERIA THAT GROW... - MELVIN P. WEINSTEIN 2018

Updates on Brucellosis - Manal Mohammad Baddour 2015-11-19

Brucellosis is a major zoonotic disease that may cause a serious illness in humans and animals. Global prevalence of human brucellosis remains significant. More than half a million new brucellosis cases from 100 countries are reported annually to the World Health Organization (WHO). The majority of these cases are reported in developing countries.In humans, brucellosis (undulant fever, Malta fever) is characterized by an acute bacteremic phase followed by a chronic stage that may extend over many years and may involve many tissues. It is a systemic disease, and many organ systems (nervous system, heart, skeletal system, bone marrow, etc.) may become involved following hematogenous dissemination. Although eradicated in some countries, it remains one of the most economically important zoonosis worldwide as it is responsible for huge economic losses as well as significant human morbidity in endemic areas. Because of the nonspecific clinical manifestations of human brucellosis and the need for prolonged combination therapy with antibiotics that are not routinely prescribed for other infectious diseases, laboratory confirmation of the diagnosis is of paramount importance for adequate patient management. In addition, evidence of brucellosis has serious public health implications because it discloses exposure to a contaminated source (infected animals or their products, unsafe laboratory practices, or a potential biological warfare attack). This book addresses human brucellosis with stress on symptoms including those related to the less recognized disease localizations, risk of exposure, treatment, and prevention. Light is shed on animal brucellosis as it pertains to human exposure. The book also emphasizes on laboratory procedures in culturing and serologic techniques. Epidemiologic surveillance is among this books subjects as well as veterinary control measures.

Collection of Diagnostic Capillary Blood Specimens - 2008

M100: Performance Standards for Antimicrobial Susceptability Testing - Clsi 2021-04

Urinary Tract Infection - Tomas Jarzembowski 2018-06-27

Urinary tract infection (UTI) is a problem so common and so significant in routine clinical practice that accurate diagnostics are especially

important. In particular, complicated UTI is associated with an increased rate of therapy failures, as a result of possible biofilm formation on foreign elements and antibiotic resistance, as well as the increased possibility of an infection recurrence. These are the arguments for the constant search for novel diagnostic tools and techniques. These and many other vital topics regarding UTI complications, management, and treatment, in addition to antibiotic resistance and bacterial virulence traits allowing us to mitigate or avoid antibiotic action, are presented in this book.

Antimicrobial Drug Resistance - Douglas Mayers 2009-07-14

This ? rst edition of Antimicrobial Drug Resistance grew out of a desire by the editors and authors to have a comprehensive resource of information on antimicrobial drug resistance that encompassed the current information available for bacteria, fungi, protozoa and viruses. We believe that this information will be of value to clinicians, epidemiologists, microbiologists, virologists, parasitologists, public health authorities, medical students and fellows in training. We have endeavored to provide this information in a style which would be accessible to the broad community of persons who are concerned with the impact of drug resistance in our cl- ics and across the broader global communities. Antimicrobial Drug Resistance is divided into Volume 1 which has sections covering a general overview of drug resistance and mechanisms of drug resistance ? rst for classes of drugs and then by individual microbial agents including bacteria, fungi, protozoa and viruses. Volume 2 addresses clinical, epidemiologic and public health aspects of drug resistance along with an overview of the conduct and interpretation of speci? c drug resistance assays. Together, these two volumes offer a comprehensive source of information on drug resistance issues by the experts in each topic.

Mycoplasmas in Swine - Dominiek Maes 2021-03-12

Swine can be infected with many different mycoplasmas. Some are important pathogens, causing significant health and welfare issues in pigs and major losses to the swine industry worldwide. Other mycoplasmas are not pathogenic for swine and can be considered commensals. This book provides up-to-date scientific, clinical and practical information of the most important pathogenic mycoplasmas in swine. Most emphasis has been placed on Mycoplasma hyopneumoniae as the most economically important, but other pathogenic species like Mycoplasma hyorhinis, Mycoplasma hyosynoviae and Mycoplasma suis are also discussed. Written by internationally renowned scientists and clinicians from all over the world, this book draws together in depth knowledge, expertise and experience in swine mycoplasmas to provide an evidence-based, academically rigorous and practical collection. It aims to serve the scientific and veterinary community and the swine industry worldwide.

Koneman's Color Atlas and Textbook of Diagnostic Microbiology - Gary W. Procop 2020-07-01

Now in striking full color, this Seventh Edition of Koneman’s gold standard text presents all the principles and practices readers need for a solid grounding in all aspects of clinical microbiology—bacteriology, mycology, parasitology, and virology. Comprehensive, easy-to-understand, and filled with high quality images, the book covers cell and structure identification in more depth than any other book available. This fully updated Seventh Edition is enhanced by new pedagogy, new clinical scenarios, new photos and illustrations, and all-new instructor and student resources.

Vibrionaceae Diversity, Multidrug Resistant and Management - Learn-Han Lee 2018-05-10

Vibrio are Gram-negative bacteria that naturally inhabit riverine, estuarine and marine aquatic environments. Some Vibrio are known to be capable of causing gastroenteritis, wound infections, cholera and fatal septicemia in severe cases. Over the past decades, research on Vibrio has increased and has caused a great development in our knowledge of these pathogens. Focus of this research includes the discovery of emerging epidemic clones, the traits of new strains, and the occurrence of multidrug resistant strains in the ecology. Moreover, improved understandings of the prevalence, pathogenesis and evolution of Vibrio have revealed the significant role of these pathogens in enhancing disease transmission.

The complete genomic sequences of Vibrio have been determined in providing a rich set of data illuminating the metabolic versatility of the species. This book is dedicated to improving our knowledge and understanding, not solely focusing into the prevalence, detection, pathogenesis, virulence, pandemic clones and multidrug resistance, but also looking at the management of the multidrug resistance through different strategies such as non-antibiotic resistant strategies that involved the application of knowledge in bacteriophages.

Advanced Techniques in Diagnostic Microbiology - Yi-Wei Tang 2018-11-09

In recent years, advanced molecular techniques in diagnostic microbiology have been revolutionizing the practice of clinical microbiology in the hospital setting. Molecular diagnostic testing in general and nucleic acid-based amplification methods in particular have been heralded as diagnostic tools for the new millennium. This third edition covers not only the most recent updates and advances, but details newly invented omic techniques, such as next generation sequencing. It is divided into two distinct volumes, with Volume 1 describing the techniques, and Volume 2 addressing their applications in the field. In addition, both volumes focus more so on the clinical relevance of the test results generated by these techniques than previous editions.

Antimicrobial Resistance in Bacteria from Livestock and Companion Animals - Stefan Schwarz 2020-07-02

The global spread of antimicrobial-resistant pathogenic bacteria is a continuing challenge to the health care of humans and domesticated animals. With no new agents on the horizon, it is imperative to use antimicrobial agents wisely to preserve their future efficacy. Led by Editors Stefan Schwarz, Lina Maria Cavaco, and Jianzhong Shen with Frank Møller Aarestrup, an international team of experts in antimicrobial resistance of livestock and companion animals has created this valuable reference for veterinary students and practitioners as well as researchers and decision makers interested in understanding and preventing antimicrobial resistance.

The Global Challenge Posed by the Multiresistant International Clones of Bacterial Pathogens - Miklos Fuzi 2017-07-20

Multiresistant bacterial pathogens pose a serious problem worldwide making the appropriate treatment of patients with healthcare-associated infections a challenge. The spread of antibiotic resistance is either mediated by mobile genetic elements (MGEs) or the dissemination of genetically-related groups of pathogens, “high-risk clonal complexes”. Interestingly most multiresistant healthcare-associated bacteria command just a few dominant international clonal complexes causing infections in various geographical areas. It is of utmost importance to identify the determinants associated with and promoting the spread of antibiotic resistance and the dissemination of these multiresistant pathogens. The Topic comprises mostly of population and epidemiological studies investigating antibiotic resistance mechanisms, MGEs and the impact of antibiotic resistance, and the production of virulence factors on the clonal dynamics of a diverse range of bacterial species. Though, the exploration of the mechanisms governing clonal dynamics and the dissemination of antibiotic resistance will remain a salient issue for a considerable time to come we believe that the papers published in the Topic have usefully contributed to the better understanding of some of the processes involved and supplement papers investigating the “non-bacterial” constituents of clonal mobility, like proper medical practice and compliance with hygienic standards.

Clinical Microbiology Procedures Handbook - 2020-08-06

In response to the ever-changing needs and responsibilities of the clinical microbiology field, Clinical Microbiology Procedures Handbook, Fourth Edition has been extensively reviewed and updated to present the most prominent procedures in use today. The Clinical Microbiology Procedures Handbook provides step-by-step protocols and descriptions that allow clinical microbiologists and laboratory staff personnel to confidently and accurately perform all analyses, including appropriate quality control recommendations, from the receipt of the specimen through processing, testing, interpretation, presentation of the final report, and subsequent consultation.

Global Antimicrobial Resistance Surveillance

System - World Health Organization 2015-12-15
The Global Antimicrobial Resistance Surveillance System (GLASS) is being developed to support the Global Action Plan on Antimicrobial Resistance and should be coordinated within the national action plans of countries. The goal of GLASS is to enable standardized, comparable and validated data on AMR to be collected, analysed and shared with countries, in order to inform decision-making, drive local, national and regional action and provide the evidence base for action and advocacy. GLASS combines patient, laboratory and epidemiological surveillance data to enhance understanding of the extent and impact of AMR on populations. In view of the challenges of collecting all these data, countries should consider gradual implementation of the surveillance standards proposed in this manual on the basis of their priorities and resources. This manual focuses on early implementation of GLASS, comprising surveillance of resistance in common human bacterial pathogens. The intended readership of this publication is national public health professionals and national health authorities responsible for surveillance of antibacterial resistance in humans. This manual describes the GLASS standards and a road map for evolution of the system between 2015 and 2019. Further development of GLASS will be based on the lessons learned during this period.

Antimicrobial Resistance in Developing Countries - Aníbal de J. Sosa 2009-10-08
Avoiding infection has always been expensive. Some human populations escaped tropical infections by migrating into cold climates but then had to procure fuel, warm clothing, durable housing, and crops from a short growing season. Waterborne infections were averted by owning your own well or supporting a community reservoir. Everyone got vaccines in rich countries, while people in others got them later if at all. Antimicrobial agents seemed at first to be an exception. They did not need to be delivered through a cold chain and to everyone, as vaccines did. They had to be given only to infected patients and often then as relatively cheap injectables or pills off a shelf for only a few days to get astonishing cures. Antimicrobials not only were better than most other innovations but also reached more of the world's people sooner. The problem appeared later. After each new antimicrobial became widely used, genes expressing resistance to it began to emerge and spread through bacterial populations. Patients infected with bacteria expressing such resistance genes then failed treatment and remained infected or died. Growing resistance to antimicrobial agents began to take away more and more of the cures that the agents had brought.

Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases E-Book - John E. Bennett 2014-09-02
After thirty five years, Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases, 8th Edition is still the reference of choice for comprehensive, global guidance on diagnosing and treating the most challenging infectious diseases. Drs. John E. Bennett and Raphael Dolin along with new editorial team member Dr. Martin Blaser have meticulously updated this latest edition to save you time and to ensure you have the latest clinical and scientific knowledge at your fingertips. With new chapters, expanded and updated coverage, increased worldwide perspectives, and many new contributors, Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases, 8th Edition helps you identify and treat whatever infectious disease you see. Get the answers to any questions you have with more in-depth coverage of epidemiology, etiology, pathology, microbiology, immunology, and treatment of infectious agents than you'll find in any other ID resource. Apply the latest knowledge with updated diagnoses and treatments for currently recognized and newly emerging infectious diseases, such as those caused by avian and swine influenza viruses. Put the latest knowledge to work in your practice with new or completely revised chapters on Influenza (new pandemic strains); New Middle East Respiratory Syndrome (MERS) Virus; Probiotics; Antibiotics for resistant bacteria; Antifungal drugs; New Antivirals for hepatitis B and C; Clostridium difficile treatment; Sepsis; Advances in HIV prevention and treatment; Viral gastroenteritis; Lyme Disease; Helicobacter pylori; Malaria; Infections in immunocompromised hosts; Immunization (new vaccines and new recommendations); and

Microbiome. Benefit from fresh perspectives and expanded global insights from an expanded team of American and International contributors. Martin Blaser, MD, a leading expert and Muriel G. and George W. Singer Professional of Translational Medicine at New York University School of Medicine, joins veteran PPID editors John E. Bennett, MD, and Raphael Dolin, MD to continue a legacy of excellence. Find and grasp the information you need easily and rapidly with newly added chapter summaries.

Linne & Ringsrud's Clinical Laboratory Science E-Book - Mary Louise Turgeon 2018-12-22

Thoroughly updated and easy-to-follow, Linne & Ringsrud's Clinical Laboratory Science: Concepts, Procedures, and Clinical Applications, 8th Edition offers a fundamental overview of the laboratory skills and techniques you'll need for success in the clinical laboratory. Author Mary Louise Turgeon's simple and straightforward writing clarifies complex concepts, and her unique discipline-by-discipline approach helps you build knowledge and learn to confidently perform routine clinical laboratory tests with accurate, effective results. Topics like safety, measurement techniques, and quality assessment are woven throughout the various skills. The new eighth edition also features updated content including expanded information on viruses and automation. It's the must-have foundation for anyone wanting to pursue a profession in the clinical lab. Broad content scope provides an ideal introduction to clinical laboratory science at a variety of levels, including CLS/MT, CLT/MLT, and Medical Assisting. Case studies include critical thinking and multiple-choice questions to challenge readers to apply the content to real-life scenarios. Expert insight from respected educator Mary Lou Turgeon reflects the full spectrum of clinical lab science. Detailed procedures guides readers through the exact steps performed in the lab. Vivid full-color illustrations familiarize readers with what they'll see under the microscope. Review questions at the end of each chapter help readers assess your understanding and identify areas requiring additional study. Evolve companion website provides convenient online access to all of the procedures in the text and houses animations, flashcards, and additional review questions not found in the printed text. Procedure worksheets can be used in the lab and for assignment as homework. Streamlined approach makes must-know concepts and practices more accessible. Convenient glossary simplifies the process of looking up definitions without having to search through each chapter. NEW! Updated content throughout keeps pace with constant changes in clinical lab science. NEW! Consistent review question format ensures consistency and enables readers to study more efficiently. NEW! More discussion of automation familiarizes readers with the latest automation technologies and processes increasingly used in the clinical lab to increase productivity and elevate experimental data quality. NEW! Additional information on viruses keeps readers up to date on this critical area of clinical lab science.

Guide to Antimicrobial Use in Animals - Luca Guardabassi 2009-01-22

The first book to offer practical guidelines on the prudent andrational use of antimicrobials in animals. Drawing onmultidisciplinary expertise to offer independent scientific adviceon a controversial area that is crucial to both human health andanimal welfare. The earlier general chapters cover issues such ashuman health risks and the problems of resistance to antimicrobialdrugs. The later specific chapters are dedicated to particulargroups of animals. Has an emphasis on preserving the efficacy of antimicrobialdrugs that are clinically important in human medicine Covers both companion animals and food animals, includingaquaculture Suitable for veterinary practitioners working in small andlarge animal medicine, aquaculture and animal production, as wellas veterinary students, academics and researchers. It will also beof interest to those more generally involved in veterinary publichealth and antimicrobial resistance.