

List of Changes



We're here to help!
Get real-world support
and guidance
every step of the way.

SupportAtEveryStep.com

Talaro's Foundations of Microbiology 11th Edition Barry Chess

ISBN: 1260259021/ 9781260259025 / © 2021

Global Changes to the Eleventh Edition

Chapter-opening pages include a content outline, helping to emphasize the chapter organization.
Clinic Cases appear in every chapter to highlight important topics.
End-of-chapter questions in the style of the TEAS and NCLEX exams have been added.

SEE LIST OF CHANGES ATTACHED.

SupportAtEveryStep.com: Your place for above and beyond in-person and self-service support.

It All Starts with You



McGraw-Hill Connect® is a course management and adaptive learning solution that enhances your unique voice and teaching style. As your partner, we're committed to helping you achieve your course goals and unlock student potential. That's why we've made meaningful updates to this edition.

New In Connect:

SmartBook® 2.0 – Our adaptive reading experience has been made more personal, accessible, productive, and mobile.

Connect Virtual Labs – A fully online solution for lab preparation or replacement. These simulations help a student learn the practical and conceptual skills needed, then check for understanding and provide feedback. With adaptive pre-lab and post-lab assessment available, instructors can customize each assignment.

Diagnostic Test to Accompany LearnSmart Prep –

This fifty (50) question diagnostic "pre-test" will help you identify students that need more help with key topics such as Biology, Chemistry, Math, and Study Skills. This assessment exists in the course-wide content bank within Connect.



Connect Virtual Labs



Learning that Fits

mheducation.link/smartbook2

Additional Value When You Upgrade

- **NEW!** Free mobile access to SmartBook 2.0 assignments and the digital textbook with the ReadAnywhere app.
- **NEW!** Remoting proctoring and browser-locking capabilities allowing for more control over the integrity of online assessments.
- **NEW!** Ability to create enhanced assignments personalized to each student's needs.
- Accessibility and student data security enhancements.
- More advanced student and class reporting capabilities.
- 99.99% platform uptime

Visit mheducation.com/connect for details.



Changes to Chess, Talaro's Foundations of Microbiology, 11e

Chapter 1 · New introduction to viruses and prions · Clinic Case concerning Microcystis poisoning · Discussion concerning the changing nature of infectious disease and microbial roles in noninfectious disease · Ten new photographs

Chapter 2 · New Case Study on lactose intolerance · Clinic Case illustrating the pH-dependent germination of Clostridium botulinum · Six new photos and illustrations

Chapter 3 · New Case Study concerning the laboratory diagnosis of Salmonella Typhi · Clarified discussion of fluorescence microscopy · Clinic Case concerning anthrax infection in New York City · Discussion of unculturable microorganisms · Nineteen new photographs and illustrations

Chapter 4 · New Case Study concerning biofilm formation within dental equipment · Process figure on biofilm formation · Discussion of capsules, biofilms, and quorum sensing · Clinic Case concerning gas gangrene in an IV drug user · Twelve new photographs and illustrations

Chapter 5 · New Case Study concerning Amanita phalloides (death cap mushroom) poisoning · Discussion of the eukaryotic cytoskeleton has been clarified · Eukaryotic classification has been updated to reflect the latest findings · Clinic Case concerning paralytic shellfish poisoning · Clinic Case involving roundworm infection of a toddler · Twenty-seven new photographs and illustrations

Chapter 6 · New Case Study dealing with bacteriophage therapy · Clinic Case examining a monkeypox infection in Wisconsin · Discussion of persistent viral infections · Clinic Case concerning an incident of variant Creutzfeldt-Jakob disease · Nine new photographs and illustrations

Chapter 7 · New Case Study concerning Vibrio vulnificus infection related to a recent tattoo · Clinic Case concerning Vibrio parahaemolyticus infections related to warming oceans · Modified discussion concerning associations between microbes · Eleven new photographs and illustrations

Chapter 8 · New Case Study following a case of autobrewery syndrome · Clinic Case on the use of ethanol as an antidote to methanol poisoning · Clarified discussion of electron carriers · Discussion of glycolysis has been clarified, and reactions are divided into “first five” and “second five” · Four new photographs and illustrations

Chapter 9 · New Case Study concerning the 14th known case of vancomycin-resistant Staphylococcus aureus · Clarified discussion of DNA structure and replication, transcription and translation, and mutations · Clinic Case on the use of a bone marrow donor carrying a CCR-5 mutation being used to cure the recipient's HIV · Six new photographs and illustrations

Chapter 10 · **New Case Study on the use of genetically engineered mosquitoes to reduce Zika virus infection** · Discussion of genetic engineering, restriction enzymes, and electrophoresis · Discussion of transcriptomics, proteomics, metagenomics, and metabolomics · Updated discussion on the potential benefits of GMOs · Clinic Case discussing the use of modified bacteria as a treatment for phenylketonuria · Discussion of the CRISPR/Cas-9 system for editing DNA · Discussion of gene therapy used to correct blindness due to Leber congenital amaurosis · Clinic Case concerning the use of familial DNA fingerprinting to identify the Grim Sleeper serial killer · Nine new photographs and illustrations

Chapter 11 · New Case Study concerning infection linked to improper disinfection of duodenoscopes at UCLA · Clarified discussion of sterilization with regard to prions · Clinic Case concerning a case of botulism due to inadequate processing of commercially canned chili · Clinic Case concerning the use of ultraviolet light to disinfect the water in an interactive fountain · Seven new photographs and illustrations

Changes to Chess, Talaro's Foundations of Microbiology, 11e

Chapter 12 • New Case Study illustrating the side effects of fluoroquinolone antibiotics • Terminology has been added, updated, and clarified throughout the chapter • New drugs used to cure hepatitis C and prevent replication of influenza are discussed • Expanded discussion of new HIV drugs used to fight existing infection or as preexposure prophylactics • The relationship between biofilms and drug resistance is now part of the chapter • A feature on clinical testing of antimicrobics is included in the chapter • A Clinic Case concerning the use of intentional drug interaction to treat a drug overdose has been added • Nineteen new photographs and illustrations

Chapter 13 • The role of viruses as normal microbiota is addressed • Clinic Case concerning a plague researcher who dies as a result of infection with an attenuated strain of *Yersinia pestis* • Clinic Case concerning an MRSA outbreak in a newborn nursery • Disease statistics have been updated throughout the chapter • The discussion of epicurves has been clarified • Twenty-one new photographs and illustrations

Chapter 14 • New Case Study concerning autosplenectomy related to lupus • Clarified discussion of the body's interconnections with regard to the immune system • Clinic Case exploring an occurrence of *Trichinella* worms resistant to freezing • Clarified discussion of hematopoiesis and the role of natural killer cells • Nine new photographs and illustrations

Chapter 15 • New Case Study regarding an incident of necrotizing fasciitis • Figures used to clarify the genetics of antibody generation, and the activation of T cells • Expanded discussion of T helper 17 cells, T regulatory cells, Gamma-Delta T cells, natural killer cells, and natural killer T cells • New figure explaining the outcomes of antibody binding of antigen • Updated discussion on the use of monoclonal antibodies • Clinic Case following an outbreak of measles in Minnesota • Clarified discussion of the role of natural killer cells • Fifteen new photographs and illustrations

Chapter 16 • New Case Study following a case of antiNMDAR encephalitis, an autoimmune disease resulting in severe neurologic changes • Updated information concerning the development of food allergies and treatments for severe allergic reactions • Clinic Case following four cases of transplant-transmitted infection • Seven new photographs and illustrations

Chapter 17 • New Case Study following a case of meningitis due to lymphocytic choriomeningitis virus • New discussions of fluorescent in-situ hybridization, pulsed-field gel electrophoresis, and whole genome sequencing • Clinic Case concerning misidentification of a bacterial isolate as a potential bioterrorism agent • Clarified discussion of ELISA • Eight new photographs and illustrations

Chapter 18 • New Case Study focuses on a case of methicillin-resistant *Staphylococcus aureus* in a professional football player • Enhanced discussion of *S. aureus* virulence factors • Discussion and photograph of rapid testing methods for *S. aureus* using antibodies • Statistics have been updated to reflect current epidemiological trends • Pathogen Profiles have been augmented to include the effect of pathogens on organ systems • The ability to produce biofilms has been added to the discussion of streptococcal virulence • New discussion of group B *Streptococcus* • Clinic Case concerning group B streptococcal infection in an infant after the mother's ingestion of dried placenta capsules • Seventeen new photographs

Chapter 19 • New Case Study concerning botulism acquired from pesto sauce purchased from a farmer's market • *Clostridium difficile* has been reclassified as *Clostridioides difficile* • Discussion of injection anthrax, which has become more prevalent, is now included in the chapter • Clinic Case concerning neonatal tetanus caused by infection of the umbilicus • New Pathogen Profile focusing on *Clostridium botulinum* • Statistics have been updated to reflect current epidemiological trends • Pathogen Profiles have been augmented to include the effect of pathogens on organ systems • Interferon-gamma release assays and nucleic acid testing for *M. tuberculosis* infections are discussed • Clinic Case concerning an outbreak of tuberculosis spread by a zoo elephant • Updated discussion of Hansen's disease • Discussion of mycobacterial contamination of tattoos • Ten new photographs and illustrations

Changes to Chess, Talaro's Foundations of Microbiology, 11e

Chapter 20 · New Case Study concerning *Brucella abortus* infection contracted from unpasteurized milk · Clinic Case following an outbreak of legionellosis associated with Disneyland · Pathogen Profiles have been augmented to include the effect of pathogens on organ systems · Statistics have been updated to reflect current epidemiological trends · Seven new photographs and illustrations

Chapter 21 · Clinic Case following an incident of *Leptospira* infection after flooding of a college campus · Clinic Case following an outbreak of *Campylobacter jejuni* linked to puppies · Pathogen Profiles have been augmented to include the effect of pathogens on organ systems · Discussion of rapid identification methods for the detection of *Treponema pallidum* · Statistics have been updated to reflect current epidemiological trends · Six new photographs and illustrations

Chapter 22 · Clinic Case following an outbreak of fungal meningitis linked to contaminated steroid injections · A discussion and figure concerning rapid identification of fungal specimens using matrix-assisted laser desorption/ionizing time of flight (MALDI-TOF) has been added · Clinic Case concerning an outbreak of mucormycosis among organ transplant recipients has been added · Pathogen Profiles have been augmented to include the effect of pathogens on organ systems · Statistics have been updated to reflect current epidemiological trends · Four new photographs and illustrations

Chapter 23 · New Case Study concerning the first human infection with *Thelazia gulosa* (cattle eye worm) · The guidelines for antiprotozoan drugs have been updated · Clinic Case following a pair of *Naegleria fowleri* (the “brain-eating amoeba”) linked to the use of neti pots · A discussion of the RTS,S vaccine for malaria has been added · A new table listing the major worms and the organs they affect has been added · Pathogen Profiles have been augmented to include the effect of pathogens on organ systems · Statistics have been updated to reflect current epidemiological trends · Seven new photographs and illustrations

Chapter 24 · A new table listing the major DNA viruses, infections, and common reservoirs has been added · Clinic Case following an outbreak of adenovirus in a nursing and rehabilitation center · Vaccination against and treatment of varicella-zoster infection have been updated · Vaccine recommendations for hepatitis B have been updated · Pathogen Profiles have been augmented to include the effect of pathogens on organ systems · Statistics have been updated to reflect current epidemiological trends · Ten new photographs and illustrations

Chapter 25 · A new table listing the major RNA viruses, infections, and common reservoirs has been added · Recommendations for vaccine against, and treatment of, influenza have been updated · A new discussion, and images, of Ebola and Marburg viruses has been added · The discussion of HIV treatment has been expanded and clarified · A new table lists the most current anti-HIV medications and their modes of action · Pathogen Profiles have been augmented to include the effect of pathogens on organ systems · Clinic Case follows the means used to combat an outbreak of hepatitis A in San Diego, California · Statistics have been updated to reflect current epidemiological trends · Sixteen new photographs and illustrations

Chapter 26 · Clinic Case following a boil water notice incident in Frazier Park, California · Four new photographs and illustrations

Chapter 27 · Clinic Case following an outbreak of botulism affecting inmates after the ingestion of prison-made wine (pruno) · Discussion of wastewater treatment has been enhanced · Statistics have been updated to reflect current epidemiological trends · Six new photographs and illustrations

Affordability & Outcomes

Affordability & Outcomes

- Flexibility! More choice. You decide.
- Multiple options at multiple price points!
- Content options: McGraw-Hill, custom, Open Learning Solutions.
- Format Options: Print, McGraw-Hill eBook, Courseware, bundles.
- Delivery Options: Inclusive Access, rental, purchase.
- 950 Inclusive Access institutional partnerships in 2019.

Visit mheducation.link/realvalue for details.



Support At Every Step

Find all the resources you need for a successful semester in one spot: supportateverystep.com.

Faculty support is critical to the success of implementing and using digital courseware. That's why we teamed up with faculty to create a website dedicated to providing above-and-beyond support. From initial training to implementing new tools to digging into the data, we're here to help.

Let us know how we can partner with you at every step.