



Aspiration: Pneumonitis vs. Pneumonia

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There are several aspiration syndromes with overlapping clinical presentations, many of which **do not** require antibiotic therapy.

What are the different **aspiration syndromes**? How can I **distinguish** them?

Syndrome	Material Aspirated	Pathology	Clinical Presentation	CXR Infiltrate	Antibiotic Treatment
Bland aspiration	Innocuous fluid (blood, enteral feeds) or solid material	Mechanical or functional airway obstruction	Immediate onset respiratory distress, cyanosis, or apnea. NO fever.	Dependent areas or presence of solid material.	No*
Chemical pneumonitis	Noxious liquid (gastric acid)	Airway damage and inflammation	Immediate onset respiratory distress, cyanosis and fever.	Dependent areas	No*
Aspiration pneumonia	Large inoculum of oropharyngeal or upper GI colonizing flora	Infection	Subacute onset of dyspnea, cough with purulent sputum and fever.	Dependent areas	Yes

*Bland aspiration and chemical pneumonitis may predispose to a pneumonia but there is **no benefit** to antibiotic prophylaxis.

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Consider aspiration pneumonia in a patient who has BOTH:

1. Clinical features of pneumonia
 - * Fever
 - * New productive cough
 - * New/persistent CXR infiltrate

2. Risk factors for aspiration

Risk Factors for Aspiration:

- Dysphagia
- Structural abnormalities of pharynx, trachea, or upper GI tract
- Mechanical disruption of glottis (e.g. endotracheal tube)
- Altered mental status
- Vomiting
- Enteral feeding

Patient producing **purulent sputum?**

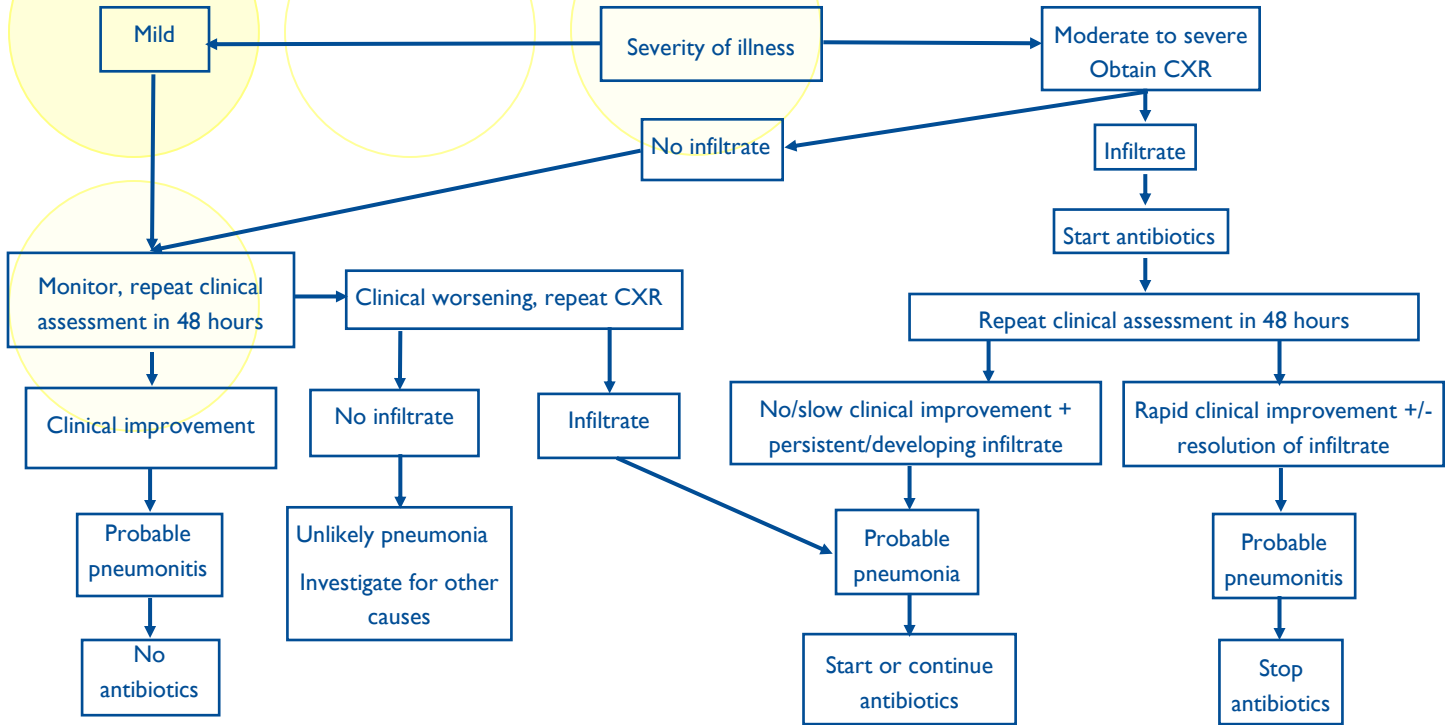
Send it for **bacterial culture!**

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I cannot clinically distinguish between aspiration pneumonitis and pneumonia. What now?



I suspect my patient has aspiration pneumonia. What is the recommended treatment?

The role of anaerobic organisms is controversial. Only add coverage if there are **risk factors for anaerobes** including:

- * Poor oral hygiene
- * Severe periodontal disease
- * Putrid sputum

If anaerobic pneumonia suspected, monitor for lung necrosis/abscess and empyema.

Step down to oral therapy once your patient:

- is hemodynamically stable
- is improving clinically
- can tolerate oral intake

Demographic	Usual pathogens	Empiric Antibiotic Recommendations*	Duration
Community or Nursing Home Acquired	<i>S. pneumoniae</i> <i>H. influenzae</i> <i>S. aureus</i> Enterobacteriaceae	1. Ceftriaxone 1 g IV daily OR 2. Levofloxacin 750 mg PO daily	7-10 days 5 days
Above with risk factors for anaerobes	As above PLUS: Oral anaerobes Streptococcus spp. <i>Eikenella corrodens</i>	1. Amoxicillin-clavulanate 875 mg PO BID OR 2. [Ceftriaxone 1 g IV daily OR Levofloxacin 750 mg PO daily] PLUS Metronidazole 500 mg IV/PO Q12H	7-14 days
Hospital Acquired	Enterobacteriaceae <i>P. aeruginosa</i> <i>S. aureus</i> <i>S. pneumoniae</i> <i>H. influenzae</i> <i>M. catarrhalis</i> Oral anaerobes	Mild-moderate 1. Amoxicillin-clavulanate 875 mg PO BID OR 2. Ceftriaxone 1 g IV daily PLUS Metronidazole 500 mg IV/PO Q12H Severe/ICU 1. Piperacillin-tazobactam 4.5 g IV Q6H	7-14 days

*Note: Coverage of atypical organisms is not required.

References: Blondell-Hill E, Fryters S. Bugs & Drugs App 2017 accessed Feb 10, 2017 <http://bugsanddrugs.albertahealthservices.ca>. DiBardino D, Wunderink R. Aspiration pneumonia: a review of modern trends. J Crit Care. 2015; 30:40-8. Mandell L et al. Infectious Diseases Society of America/American Thoracic Society consensus guidelines on the management of community-acquired pneumonia in adults. Clin Infect Dis. 2007; 44:S27-72

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