

# Contents

**Preface: The Intersection of Age and Infections: Understanding the Impacts from Diagnosis to Management** xi

Puja Van Epps and David H. Canaday

**Epidemiology and Clinical Presentation of COVID-19 in Older Adults** 1

Yasin Abul, Ciera Leeder, and Stefan Gravenstein

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection remains asymptomatic in 33% to 90% of older adults depending on their immune status from prior infection, vaccination, and circulating strain. Older adults symptomatic with SARS-CoV-2 often both present atypically, such as with a blunted fever response, and develop more severe disease. Early and late reports showed that older adults have increased severity of coronavirus disease 2019 (COVID-19) with higher case fatality rates and higher intensive care needs compared with younger adults. Infection and vaccine-induced antibody response and long-term effects of COVID-19 also differ in older adults.

**Vaccines for the Prevention of Coronavirus Disease 2019 in Older Adults** 27

Oladayo A. Oyebanji, Eleftherios Mylonakis, and David H. Canaday

Institutionalized and community-dwelling older adults have been greatly impacted by the coronavirus disease 2019 (COVID-19) pandemic with increased morbidity and mortality. The advent of vaccines and their widespread use in this population has brought about a dramatic turnaround in COVID-19 outcomes. The immunogenicity and effectiveness of the various vaccine options worldwide are discussed. Optimization of vaccine usage will still be important to maximize protection due to reduced initial immunity, development of variant strains, and fading of immunity over time. There are also lessons learned specific to older populations for future pandemics of novel pathogens.

**Sexually Transmitted Infections in Older Adults: Increasing Tide and How to Stem It** 47

Puja Van Epps, Lewis Musoke, and Candice J. McNeil

Sexually transmitted infections (STIs) have been increasing in older adults. Sexual health remains an important part of overall health care at any age. There are several barriers and facilitators to addressing sexual health in this population. Changes attributable to normal physiologic aging as well as sexual dysfunction can affect sexuality in older adults. When it comes to preventing STIs, combination prevention strategies remain applicable in older adults. Addressing sexual health using a tailored approach is critical to stem the tide of increasing STIs rates in older adults.

<b>Health Care-Associated Infections in Older Adults: Epidemiology and Prevention</b>	<b>65</b>
Brenda L. Tesini and Ghinwa Dumyati	
<p>Health care-associated infections (HAIs) are a global public health threat, which disproportionately impact older adults. Host factors including aging-related changes, comorbidities, and geriatric syndromes, such as dementia and frailty, predispose older individuals to infection. The HAI risks from medical interventions such as device use, antibiotic use, and lapses in infection control follow older adults as they transfer among a network of interrelated acute and long-term care facilities. Long-term care facilities are caring for patients with increasingly complex needs, and the home-like communal environment of long-term care facilities creates distinct infection prevention challenges.</p>	
<b>Update on <i>Clostridioides difficile</i> Infection in Older Adults</b>	<b>87</b>
Curtis J. Donskey	
<p><i>Clostridioides difficile</i> is a common cause of community-associated and health care-associated infections. Older adults are disproportionately affected, and long-term care facilities (LTCFs) have borne a substantial proportion of the burden of <i>C difficile</i> infection (CDI). Recurrences of CDI are common in older adults and have substantial adverse effects on quality of life. Appropriate diagnostic testing and management is essential for older adults in the community and in LTCFs. This review focuses on current concepts related to the epidemiology, diagnosis, and management of CDI in older adults.</p>	
<b>Vaccine-Preventable Diseases in Older Adults</b>	<b>103</b>
Maha Al-Jabri, Christian Rosero, and Elie A. Saade	
<p>Older adults are at an increased risk of vaccine-preventable diseases partly because of physiologic changes in the immune and other body systems related to age and/or accumulating comorbidities that increase the vulnerability to infections and decrease the response to vaccines. Strategies to improve the response to vaccines include using a higher antigenic dose (such as in the high-dose inactivated influenza vaccines) as well as adding adjuvants (such as MF59 in the adjuvanted inactivated influenza vaccine).</p>	
<b>Outpatient Parenteral Antibiotic Therapy in Older Adults</b>	<b>123</b>
Nora T. Oliver and Marion J. Skalweit	
<p>Outpatient parenteral antimicrobial therapy (OPAT) for older adults is a complex process that involves multiple stakeholders and care coordination, but it is a useful and patient-centered tool with opportunities for the treatment of complicated infections, improved patient satisfaction, and reduced health-care costs. Older age should not be an exclusion for OPAT but rather prompt the OPAT provider to thoroughly evaluate candidacy and safety. Amid the on-going COVID-19 pandemic, innovations in OPAT are needed to shepherd OPAT care into a more patient-centered, thoughtful practice, whereas minimizing harm to older patients from unnecessary health-care exposure and thus health-care associated infections.</p>	

**Considering Patient, Family, and Provider Goals and Expectations in a Rapidly Changing Clinical Context: A Framework for Antimicrobial Stewardship at the End of Life** 139

Jeffrey Larnard, Wendy Stead, and Westyn Branch-Elliman

Antibiotic administration is often a part of end-of-life (EOL) care, including among patients who are not critically ill. Guideline-issuing bodies recommend that antimicrobial stewardship providers (ASPs) provide support to prescribers making decisions about whether or not to treat infections in this population. Relatively little is known about the rationale for antimicrobial prescribing during the EOL period in noncritical care settings, although patient and family preferences are often an influencing factor. The effectiveness of antimicrobials in improving quantity or quality of life in this population is unclear and likely context-specific.

**Update in Human Immunodeficiency Virus and Aging** 153

Jason R. Faulhaber, Anthony W. Baffoe-Bonnie, Krisann K. Oursler, and Shikha S. Vasudeva

Effective and consistent antiretroviral therapy has enabled people with human immunodeficiency virus (HIV) (PWH) to survive longer than previously encountered earlier in the epidemic. Consequently, PWH are subject to the struggles and clinical conditions typically associated with aging. However, the aging process in PWH is not the same as for those who do not have HIV. There is a complex interplay of molecular, microbiologic, and pharmacologic factors that leads to accelerated aging in PWH; this leads to increased risk for certain age-related comorbidities requiring greater vigilance and interventions in routine care.

**Acute and Chronic Infectious Prostatitis in Older Adults** 175

Tyler J. Brehm, Barbara W. Trautner, and Prathit A. Kulkarni

Acute and chronic bacterial prostatitis are clinically significant entities that can be difficult to diagnose and appropriately treat. Herein, we review when to suspect these clinical conditions, how to diagnose them, and how to effectively treat them based on the extant literature. Our aim was to equip the practicing clinician with the ability to proficiently diagnose and manage acute and chronic bacterial prostatitis, particularly in older patients.