Inpatient Management of Acute COPD Exacerbation (AECOPD)

Initial Assessment
- Vitals & SpO2
- VBG (or ABG), CXR, BNP +/- trop if clinically indicated
- Assess Severity

Immediate Management (Within First Hour)

Oxygen: SpO2 88–92%, reassess ABG if CO2 retention
Bronchodilators: Albuterol + Ipratropium
Steroids: Prednisone 40 mg PO daily x5 days (or IV methylprednisolone if unable to take PO)
Antibiotics per expanded criteria

Reassess

Improving? → Continue bronchodilators & steroids, monitor closely, consider de-esc to LA nebulizer therapies if indicated
Hypercapnia/Acidosis (pH ≤7.35, ↑PaCO2)? → Initiate BiPAP

Escalation of Care

Review MOLST/Advance Directives
ICU: Severe acidosis (pH <7.25), worsening hypercapnia, refractory hypoxemia
Intubation: Respiratory arrest, severe encephalopathy, instability

Supportive Care

- DVT prophylaxis
- Early mobilization
- Airway clearance-incentive spirometry/pulm toilet-aerobika
- Active O2 weaning
- Smoking cessation
- Review inhaler technique

Discharge Criteria & Planning

- Stable on room air or baseline O2 with improved symptoms and clinical findings
- Minimal rescue bronchodilator need
- Ambulating safely
- Optimize maintenance inhalers and provide 30 day supply of ALL (LABA/LAMA ± ICS, SABA)
- Pulmonary rehab referral
- Vaccinations (Influenza, Pneumococcal)
- Exacerbation action plan

COPD Management: Antibiotics For Routine Use?

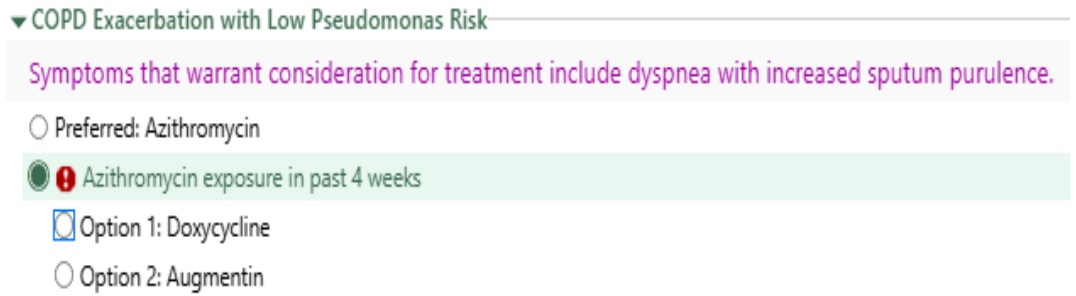
Best Practice & LOS Considerations

Antibiotics are widely indicated in COPD exacerbation

GOLD*	UpToDate
•Purulent sputum •Prior positive bacterial cultures •Invasive/non-invasive mechanical ventilation	•Moderate to severe exacerbation •Worsening sx despite other usual tx •Low FEV1 (<50%) •Recurrent admissions •Prior hospitalizations past yr •Comorbid conditions esp HF/CAD •Advanced age (>65)

**Global Initiative for Chronic Obstructive Lung Disease*

- **Caveat: no recent sputum cx data or recent abx course of therapy exposure**



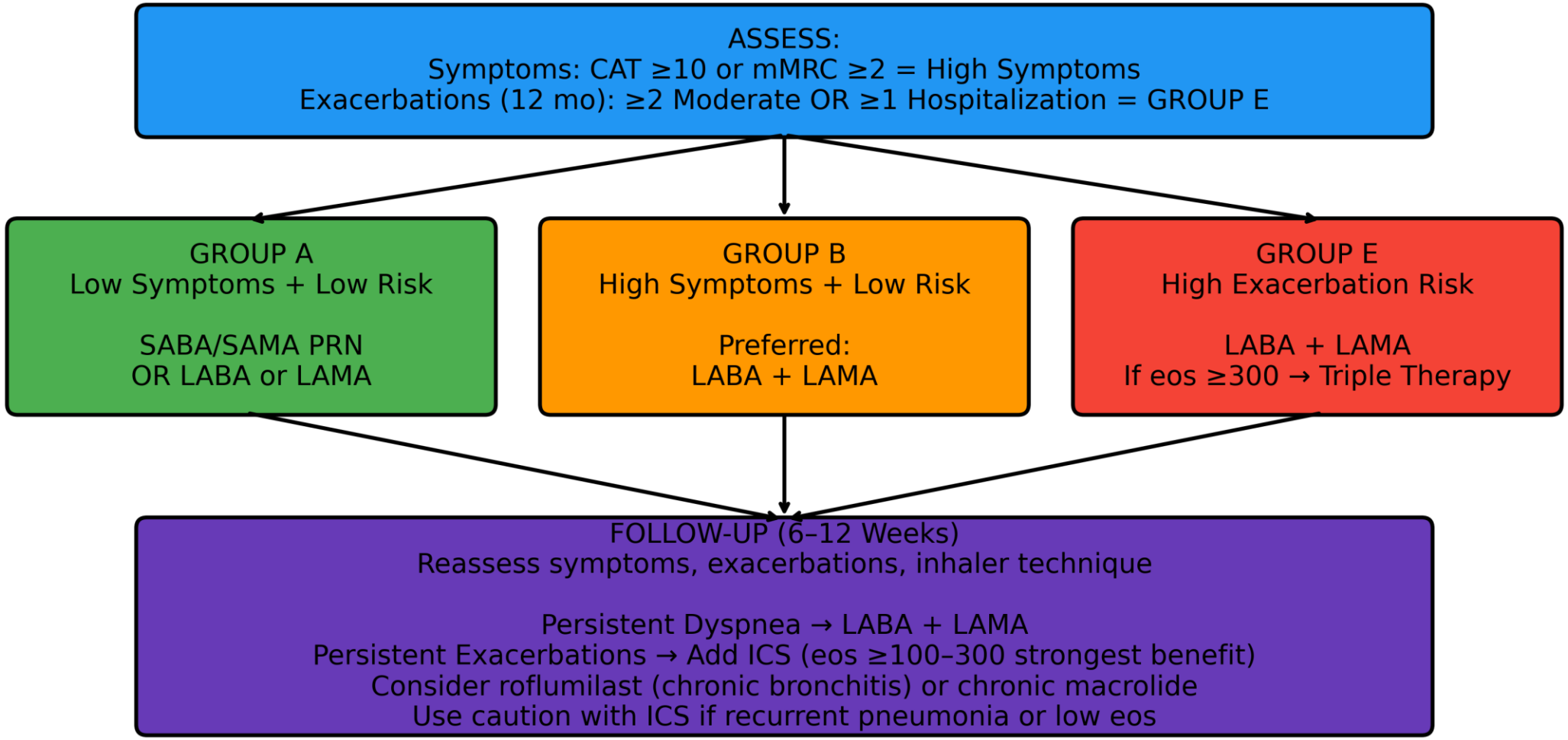
- **Doxycycline, amoxicillin-clavulanate & azithromycin most widely studied**
- **Pre-print retrospective study from 2025 looking at hospitalized COPD exacerbation patients receiving – beta-lactam, macrolide, tetracycline, or quinolone – conclusion was no significant difference between classes therefore use narrow spectrum agents – azithro / doxy**

- **Azithro (3 days)vs doxy (5 days) – LOS lower with azithro & faster resolution of dyspnea with azithro**

Kumar et al. Comparative Evaluation of Azithromycin & Doxycycline in Acute Exacerbations of COPD Eur J of Cardiovascular Medicine Vol 15:10:654-657

- **Additional benefits of azithro: shorter course of txt, reduction in cumulative amount of steroids required shown in one retrospective study.**
- **Clinical data for azithro using 3x week prophylaxis shows reduction in exacerbations**
- **Trials excluded azithro when QTc>450 ms**

COPD Inhaler Therapy Algorithm – GOLD 2026 (ABE Classification)



COPD Single – Agent Inhalers

★= COPD Preferred (GOLD)

LABA

★ Indacaterol – Arcapta
★ Olodaterol – Striverdi
Salmeterol – Serevent
Formoterol – Perforomist
Arformoterol – Brovana

LAMA

★ Tiotropium – Spiriva
★ Umeclidinium – Incruse
★ Glycopyrrolate – Seebri / Lonhala
★ Revefenacin – Yupelri
Aclidinium – Tudorza

ICS

Budesonide – Pulmicort
Fluticasone – Flovent / Arnuity
Mometasone – Asmanex
Beclomethasone – QVAR

Note: ICS NOT used alone in COPD

COPD Combination Inhalers

★= COPD Preferred (GOLD)

LABA + LAMA

★ Umeclidinium/Vilanterol – Anoro
★ Tiotropium/Olodaterol – Stiolto
★ Glycopyrrolate/Formoterol – Bevespi
Aclidinium/Formoterol – Duaklir

LABA + ICS

★ Budesonide/Formoterol – Symbicort
★ Fluticasone/Vilanterol – Breo
Fluticasone/Salmeterol – Advair
Mometasone/Formoterol – Dulera

Triple Therapy (LABA + LAMA + ICS)

★ Fluticasone/Umeclidinium/Vilanterol – Trelegy
★ Budesonide/Glycopyrrolate/Formoterol – Breztri