Cepheid Genexpert Dx System Operator Manual

This high-yield reference book focuses on the clinical, technical, and pathological aspects of endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA). Its reviews cover all aspects of EBUS-TBNA, including the clinical perspective, technical aspects of the procedure, and cytomorphology of common and uncommon entities, as well as highlights diagnostic challenges. Each chapter features a multitude of full-color high-resolution images and includes key references to the current literature in the field. Additionally, reference tables and informative figures highlight the salient points. The book is unique in that it is written by experienced thoracic surgeons, pulmonary medicine physicians, and cytopathologists who use EBUS-TBNA in a large medical center. This publication is of interest to individuals learning and practicing cytopathology, in addition to clinicians practicing pulmonary/thoracic medicine or surgery. In short, it provides important pearls of wisdom to create a comprehensive reference for all physicians involved with EBUS-TBNA.

Light-emitting diodes (LED) have been developed to offer the benefits of fluorescence microscopy without the associated costs. In 2009, the evidence for the efficacy of LED microscopy was assessed by the World Health Organization, on the basis of standards appropriate for evaluating both the accuracy and the effect of new TB diagnostics on patients and public health. The results showed that the accuracy of LED microscopy was equivalent to that of international reference standards, it was more sensitive than conventional Ziehl-Neelsen microscopy and it had qualitative, operational and cost advantages over both conventional fluorescence and Ziehl-Neelsen microscopy. On the basis of these findings, WHO recommends that conventional fluorescence microscopy be replaced by LED microscopy, and that LED microscopy be phased in as an alternative for conventional Ziehl-Neelsen light microscopy.

This book is the first comprehensive text on utilization management in the clinical laboratory and other ancillary services. It provides a detailed overview on how to establish a successful utilization management program, focusing on such issues as leadership, governance, informatics, and application of utilization management tools. The volume also describes ways to establish utilization management programs for multiple specialties, including anatomic pathology and cytology, hematology, radiology, clinical chemistry, and genetic testing among other specialties. Numerous examples of specific utilization management initiatives are also described that can be imported to other heath care organizations. A chapter on utilization management in Canada is also included. Edited by an established national leader in utilization management, Utilization Management in the Clinical Laboratory and Other Ancillary Services is a valuable resource for physicians, pathologists, laboratory directors, hospital administrators, and medical insurance professionals looking to implement a utilization management program.

Sexually transmitted infections (STI) continue to be a major cause of morbidity and mortality, both in developed industrial countries as well as in the developing world. Human immunodeficiency virus infections and the ensuing opportunistic infections are a major drain on the human and financial resources of many countries in the developing world and even with the availability of effective treatment the epidemic is not yet contained. Screening in developing worlds is difficult and there is a need for simple reliable cheap diagnostic methods that can be performed at the point of care, on the same day and by staff with limited training. Molecular biological methods are very attractive for the diagnosis of STI since a well defined range of pathogens is responsible for the infection. Diagnosis of Sexually Transmitted Diseases: Methods and Protocols strives to cover the full range of molecular testing for STI. Chapters cover a variety of topics such as aspects of DNA extraction from small volume samples or difficult tissues, simple, nested or multiplex PCR, use of duplex primers or other modifications of primers and PCR conditions, sequence analysis for genotyping, denaturing gel analysis, microarrays using liquid beads or microspheres and silicon nanoparticle-enhanced microcantilever detection of DNA. Written in the successful Methods in Molecular BiologyTM series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible protocols, and notes on troubleshooting and avoiding known pitfalls. Authoritative and easily accessible, Diagnosis of Sexually Transmitted Diseases: Methods and Protocols will be a valuable reference for the scientist looking to establish molecular methodologies for the diagnosis of STI tests in their own lab.

This global tuberculosis report is the first to be produced in the era of the SDGs and the End TB Strategy. It provides an assessment of the TB epidemic and progress in TB diagnosis, treatment and prevention efforts, as well as an overview of TB-specific financing and research. It also discusses the broader agenda of universal health coverage, social protection and other SDGs that have an impact on health. Data were available for 202 countries and territories that account for over 99% of the world's population and TB cases.

The emergence of extensively drug-resistant strains of tuberculosis, especially in countries with a high prevalence of human immunodeficiency virus, is a serious threat to global public health and jeopardizes efforts to effectively control the disease. This publication offers updated recommendations for the diagnosis and management of drug-resistant tuberculosis in a variety of geographical, economic and social settings, and the recording of data that enables the monitoring and evaluation of programs.--Publisher's description.

This comprehensive, well-illustrated, and easily accessible book documents the latest research outcomes concerning sexually transmitted infections (STIs) and describes important advances in their prevention, diagnosis and treatment. The changes in the epidemiology and clinical aspects of STIs that have occurred over the past decade are fully explored, with special attention to core groups and patients with immunological disorders. The emerging challenges associated with particular sexually transmitted pathogens, including C. trachomatis, N. gonorrhoeae, HPV, and HIV, are identified and discussed. Readers will find detailed information on modern preventive strategies, new laboratory and diagnostic techniques, and a range of innovative treatments, including vaccines, continuous antiretroviral therapy, and new drugs against hepatitis viruses. Attention is also drawn to new directions in biomedical research that promise clinical benefits for the patients and communities. The combination of a detailed clinical and research approach, with emphasis on new knowledge and innovative aspects, ensures that the book will be of value to a wide readership comprising both clinicians and researchers.

Point-of-care testing (POCT) refers to pathology testing performed in a clinical setting at the time of patient consultation, generating a rapid test result that enables informed and timely clinical action to be taken on patient care. It offers patients greater convenience and access to health services and helps to improve clinical outcomes. POCT also provides innovative solutions for the detection and management of chronic, acute and infectious diseases, in settings including family practices, Indigenous medical services, community health facilities, rural and remote areas and in developing countries, where health-care services are often geographically isolated from the nearest pathology laboratory. A Practical Guide to Global Point-of-Care Testing shows

health professionals how to set up and manage POCT services under a quality-assured, sustainable, clinically and culturally effective framework, as well as understand the wide global scope and clinical applications of POCT. The book is divided into three major themes: the management of POCT services, a global perspective on the clinical use of POCT, and POCT for specific clinical settings. Chapters within each theme are written by experts and explore wide-ranging topics such as selecting and evaluating devices, POCT for diabetes, coagulation disorders, HIV, malaria and Ebola, and the use of POCT for disaster management and in extreme environments. Figures are included throughout to illustrate the concepts, principles and practice of POCT. Written for a broad range of practicing health professionals from the fields of medical science, health science, nursing, medicine, paramedic science, Indigenous health, public health, pharmacy, aged care and sports medicine, A Practical Guide to Global Point-of-Care Testing will also benefit university students studying these health-related disciplines.

Notable practitioners describe how laboratory medicine is practiced today and illuminate how it will function tomorrow as the revolutionary advances afforded by molecular diagnostics become increasingly central to effective analysis. Proceeding from a discussion of elementary nucleic acid technology to a review of the more advanced techniques, the distinguished contributors lay the groundwork for a comprehensive understanding of their applications throughout clinical medicine. The result is a detailed description of those molecular technologies currently used in diagnostic laboratories, as well as those that seem particularly promising. Detailed discussions of specific clinical applications include those for cancer, hematological malignancies, cardiovascular disease, and neuromuscular, endocrine, and infectious diseases.

WHO's Global Tuberculosis Report provides a comprehensive and up-to-date assessment of the TB epidemic and of progress in care and prevention at global, regional and country levels. This is done in the context of recommended global TB strategies and associated targets, and broader development goals. For the period 2016-2035, these are WHO's End TB Strategy and the United Nations' (UN) Sustainable Development Goals (SDGs), which share a common aim: to end the global TB epidemic. The main data sources for the report are annual rounds of global TB data collection implemented by WHO's Global TB Program since 1995 and databases maintained by other WHO departments, UNAIDS and the World Bank. In WHO's 2017 round of global TB data collection, 201 countries and territories that account for over 99% of the world's population and TB cases reported data.

Clinical Microbiology Procedures HandbookAmerican Society for Microbiology Press

The Gold Standard for medical microbiology, diagnostic microbiology, clinical microbiology, infectious diseases due to bacteria, viruses, fungi, parasites; laboratory and diagnostic techniques, sampling and testing, new diagnostic techniques and tools, molecular biology; antibiotics/ antivirals/ antifungals, drug resistance; individual organisms (bacteria, viruses, fungi, parasites).

This is the nineteenth global report on tuberculosis (TB) published by WHO in a series that started in 1997. It provides a comprehensive and up-to-date assessment of the TB epidemic and progress in implementing and financing TB prevention care and control at global regional and country levels using data reported by over 200 countries that account for over 99% of the world's TB cases. The report is accompanied by a special supplement that marks the 20th anniversary of the establishment of the Global Project on Anti-TB Drug Resistance Surveillance. The supplement highlights the latest status of knowledge about the epidemic of multidrug-resistant TB (MDR-TB) and the programmatic response. The report has 9 main chapters. The introductory chapter provides general background on TB as well as an explanation of current global targets for TB control the WHO's Stop TB Strategy that covers the period 2006-2015 and the post-2015 global TB strategy that was recently endorsed by all Member States at the 2014 World Health Assembly. The remaining eight chapters cover the disease burden caused by TB (incidence prevalence mortality); a special assessment (countdown to 2015) of progress towards 2015 global TB targets at global regional and country level; TB case notifications and treatment outcomes; drug resistance surveillance among TB patients and the programmatic response in detecting and providing treatment for multidrug-resistant TB; diagnostics and laboratory strengthening for TB; addressing the co-epidemics of TB and HIV; financing TB care and control; and research and development for new TB diagnostics drugs and vaccines. The three annexes of the report include an explanation of how to access and use the online global TB database one-page profiles for 22 high TB-burden countries and one page regional profiles for WHO's six regions.

Meningitis and Encephalitis are associated with high rates of mortality and neurological sequelae. The differential diagnosis includes a wide spectrum of infectious and non-infectious etiologies, some requiring urgent therapy for survival. The current management challenges in patients with meningitis and encephalitis include a low sensitivity of meningeal signs, overutilization of unnecessary screening cranial imaging, delays in diagnosis of urgent treatable causes, a large proportion of unknown etiologies, low sensitivity of current microbiological techniques especially in the setting of previous antibiotic therapy, underutilization of available molecular diagnostic tests, and empiric antibiotic therapy and hospitalization for viral meningitis cases. Even though there are published guidelines, compliance with them is not optimal and physicians do not follow standardized algorithms in their empirical approach. As meningitis and encephalitis is associated with high rates of adverse clinical outcomes, prevention, when feasible is of upmost importance. Adherence to protocols to prevent health-care associated meningitis and ventriculitis are effective but compliance with them is not uniformly performed. This book seeks to improve outcomes for meningitis and encephalitis cases handled by physicians who may or may not be thoroughly trained for these challenges. The text introduces the current guidelines but also discusses the gaps that leave clinicians struggling to implement the most appropriate approaches for these particular neurological infections. Each chapter delivers the tools necessary to identify and adhere to the most appropriate diagnostic technique, management protocols, and prevention approach for each situation. All chapters conclude with discourse on future directions in research and quality improvement. Written by experts in infectious diseases, the book covers topics that are the most devastating, including healthcare-acquired infections, autoimmune encephalitis, and infections as they present in HIV patients. Meningitis and Encephalitis is a well-rounded resource for all medical professionals encountering these neurological syndromes, including infectious disease specialists, neurologists, primary care physicians, and immunologists.

Pneumonia is an inflammatory disease of the air sacs and surrounding interstitium caused by infectious agents or by endogenous inflammatory tissue disorder termed interstitial pneumonia. The present book covers contemporary topics of community, hospital, and health care-related bacterial and viral pneumonia in the setting of drug resistance, environmental exposures, climate change, hormonal influences, and gender. The topic of interstitial pneumonia is brought under the lens of an immune-related connective tissue disease.

This book provides a comprehensive overview of the recent trends in various Nanotechnology-based therapeutics and challenges associated with its development. Nanobiotechnology is an interdisciplinary research that has wide applications in the various fields of biomedical research. The book discusses the various facets of the application of Nanotechnology in drug delivery, clinical diagnostics, Nanomedicine and treatment of infectious and chronic diseases. The book also highlights the recent advancements on important devices and applications that are based on Nanotechnology in medicine and brief the regulatory and ethical issues related to nanomedical devices. It also reviews the toxicological profile of various nanomaterials and emphasizes the need for safe nanomaterials for clinical use. Finally, the book discusses the recent developments of potential commercial applications of Nanotechnology.

This book brings awareness to a neglected condition that is nevertheless prevalent world-wide. Much focus is justly given to pulmonary tuberculosis, one of the key medical scourges of humanity, but this disease also often manifests itself in organs outside of the lungs. There is however a surprising lack of information available on extrapulmonary TB, which this book aims to remedy. Specifically, research, as well as epidemiology, diagnosis, and treatment options, are discussed in detail by an international list of experts. This comprehensive product serves as a valuable resource to numerous fields of medicine due to the presence of extrapulmonary tuberculosis throughout the human body.

The aim of DNA Analysis by Nonradioactive Probes is to provide a firm background on the basic preparative protocols required for the analysis of nucleic acids by non-radioactive methods, as well as presenting the amazing new applications these methodologies are used on. This volume offers guide chapters on nucleic acid extractions, preparation of nucleic acid blots and labeling of nucleic acids with non-radioactive haptens.

An introduction to the use of DNA microarrays in functional genomics.

A collaborative effort of 150+ clinical microbiologists, medical laboratory technologists, and laboratory supervisors. • Provides step-by-step protocols and descriptions to enable clinical microbiologists and laboratory staff personnel to 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. • Emphasizes areas such as molecular approaches, bioterrorism, safety, and epidemiology/infection control in medical facilities. • Includes procedures that are formatted to adhere to the GP02-5A (2006) document of the National Committee for Clinical Laboratory Standards/Clinical and Laboratory Standards Institute (NCCLS/CLSI).

The sacred allure of the Holy Grail has fascinated writers and ensnared knights for over a thousand years. From Malory to Monty Python, the eternal chalice--said to be the very cup from which Christ drank at the Last Supper--has the richest associations of any icon in British myth. Many different meanings have been devised for the Grail, which has been linked to the Celts and King Arthur, the eucharistic rites of Eastern Christianity, ancient mystery religions, Jungian archetypes, dualist heresies, Templar treasure and even the alleged descendants of Christ himself and Mary Magdalene. The common thread running through all these stories is the assumption that the Grail legend has a single source with a meaning that--if only we could decode it--is concealed in the romances themselves. That meaning has become the subject of coded, secret documents and is the central feature of a vast conspiracy supposedly stretching back to the dawn of western civilization. Juliette Wood here reveals the elusive and embedded significance of the Grail story in popular consciousness--as myth, medieval romance, tangible holy relic and finally as the centre of an esoteric theory of global conspiracy. The author shows how various interpretations of the Grail, over the centuries, reflect changing cultural needs and desires. Her book will enthral those who, like Sir Perceval, seek to unlock the mysterious secrets of western mythology's most extraordinary and tantalising enigma, and will delight students of history, myth and religion alike.

A comprehensive, best practices resource for public health and healthcare practitioners and students interested in humanitarian emergencies.

This manual was developed from the Expert Group meeting. The recommendations are based on assessments of the risks associated with different technical procedures performed in different types of TB laboratories; the manual describes the basic requirements for facilities and practices, which can be adapted to follow local or national regulations or as the result of a risk assessment. Risk assessments require careful judgement: on the one hand, underestimating risks may lead to laboratory staff being exposed to biological hazards but, on the other hand, implementing more rigorous risk mitigation measures than are needed may result in an unnecessary burden on laboratory staff and higher costs to establish and maintain the laboratory's infrastructure.

The inappropriate use of antibiotics is a primary cause of the ongoing increase in drug resistance among pathogenic bacteria. The resulting decrease in the efficacy of antibiotics threatens our ability to combat infectious diseases. Rapid, point-of-care tests to identify pathogens and better target the appropriate treatment could greatly improve the use of antibiotics. Yet there are few such tests currently available or being developed despite the rapid pace of medical innovation. Clearly something is inhibiting the much-needed development of new and more convenient diagnostic tools. This study delineates priorities for developing diagnostics to improve antibiotic prescription and use with the goal of managing and curbing the expansion of drug resistance. It calls for new approaches, particularly in the provision of diagnostic devices, and, in doing so, outlines some of the inadequacies in health, science and policy initiatives that have led to the dearth of such devices. The authors make the case that there is a clear and urgent need for innovation, not only in the technology of diagnosis, but also in public policy and medical practice to support the availability and use of better diagnostic tools. This book explores the complexities of the diagnostics market from the perspective of both supply and demand, unearthing interesting bottlenecks, some obvious, some more subtle. It calls for a multifaceted and broad policy response, and an overhaul of current practice, so that the growth of bacterial resistance can be stemmed.

WHO has published a global TB report every year since 1997. The main aim of the report is to provide a comprehensive and up-to-date assessment of the TB epidemic, and of progress in prevention, diagnosis and treatment of the disease at global, regional and country levels. This is done in the context of recommended global TB strategies and targets endorsed by WHO's Member States and broader development goals set by the United Nations (UN). The 2018 edition of the global TB report was released on 18 September, in the lead up to the first-ever UN High Level Meeting on TB on 26 September 2018.

The United States has the dubious distinction of leading the industrialized world in overall rates of sexually transmitted diseases (STDs), with 12 million new cases annually. About 3 million teenagers contract an STD each year, and many will have long-term health problems as a result. Women and adolescents are particularly vulnerable to these diseases and their health consequences. In addition, STDs increase the risk of HIV transmission. The Hidden Epidemic examines the scope of sexually transmitted infections in the United States and provides a critical assessment of the nation's response to this public health crisis. The book identifies the components of an effective national STD prevention and control strategy and provides direction for an appropriate response to the epidemic. Recommendations for improving public awareness and education, reaching women and adolescents, integrating public health programs, training health care professionals, modifying messages from the mass media, and supporting future research are included. The book documents the epidemiological dimensions and the economic and social costs of STDs, describing them as "a secret epidemic" with tremendous consequences. The committee frankly discusses the confusing and often hypocritical nature of how Americans deal with issues regarding sexuality--the conflicting messages conveyed in the mass media, the reluctance to promote condom use, the controversy over sex education for teenagers, and the issue of personal blame. The Hidden Epidemic identifies key elements of effective, culturally appropriate programs to promote healthy behavior by adolescents and adults. It examines the problem of fragmentation in STD services and provides examples of communities that have formed partnerships between stakeholders to develop integrated approaches. The committee's recommendations provide a practical foundation on which to build an integrated national program to help young people and adults develop habits of healthy sexuality. The Hidden Epidemic was written for both health care professionals and people without a medical background and will be indispensable to anyone concerned about preventing and controlling STDs.

Flow Control Methods and Devices in Micrometer Scale Channels, by Shuichi Shoji and Kentaro Kawai. Micromixing Within Microfluidic Devices, by Lorenzo Capretto, Wei Cheng, Martyn Hill and Xunli Zhang. Basic Technologies for Droplet Microfluidics, by Shaojiang Zeng, Xin Liu, Hua Xie and Bingcheng Lin. Electrorheological Fluid and Its Applications in Microfluidics, by Limu Wang, Xiuqing Gong and Weijia Wen. Biosensors in Microfluidic Chips, by Jongmin Noh, Hee Chan Kim and Taek Dong Chung. A Nanomembrane-Based Nucleic Acid Sensing Platform for Portable Diagnostics, by Satyajyoti Senapati, Sagnik Basuray, Zdenek Slouka, Li-Jing Cheng and Hsueh-Chia Chang. Optical Detection Systems on Microfluidic Chips, by Hongwei Gai, Yongjun Li and Edward S. Yeung. Integrated Microfluidic Systems for DNA Analysis, by Samuel K. Njoroge, Hui-Wen Chen, Ma?gorzata A. Witek and Steven A. Soper. Integrated Multifunctional Microfluidics for Automated Proteome Analyses, by John K. Osiri, Hamed Shadpour, Ma?gorzata A. Witek and Steven A. Soper. Cells in Microfluidics, by Chi Zhang and Danny van Noort. Microfluidic Platform for the Study of Caenorhabditis elegans,by Weiwei Shi, Hui Wen, Bingcheng Lin and Jianhua Qin.

The underlying technology and the range of test parameters available are evolving rapidly. The primary advantage of POCT is the convenience of performing the test close to the patient and the speed at which test results can be obtained, compared to sending a sample to a laboratory and waiting for results to be returned. Thus, a series of clinical applications are possible that can shorten the time for clinical decision-making about additional testing or therapy, as delays are no longer caused by preparation of clinical samples, transport, and central laboratory analysis. Tests in a POC format can now be found for many medical disciplines including endocrinology/diabetes, cardiology, nephrology, critical care, fertility, hematology/coagulation, infectious disease and microbiology, and general health screening. Point-of-care testing (POCT) enables health care personnel to perform clinical laboratory testing near the patient. The idea of conventional and POCT laboratory services presiding within a hospital seems contradictory; yet, they are, in fact, complementary: together POCT and central laboratory are important for the optimal functioning of diagnostic processes. They complement each other, provided that a dedicated POCT coordination integrates the quality assurance of POCT into the overall quality management system of the central laboratory. The motivation of the third edition of the POCT book from Luppa/Junker, which is now also available in English, is to explore and describe clinically relevant analytical techniques, organizational concepts for application and future perspectives of POCT. From descriptions of the opportunities that POCT can provide to the limitations that clinician’s must be cautioned about, this book provides an overview of the many aspects that challenge those who choose to implement POCT. Technologies, clinical applications, networking issues and quality regulations are described as well as a survey of future technologies that are on the future horizon. The editors have spent considerable efforts to update the book in general and to highlight the latest developments, e.g., novel POCT applications of nucleic acid testing for the rapid identification of infectious agents. Of particular note is also that a cross-country comparison of POCT quality rules is being described by a team of international experts in this field.

Infectious Diseases and Your Health has the potential to impact and improve your life, and the lives of your loved ones. Every day, nearly 40, 000 people including small children and women die of infectious diseases. Many of these innocent lives could be saved. Your journey through the pages of this book will take you to an amazing world of infectious diseases. You will learn about various infectious diseases, how they can affect your life, the problems associated with their treatment and prevention, and how to overcome these problems. Additionally, you will hear the success story of new drug research, be introduced to the hard facts, and find fascinating pictures of microorganisms and parasites. The book provides instant solutions to several of your concerns about infectious diseases, and you will learn to live a highly productive, long and healthy life. So, join thousands of readers of this book worldwide, enhance your life and the lives of your loving family, become an informed healthy citizen, and contribute to achieving the UN’s Sustainable Development Goals. Let us never forget: life and quality of life are very precious.

WHO has published a global TB report every year since 1997. The main aim of the report is to provide a comprehensive and up-to-date assessment of the TB epidemic, and of progress in prevention, diagnosis and treatment of the disease, at global, regional and country levels. This is done in the context of recommended global TB strategies and targets endorsed by WHO?s Member States, broader development goals set by the United Nations (UN) and targets set in the political declaration at the first UN high-level meeting on TB (held in September 2018). The 2019 edition of the global TB report was released on 17 October 2019. The data in this report are updated annually. Please note that direct comparisons between estimates of TB disease burden in the latest report and previous reports are not appropriate. The most recent time-series of estimates are published in the 2019 global TB report.

This 2011 update of Guidelines for the programmatic management of drug-resistant tuberculosis is intended as a tool for use by public health professionals working in response to the Sixty-second World Health Assembly's resolution on prevention and control of multidrug-resistant tuberculosis and extensively drug-resistant tuberculosis. Resolution WHA62.15, adopted in 2009, calls on Member States to develop a comprehensive framework for the management and care of patients with drug-resistant TB. The recommendations contained in these guidelines address the most topical questions concerning the programmatic management of drug-resistant TB: case-finding, multidrug resistance, treatment regimens, monitoring the response to treatment, and selecting models of care. The guidelines primarily target

staff and medical practitioners working in TB treatment and control, and partners and organizations providing technical and financial support for care of drug-resistant TB in settings where resources are limited.

Every year there are 8.8 million new active cases and nearly two million deaths worldwide from tuberculosis (about 5,000 every day), mostly in the poorest communities of the developing world. One third of the world's population has latent TB which may later develop into an active form of the disease, and it has also become the leading cause of death among people with HIV. Multidrug-resistance is also a growing problem. A key challenge for the public health community is to be able to effectively diagnose patients so that valuable resources and medicines are not wasted on misdiagnosis and repeat treatments. This report, written by an international network of researchers and policy experts, examines the global market for TB diagnostics available for active disease, latent infection, drug resistance and treatment response. It provides a sound basis for diagnostics development suitable for various levels of health systems in industrialised and developing countries.

The prevalence of infectious diseases is worldwide increasing. Therefore, detection methods for infectious pathogens change quickly. In the 3rd edition of Kessler ?s Molecular Diagnostics of Infectious Diseases laboratory professionalists get valueable information about the current diagnostic methods, tipps and tricks in terms of sample processing, quality control, and interpretation of the results. For clinicians the book is a valuable aid for decision-making in ordering appropriate tests as well as in assuring the necessary quality of the sample material.

In December 2010, WHO first recommended the use of the Xpert MTB/RIF assay. The WHO's policy statement was supported by a rapid implementation document, which provided the technical "how-to" and operational considerations for rolling out the use of the assay. An unprecedented uptake of this new technology followed the release of WHO's policy: by the end of March 2014, more than 2,300 GeneXpert instruments and more than 6 million Xpert MTB/RIF cartridges had been procured in the public sector in 104 countries eligible for concessional prices. An Expert Group was convened by WHO in May 2013 to review the current body of evidence on use of Xpert MTB/RIF. The resulting recommendations from the Expert Group are included in the WHO Policy update, which widens the recommended use of Xpert MTB/RIF, including for the diagnosis of paediatric TB and on selected specimens for the diagnosis of extrapulmonary TB, and includes an additional recommendation on the use of Xpert MTB/RIF as the initial diagnostic test in all individuals presumed to have pulmonary TB. The accompanying Xpert MTB/RIF implementation manual has been developed to replace the first edition and takes into consideration the current body of evidence and operational experiences available, in the context of the Policy update.