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Special Considerations for Prophylaxis for and Treatment of Anthrax in Pregnant and Postpartum Women

Technical Appendix

Technical Appendix Table 1. Oral Antimicrobial Post-Exposure Prophylaxis for infection with *Bacillus anthracis**

a. For all strains, regardless of penicillin susceptibility or if susceptibility is unknown	
Non-pregnant Adults:	Modifications for Pregnant Women:
ciprofloxacin 500 mg every 12H OR **doxycycline 100 mg every 12H** OR levofloxacin 750 mg every 24H OR moxifloxacin 400 mg every 24H OR clindamycin† 600 mg every 8H	ciprofloxacin is preferred no change in dosing
OR	
b. Alternatives for penicillin-susceptible strains	
amoxicillin 1 g every 8H OR penicillin VK 500 mg every 6H	
Duration of Post-Exposure Prophylaxis for *Bacillus anthracis:* 60 d	no change in duration

*__Boldface__ indicates preferred agent. Alternative selections are listed in order of preference for treatment for patients who cannot take first-line treatment, or if first-line treatment is unavailable.
†Based on in vitro susceptibility data, rather than studies of clinical efficacy.

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Technical Appendix Table 2. Intravenous Antimicrobial Treatment for Systemic Anthrax with Possible/Confirmed Meningitis*

Nonpregnant Adults:	Modifications for pregnant Women:
1. A Bactericidal Agent (Fluoroquinolone)	
ciprofloxacin 400 mg every 8H OR levofloxacin 750 mg every 24H OR moxifloxacin 400 mg every 24H	ciprofloxacin is preferred
PLUS	
2. A Bactericidal Agent (β-lactam)	
a. For all strains, regardless of penicillin susceptibility or if susceptibility is unknown	
meropenem 2 g every 8H OR imipenem† 1 g every 6H OR doripenem 500 mg every 8H	at least one antibiotic with transplacental passage is recommended; ciprofloxacin, levofloxacin, meropenem, ampicillin, penicillin, clindamycin, rifampin
OR	
b. Alternatives for penicillin-susceptible strains	
penicillin G 4 million units every 4H OR ampicillin 3 g every 6H	
PLUS	
3. A Protein Synthesis Inhibitor	
linezolid‡ 600 mg every 12H OR clindamycin 900 mg every 8H OR rifampin§ 600 mg every 12H OR chloramphenicol¶ 1 g every 6–8 H	
Duration of treatment: for ≥2–3 weeks until clinical criteria for stability are met. Patients exposed to aerosolized spores will require prophylaxis to complete an antimicrobial drug course of 60 d from onset of illness (see Technical Appendix Table 1).	No change in duration

*Systemic anthrax includes anthrax meningitis; inhalation, injection, gastrointestinal anthrax; and cutaneous anthrax with systemic involvement, extensive edema, or lesions of the head or neck. **Boldface** indicates preferred agent. Alternative selections are listed in order of preference for treatment for patients who cannot take first-line treatment, or if first-line treatment is unavailable.
† Increased risk of seizures associated with imipenem/cilastatin treatment
‡Linezolid should be used with caution in patients with thrombocytopenia, as it may exacerbate it. Linezolid use for >14 d carries additional risk for hematopoietic toxicity.
§Rifampin is not a protein synthesis inhibitor; however, it may be used in combination with other antimicrobials based on its in vitro synergy.
¶Should only be used if other options are not available, due to toxicity concerns.

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Technical Appendix Table 3. Intravenous Antimicrobial Treatment for Systemic Anthrax When Meningitis Has Been Excluded*

Non-pregnant adults	Modifications for pregnant Women:
1. A Bactericidal Antimicrobial	
a. For all strains, regardless of penicillin susceptibility or if susceptibility is unknown	
ciprofloxacin 400 mg every 8H OR levofloxacin 750 mg every 24H OR moxifloxacin 400 mg every 24H OR meropenem 2 g every 8H OR imipenem† 1 g every 6H OR doripenem 500 mg every 8H OR vancomycin 60 mg/kg/day IV divided every 8 h (maintain serum trough concentrations of 15 – 20 µg/mL)	ciprofloxacin is preferred at least one antibiotic with transplacental passage is recommended; ciprofloxacin, levofloxacin, meropenem, ampicillin, penicillin, clindamycin, rifampin
OR	
b. Alternatives for penicillin-susceptible strains	
penicillin G 4 million units every 4H OR ampicillin 3 g every 6H	
PLUS	
2. A Protein Synthesis Inhibitor	
clindamycin 900 mg every 8H OR **linezolid‡ 600 mg every 12H** OR doxycycline§ 200 mg initially, then 100 mg every 12H OR rifampin¶ 600 mg every 12H	
Duration of treatment: for ≥2 weeks until clinical criteria for stability are met. Patients exposed to aerosolized spores will require prophylaxis to complete an antimicrobial drug course of 60 d from onset of illness (see Technical Appendix Table 1).	No change in duration

*Systemic anthrax includes anthrax meningitis; inhalation, injection, gastrointestinal anthrax; and cutaneous anthrax with systemic involvement, extensive edema, or lesions of the head or neck. **Boldface** indicates preferred agent. Alternative selections are listed in order of preference for treatment for patients who cannot take first-line treatment, or if first-line treatment is unavailable. †Increased risk of seizures associated with imipenem/cilastatin treatment
‡Linezolid should be used with caution in patients with thrombocytopenia, as it may exacerbate it. Linezolid use for >14 d carries additional risk for hematopoietic toxicity.
§A single 10–14 course of doxycycline is not routinely associated with tooth-staining.
¶Rifampin is not a protein synthesis inhibitor; however, it may be used in combination with other antimicrobials based on its in vitro synergy.

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Technical Appendix Table 4. Oral Antimicrobial Treatment for Cutaneous Anthrax without Systemic Involvement*

Non-pregnant adults	Modifications for pregnant women
a. For all strains, regardless of penicillin susceptibility or if susceptibility is unknown	
ciprofloxacin 500 mg every 12H OR **doxycycline 100 mg every 12H** OR **levofloxacin 750 mg every 24H** OR **moxifloxacin 400 mg every 24H** OR clindamycin† 600 mg every 8H	ciprofloxacin is preferred
OR	
b. Alternatives for penicillin-susceptible strains	
amoxicillin 1 g every 8H OR penicillin VK 500 mg every 6H	
Duration of Treatment: 60 d	No change on duration

*Recommendations are specific to cutaneous anthrax in the setting of bioterrorism. **Boldface** indicates preferred agent. Alternative selections are listed in order of preference for treatment for patients who cannot take first-line treatment, or if first-line treatment is unavailable..
†Based on in vitro susceptibility data, rather than studies of clinical efficacy.

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