Fact Sheet: Anthrax Information for Health Care Providers

Cause	*Bacillus anthracis* • Encapsulated, aerobic, gram-positive, spore-forming, rod-shaped (bacillus) bacterium
Systems Affected	• Skin or cutaneous (most common) • Respiratory tract or inhalational (rare) • Gastrointestinal (GI) tract (rare) • Oropharyngeal form (least common)
Transmission	• Skin: direct skin contact with spores; in nature, contact with infected animals or animal products (usually related to occupational exposure) • Respiratory tract: inhalation of aerosolized spores • GI: consumption of undercooked or raw meat products or dairy products from infected animals • NO person-to-person transmission of inhalational or GI anthrax
Reporting	• Report suspected or confirmed anthrax cases immediately to your local or state department of health.

Cutaneous Anthrax	
Incubation Period	• Usually an immediate response up to 1 day
Typical Signs/Symptoms	• Local skin involvement after direct contact with spores or bacilli • Localized itching followed by 1) papular lesion that turns vesicular and 2) subsequent development of black eschar within 7–10 days of initial lesion
Treatment **(See Cutaneous Anthrax Treatment Protocol for specific therapy)**	• Obtain specimens for culture BEFORE initiating antimicrobial therapy. • Do **NOT** use extended-spectrum cephalosporins or trimethoprim/sulfamethoxazole because anthrax may be resistant to these drugs.
Precautions	• Standard contact precautions. Avoid direct contact with wound or wound drainage.

Inhalational Anthrax		
Incubation Period	• Usually <1 week; may be prolonged for weeks (up to 2 months)	

Typical Signs/Symptoms **(often biphasic, but symptoms may progress rapidly)**	**Initial phase**
	• Non-specific symptoms such as low-grade fever, nonproductive cough, malaise, fatigue, myalgias, profound sweats, chest discomfort (upper respiratory tract symptoms are rare)
	• Maybe rhonchi on exam, otherwise normal
	• Chest X-ray:
	  ○ mediastinal widening
	  ○ pleural effusion (often)
	  ○ infiltrates (rare)
		Subsequent phase
		• 1–5 days after onset of initial symptoms
		• May be preceded by 1–3 days of improvement
		• Abrupt onset of high fever and severe respiratory distress (dyspnea, stridor, cyanosis)
		• Shock, death within 24–36 hours

Laboratory	• Coordinate all aspects of testing, packaging, and transporting with public health laboratory/Laboratory Response Network (LRN).
	• Obtain specimens appropriate to system affected:
	  ○ blood (essential)
	  ○ pleural fluid
	  ○ cerebral spinal fluid (CSF)
	  ○ skin lesion
		Clues to diagnosis
		• Gram-positive bacilli on unspun peripheral blood smear or CSF
		• Aerobic blood culture growth of large, gram-positive bacilli provides preliminary identification of *Bacillus* species.

Treatment **(See Inhalational Anthrax Treatment Protocol for specific therapy)**	• Obtain specimens for culture BEFORE initiating antimicrobial therapy. • Initiate antimicrobial therapy immediately upon suspicion. • Do **NOT** use extended-spectrum cephalosporins or trimethoprim/sulfamethoxazole because anthrax may be resistant to these drugs. • Supportive care including controlling pleural effusions	
Precautions	• Standard contact precautions	

Gastrointestinal Anthrax		
Incubation Period	• Usually 1–7 days	
Typical Signs/Symptoms	**Initial phase** • Nausea, anorexia, vomiting, and fever progressing to severe abdominal pain, hematemesis, and diarrhea that is almost always bloody • Acute abdomen picture with rebound tenderness may develop. • Mesenteric adenopathy on computed tomography (CT) scan likely. Mediastinal widening on chest X-ray has been reported.	**Subsequent phase** • 2–4 days after onset of symptoms, ascites develops as abdominal pain decreases. • Shock, death within 2–5 days of onset

Laboratory	• Coordinate all aspects of testing, packaging, and transporting with public health laboratory/LRN.
	• Obtain specimens appropriate to system affected:
	  ○ blood (essential)
	  ○ ascitic fluid
		Clues to diagnosis
		• Gram-positive bacilli on unspun peripheral blood smear or ascitic fluid
		• Pharyngeal swab for pharyngeal form
		• Aerobic blood culture growth of large, gram-positive bacilli provides preliminary identification of *Bacillus* species.

Treatment **(See Inhalational Anthrax Treatment Protocol for specific therapy)**	• Obtain specimens for culture BEFORE initiating antimicrobial therapy. • Early (during initial phase) antimicrobial therapy is critical. • Do **NOT** use extended-spectrum cephalosporins or trimethoprim/sulfamethoxazole because anthrax may be resistant to these drugs.	
Precautions	• Standard precautions	

Oropharyngeal Anthrax		
Incubation Period	• Usually 1–7 days	
Typical Signs/Symptoms	**Initial phase** • Fever and marked unilateral or bilateral neck swelling caused by regional lymphadenopathy • Severe throat pain and dysphagia • Ulcers at the base of the tongue, initially edematous and hyperemic	**Subsequent phase** • Ulcers may progress to necrosis • Swelling can be severe enough to compromise the airway

Laboratory	• Coordinate all aspects of testing, packaging, and transporting with public health laboratory/LRN.
	• Obtain specimens appropriate to system affected:
	  ○ blood (essential)
	  ○ throat
		Clues to diagnosis
		• Aerobic blood culture growth of large, gram-positive bacilli provides preliminary identification of *Bacillus* species.

Treatment **(See Inhalational Anthrax Treatment Protocol for specific therapy)**	• Obtain specimens for culture BEFORE initiating antimicrobial therapy. • Do **NOT** use extended-spectrum cephalosporins or trimethoprim/sulfamethoxazole because anthrax may be resistant to these drugs. • Supportive care including controlling ascites	
Precautions	• Standard contact precautions	