

Biomedical Countermeasures to Category a Biological Agents

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Abstract : The United States Centers for Disease Control and Prevention has established three categories of biological agents based on their ease of spread and the severity of the disease they cause. Category A biological agents are the highest priority because of their high degree of morbidity and mortality, ease of dissemination, the potential to cause social disruption and panic, special requirements for public health preparedness, and past use as a biological weapon. Despite the threat of Category A biological agents, opportunities for medical intervention exist. This work summarizes public information, consolidated and reviewed across the situational usefulness and disease awareness to offer discussion to three specific Category A agents: anthrax (*Bacillus anthracis*), botulism (*Clostridium botulinum* toxin), and smallpox (*variola major*), and provides an overview on the management of medical countermeasures available to treat these three (3) different types of pathogens. The medical countermeasures are discussed in the setting of pre-exposure prophylaxis, post-exposure prophylaxis, and therapeutic treatments to provide a framework for requirements in public health preparedness.

Keywords : anthrax, botulism, smallpox, medical countermeasures

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