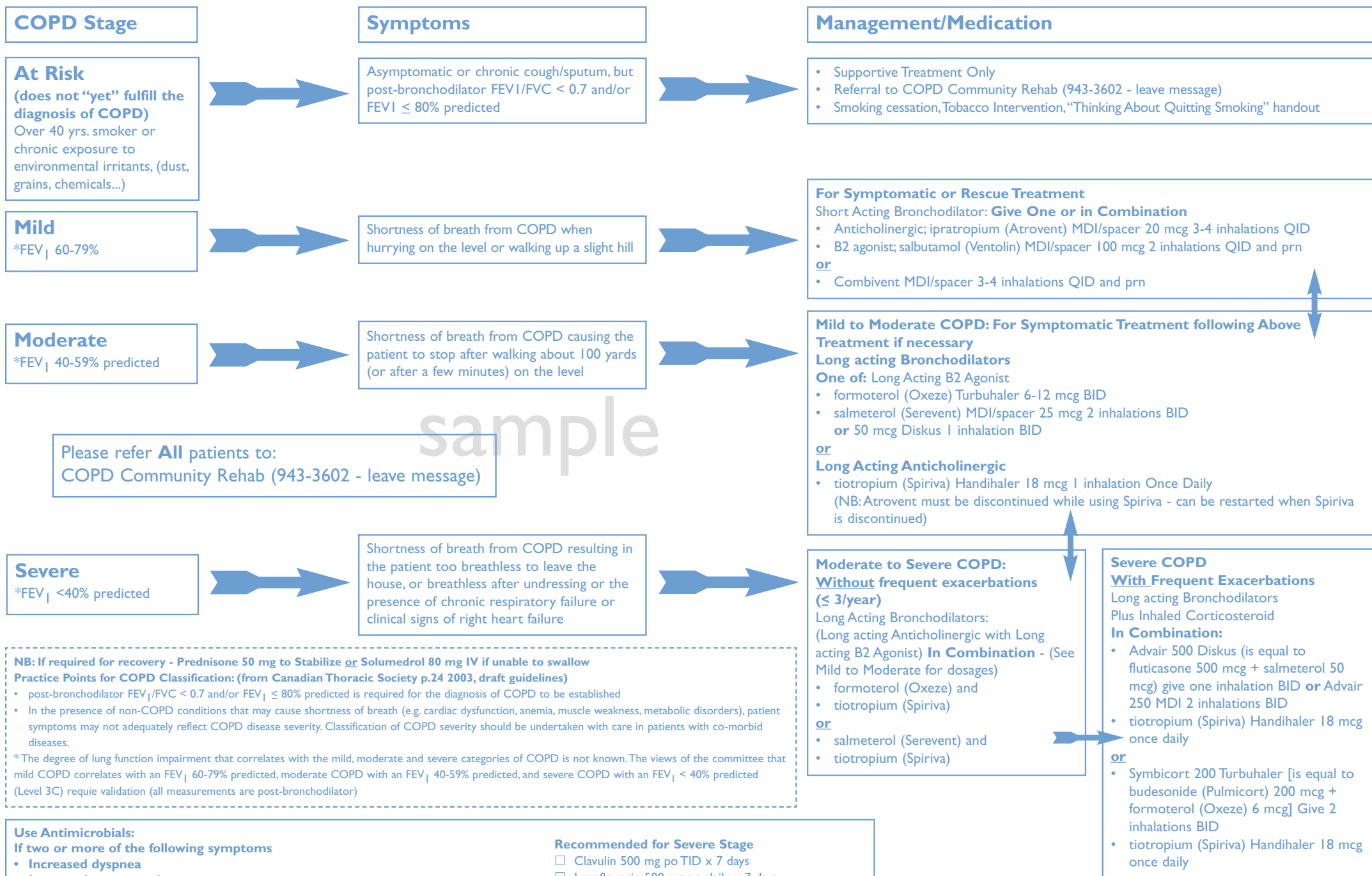


COPD Medication Management Algorithm



Please refer **All** patients to:
 COPD Community Rehab (943-3602 - leave message)

NB: If required for recovery - Prednisone 50 mg to Stabilize or Solumedrol 80 mg IV if unable to swallow
Practice Points for COPD Classification: (from Canadian Thoracic Society p.24 2003, draft guidelines)

- post-bronchodilator FEV₁/FVC < 0.7 and/or FEV₁ ≤ 80% predicted is required for the diagnosis of COPD to be established
- In the presence of non-COPD conditions that may cause shortness of breath (e.g. cardiac dysfunction, anemia, muscle weakness, metabolic disorders), patient symptoms may not adequately reflect COPD disease severity. Classification of COPD severity should be undertaken with care in patients with co-morbid diseases.

*The degree of lung function impairment that correlates with the mild, moderate and severe categories of COPD is not known. The views of the committee that mild COPD correlates with an FEV₁ 60-79% predicted, moderate COPD with an FEV₁ 40-59% predicted, and severe COPD with an FEV₁ < 40% predicted (Level 3C) require validation (all measurements are post-bronchodilator)

Use Antimicrobials:
If two or more of the following symptoms

- Increased dyspnea
- Increased sputum volume
- Increased purulent sputum

Antibiotics (select most appropriate choice from below)

- Azithromycin 500 mg first dose, **then** 250 mg po daily x 4 days
- Cefuroxime axetil 250 mg po BID x 7 days
- Clarithromycin 500 mg po BID x 7 days
- Doxycycline 200 mg po first dose, **then** 100 mg po daily x 5 days
- Septra DS 1 po BID x 7 days

Clinical Practice Guideline are developed to bring best evidence forward to assist in care and treatment decisions and are to be used with clinical judgement.

Recommended for Severe Stage

- Clavulin 500 mg po TID x 7 days
- Levofloxacin 500 mg po daily x 7 days
- Other Fluoroquinolones _____

*** Practice Points For Exacerbation in COPD**

Prognosis

- Baseline FEV₁ correlates with survival.
- **2 year Survival rates:** With a post bronchodilator
 FEV₁ 20 – 29% → 65%
 FEV₁ 30 – 39% → 83%

ABGs

- A pH of < 7.25 will most likely require BIPAP and/or ICU care. A respirologist or intensivist should be contacted immediately.
- Usually in acute respiratory acidosis the pH decreases by 0.08 for every 10mm Hg increase in pCO₂.
- Chronic respiratory acidosis the HCO₃ usually increases 3 – 4 mmol/L for every 10 mm Hg increase in pCO₂.

O₂

- **Goal:** to correct life threatening hypoxemia without causing a fall in the pH (<7.26)
- Use smallest amount of supplemental O₂ required to achieve goal. **Aim for oxygen saturations of 87-92%.**
- Initial ABGs showing hypercapnia or acidosis give O₂ by Venturi mask or Cold Nebulizer delivers a more predictable O₂ concentration than nasal prongs.
- **ABGs should be repeated x 1 20-30 min. after any change** in the O₂ when patient is unstable, then as per physician order.
- If the inspired O₂ causes a worsening of the pH (< 7.26) and the SaO₂ remains unacceptably low then this patient requires alternate therapies (BIPAP, ICU). Consult respirologist or intensivist immediately.

Antimicrobial Therapy

- If patient has recently been on antibiotics, consider a different class of antibiotic.
- These guidelines reflect local susceptibility data and may differ from Alberta Med.Assoc. Guidelines.

Corticosteroids

- **Rationale:** Oral corticosteroids for acute exacerbations of COPD have been shown to reduce treatment failures, decrease length of stays.
- **Duration:** 2 week course of corticosteroids is as effective as an 8 week tapering course. Tapering schedule is not required for a 2 week course of prednisone.
- **Dosage:** Optimal dose not determined. SCCOPE trial used high dose initial therapy (methylprednisone 125 mg IV Q6h x 72 hours). Usually exacerbations can be safely treated with Prednisone 50 mg daily x 10-14 days, d/c without taper.

Long-Term Supplemental O₂

- **Benefits:**
- Supplemental O₂ is the **only drug shown** to confer a survival benefit. Benefit is seen in patients with a PaO₂ < 55 (or < 60 in the setting of pulmonary hypertension, cor pulmonale or secondary polycythemia)
- The patient must wear the O₂ a **minimum of 15 hours/day.**
- There is no survival benefit of supplemental O₂ in patients with adequate PaO₂

Sedatives

- Avoid sedatives, hypnotics and narcotics if at all possible, especially if respiratory acidosis exists.

Key References/Resources:

Aaron S.D., Vandemheen K.L., Hebert P., Dales R., Stiell I.G., Ahuja J., Dickenson G., Brison R., Rowe B.H., Dreyer J., Yetisir E., Cass D., Wells G., Outpatient Oral Prednisone after Emergency Treatment of Chronic Obstructive Pulmonary Disease, N Engl J Med 2003; 348:2618-2625, June 26, 2003

Alberta Medical Assoc., The Management of Acute Bronchitis, Dec. 2000

Alberta Medical Assoc., The Management of Acute Exacerbation of Chronic Bronchitis, Dec. 2000

Canadian Respiratory Review Panel, Guidelines for the Treatment of Chronic Obstructive Pulmonary Disease, 1998

Canadian Thoracic Society and Canadian Infectious Disease Society Guidelines for Acute Exacerbation of Chronic Bronchitis - Draft, 2003

Dr. C. Chan, Dr. J. Conly, Dr. M. Miller, Dr. K. Slayter and Dr. G. Stiver, Editors and Peer Review Panel, An Evidence-based Appraisal of the New Respiratory Fluoroquinolones in Lower Respiratory Tract Infections, University of Manitoba, Summer 2002. [Funded by Janssen - Ortho Inc. with statement against bias].

R.A. Pauwels, A.S. Buist, P.M. Calverly, C.R. Jenkins, and S.S. Hurd, Global Strategy for the Diagnosis, Management and Prevention of Chronic Obstructive Pulmonary Disease, Am J Resp Critical Care Med. Vol. 163, pp. 1256-1276, 2001

Local expert opinion and consensus between CHR Respiratory Medicine, Internal Medicine, Family Medicine, and Emergency Medicine, 2002

Division of Respiratory Medicine accepts accountability for annual review and update with change in evidence.

Eligibility Criteria for Influenza and Pneumococcal Vaccines

Influenza	Pneumococcal
<ol style="list-style-type: none"> 1. 65 Years and Over 2. 6 Months to 64 Years With Any of the Following: 	<ol style="list-style-type: none"> 1. 65 Years and Over 2. 2 Years to 64 Years With Any of the Following:
<ul style="list-style-type: none"> • Chronic Anemia/hemoglobinopathy • Children (6 mo. - 18 years) on long term ASA • Health Care Workers, students and volunteers in a health care facility • Household contacts with high-risk people who cannot be vaccinated • Other Target Groups: (CUPS, PCDC, DROP IN CENTER, SAFEWORKS) • Chronic Pulmonary Disorders • (Bronchopulmonary dysplasia (BPD)), Cystic Fibrosis (CF), Asthma • Cancer 	<ul style="list-style-type: none"> • Functional or anatomic asplenia (includes sickle cell disease). When possible vaccine should be given at least 10-14 days before splenectomy • Chronic Cerebrospinal fluid leak • Chronic Liver Disease (eg. Cirrhosis) Alcoholism • Pulmonary (COPD, Emphysema), - Asthma alone is NOT indicated for vaccine

Common Indications for BOTH Influenza and Pneumococcal Vaccines Include:

- Chronic Cardiac Disorders (**Not** Hypertension alone)
- Diabetes Mellitus and other chronic metabolic diseases
- Chronic Kidney Disease (eg., chronic renal disease)
- Immunodeficiency, Immunosuppression (due to underlying disease and/or therapy), antimetabolites or systemic corticosteroids
- Residents of Continuing Care facilities
- **Pregnant Women Only If in high risk eligible category**
- **May be given during breast feeding**

DO NOT GIVE INFLUENZA OR PNEUMOCOCCAL VACCINES IF:

- **Patient has had previous anaphylactic reaction to vaccine**
- **Patient has developed Guillian-Barre Syndrome (GBS) within six to eight weeks of a previous influenza vaccine**
- **Known allergy to eggs (influenza vaccine), manifested as hives, mouth and throat swelling, breathing difficulty, hypotension, shock.**

Revaccination:

"At present, routine revaccination is not recommended but revaccination should be considered for those of any age at highest risk of invasive infection (functional or anatomic asplenia or sickle-cell disease; debilitating cardiorespiratory disease; hepatic cirrhosis; chronic renal failure or nephrotic syndrome; HIV infection; and immunosuppression related to disease therapy). Canadian Immunization Guide (6th Edition, 2002)

sample