Aspiration pneumonia

Microbiology

- Aspiration pneumonitis is a sterile chemical inflammatory process caused by aspiration of gastric acid. Antibiotics are NOT indicated in aspiration pneumonitis.
- The vast majority of aspiration pneumonia cases are indistinguishable from CAP and HAP – with respect to presentation, microbiology, and therapy.
- Classic aspiration pneumonia has a protracted onset with putrid sputum and often a lung abscess or empyema. Anaerobes play a larger role in classic aspiration pneumonia.

Diagnosis

- The diagnosis of pneumonia is based on suggestive clinical features (cough, fever, sputum production, pleuritic chest pain, dyspnea) **AND** a new chest x-ray infiltrate.
- Pneumonia takes several *days* to develop after an aspiration event.
- All patients with suspected aspiration pneumonia should have a chest X-ray. Sputum culture should be collected if risk factors for antibiotic resistant organisms are present.

EMPIRIC TREATMENT

Classification		Duration (days)
Witnessed aspiration event	NONE – monitor patient If therapy initiated and patient improves rapidly (within 24-48 hours), aspiration pneumonitis is likely. Empiric antibiotics can be discontinued. If symptoms persist >48 hrs then consider treatment for aspiration pneumonia.	**0**
Aspiration pneumonitis	NONE – monitor patient If symptoms persist >48 hrs then consider treatment for aspiration pneumonia	**0**
Aspiration pneumonia *Anaerobes unlikely* • Majority of cases lacking criteria below	ceftriaxone 1 g IV q24h *If severe illness:* piperacillin-tazobactam 3.375 g IV q6h **ADD** vancomycin[1] if known or suspected MRSA *If severe beta-lactam allergy:* moxifloxacin 400 mg IV/PO q24h	**5-7**
Classic aspiration pneumonia *Anaerobes likely:* • subacute onset • putrid sputum • lung abscess, necrotizing pneumonia, or empyema	ceftriaxone 1 g IV q24h **PLUS** metronidazole 500 mg PO/IV q12h *If severe illness:* piperacillin-tazobactam 3.375 g IV q6h **ADD** vancomycin[1] if known or suspected MRSA *If severe beta-lactam allergy:* moxifloxacin 400 mg IV/PO q24h	**≥7** **Call Resp and/or ID**

For patients with renal insufficiency, see "Antimicrobial dosing in renal insufficiency"

1. *For vancomycin dosing, refer "Vancomycin Dosing and Therapeutic Monitoring" chapter*

Oral Step-Down and Duration

- Potential step-down regimen: amoxicillin-clavulanate 875/125 mg PO BID
  If severe beta-lactam allergy: moxifloxacin 400 mg PO daily
- Classic anaerobic aspiration pneumonia involves lung abscess, necrotizing pneumonia, or empyema, and requires prolonged therapy. Respirology and/or Infectious Diseases consultation recommended.