Optimistic COPD Exacerbation Protocol
Recommendations for Provider

COPD Exacerbation
New or Worsening Signs & Symptoms
- Increased dyspnea
- Increased wheezing
- Decreased O2 Saturation
- Increased sputum volume
- Sputum color change

Initiate monitoring orders: vital signs 3 times daily throughout diagnosis and treatment periods, with daily nursing assessments.

Initiate Standard Treatment
- O2 Therapy—goal > 90-92% SpO2
- SABA and/or SAMA
  - Albuterol—2.5mg NEB Q2H PRN
  - Ipratropium bromide/ albuterol (DuoNeb)—0.5mg/2.5mg per 3mL NEB Q6H
- Glucocorticoid
  - Prednisone—40mg PO Q24H x 5 days

Signs of bacterial infection?
- Dyspnea
- Increased sputum production
- Change in sputum color

Consider Ordering Labs and Imaging
- CXR
- CBC
- Rapid Flu
- BNP

Certify for Optimistic enhanced billing using CMS criteria (see back)

Re-evaluate within 24-72 hours.

Is patient improving?

YES

Treatment
- If influenza: Oseltamivir—75mg PO Q12H x 5 days
- Supportive care

NO

Consider alternate diagnosis
Consider transfer to hospital

Risk Factors for Pseudomonas
- Advanced COPD (stage 3/4)
- Associated bronchiectasis
- Previous Pseudomonas infection
- Frequency of exacerbations (4 or more in last year)
- Frequency of hospitalizations (2 or more in past 90 days)

Antibiotics (see back for renal dosing)

Pseudomonas: see IDSA guidelines for single versus double coverage. Anti-pseudomonal antibiotics include:
- Piperacillin-tazobactam 4.5 g IV Q6H
- Cefepime 2 g IV Q8H
- Meropenem 1 g IV Q8H OR imipenem 500 mg IV Q8H with levofloxacin 750 mg IV Q24H
- Aztreonam 2 g IV Q8H

Patients with pan-resistance need an Infectious Disease consultation

MRSA: Vancomycin 15-20 mg/kg IV Q8-12H OR linezolid 600 mg IV Q12H

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Antibiotics
- Doxycycline—100mg PO Q24H x 7 days
- Amoxicillin/Clavulanate—875mg/125mg Q12H x 7 days
- TMP-SMX DS—160mg PO Q12H x 7 days
- Clarithromycin—1000 mg PO Q24H x 7 days
- Moxifloxacin—400 mg PO Q24H x 7 days

NO

Consider Ordering Labs and Imaging
- N/A

Certify for Optimistic enhanced billing using CMS criteria (see back)

YES

Re-evaluate and modify chronic COPD management
Recommend patient receive Vaccinations
- Influenza and pneumococcal (both PSV-23 and PCV-13)
Facilitate advanced care planning and offer POST form if appropriate
Recommend smoking cessation
Pulmonary rehabilitation if available

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Is patient improving?
### Optimistic COPD Exacerbation Protocol

#### Recommendations for Provider

**Special Considerations**
- Prior treatments for COPD exacerbations, including antibiotic use/frequency within past 3 months
- If on glucocorticoids, monitor for hyperglycemia & mood changes
- If on warfarin:
  - Adjust antibiotics as needed
  - Check INR frequently
  - Monitor GI bleeding with patients also on glucocorticoids
- Review patient’s goals of care including POST form and hospitalization preferences

**Antibiotics Renal Dosing Adjustments**
- Amoxicillin/Clavulanate < 30 ml/min
- Aztreonam < 30 ml/min
- Cefepime < 60 ml/min
- Imipenem < 60-70 ml/min
- Levofloxacin < 50 ml/min
- Oseltamivir < 60 ml/min
- Piperacillin/Tazobactam < 40 ml/min
- TMP-SMX DS < 30 ml/min

*Note: You will need to make dose adjustments at the levels of creatinine clearance listed above. If antibiotic not on list, there are no dosage adjustments provided in the manufacturer’s labeling.*

### CMS Certification Criteria for COPD

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<thead>
<tr>
<th>COPD/Asthma Exacerbation (up to 7 days)</th>
<th>MUST have:</th>
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<tr>
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<td>• Known diagnosis of COPD/asthma OR chest x-ray showing COPD with hyperinflated lungs and no infiltrates</td>
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<td>AND two or more of the following:</td>
<td>• New or worsening wheezing, cough, shortness of breath, or increased sputum production</td>
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<td>• CO2 sat level ≤ 92% on room air or on patient’s usual O2 settings in patients with chronic O2 requirements</td>
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<td>• Acute reduction in Peak Flow or FEV1 on spirometry</td>
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<td>• Respiratory rate ≥ 24 breaths/minute</td>
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*These are recommendations from expert consensus and an extensive literature review, including the AMDA Clinical Practice Guidelines. In practice, use your clinical judgements for individual patient care.*

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