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 David A. Talan, Gregory J. Moran, and Fredrick M. Abrahamian

Severe Sepsis and Septic Shock 1
 David A. Talan, Gregory J. Moran, and Fredrick M. Abrahamian

Increased attention has focused recently on the acute management of severe sepsis and septic shock, conditions that represent the end-stage systemic deterioration of overwhelming infection. Clinical trials have identified new therapies and management approaches that, when applied early, appear to reduce mortality. Practice guidelines have been advanced by critical care societies, and many of the proposed interventions involve therapies other than antimicrobials directed at hemodynamic resuscitation or addressing adverse effects of the inflammatory cascade. Although many emergency departments (EDs) are now adopting treatment protocols for sepsis that are based on published treatment guidelines, recent research calls many of the initial recommendations into question, and validation trials of some of these approaches are ongoing. This article reviews the initial evaluation and treatment considerations of sepsis in the ED setting.

Emergency Department Management of Meningitis and Encephalitis 33
 Michael T. Fitch, Fredrick M. Abrahamian, Gregory J. Moran, and David A. Talan

Bacterial meningitis and viral encephalitis are infectious disease emergencies that can cause significant patient morbidity and mortality. Clinicians use epidemiologic, historical, and physical

examination findings to identify patients at risk for these infections, and central nervous system (CNS) imaging and lumbar puncture (LP) may be needed to further evaluate for these diagnoses. The diagnosis of bacterial meningitis can be challenging, as patients often lack some of the characteristic findings of this disease with presentations that overlap with more common disorders seen in the emergency department. This article addresses considerations in clinical evaluation, need for CNS imaging before LP, interpretation of cerebrospinal fluid results, standards for and effects of timely antibiotic administration, and recommendations for specific antimicrobial therapy and corticosteroids.

Diagnosis and Management of Pneumonia in the Emergency Department

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Gregory J. Moran, David A. Talan, and Fredrick M. Abrahamian

Pneumonia is a condition that is often treated by emergency physicians. This article reviews the diagnosis and management of pneumonia in the emergency department and highlights dilemmas in diagnostic testing, use of blood and sputum cultures, hospital admission decisions, infection control, quality measures for pneumonia care, and empiric antimicrobial therapy.

Urinary Tract Infections

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Fredrick M. Abrahamian, Gregory J. Moran, and David A. Talan

Urinary tract infection (UTI) is a commonly encountered clinical condition in the emergency department. Emergency physicians evaluate and treat UTIs in a wide spectrum of disease severity and patient populations. This article is written from the perspective of evaluating and managing UTIs in the emergency department. It highlights the pitfalls and clinical dilemmas pertinent to emergency physicians that are not often encountered by infectious disease specialists.

Management of Skin and Soft-Tissue Infections in the Emergency Department

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Fredrick M. Abrahamian, David A. Talan, and Gregory J. Moran

Skin and soft-tissue infections are among the most common infections encountered by emergency physicians. This article is written from the perspective of the initial evaluation and management of skin and soft-tissue infections in the emergency department. Management pitfalls and clinical dilemmas pertinent to emergency physicians that are not often encountered by infectious disease specialists are highlighted. Special emphasis is placed on the utility of wound and blood cultures, disposition, methicillin-resistant *Staphylococcus aureus* infections, animal and human bites, and necrotizing skin and soft-tissue infections.

**Antimicrobial Prophylaxis for Wounds and Procedures
in the Emergency Department**

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Gregory J. Moran, David A. Talan, and Fredrick M. Abrahamian

Emergency physicians are often confronted with situations in which a patient with an acute injury is at high risk for an infection. Although most traumatic wounds have a low risk for developing infection, certain types of high-risk trauma justify antimicrobial prophylaxis. This article reviews antimicrobial wound infection prophylaxis for high-risk traumatic wounds, including the prevention of rabies and tetanus. Prophylaxis to prevent infections related to invasive procedures in the emergency department is also addressed.

Biological Terrorism

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Gregory J. Moran, David A. Talan, and Fredrick M. Abrahamian

A biological terrorism event could have a large impact on the general population and health care system. The impact of an infectious disaster will most likely be great to emergency departments, and the collaboration between emergency and infectious disease specialists will be critical in developing an effective response. A bioterrorism event is a disaster that requires specific preparations beyond the usual medical disaster planning. An effective response would include attention to infection control issues and plans for large-scale vaccination or antimicrobial prophylaxis. This article addresses some general issues related to preparing an effective response to a biological terrorism event. It will also review organisms and toxins that could be used in biological terrorism, including clinical features, management, diagnostic testing, and infection control.

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