When to suspect COPD:

- **Chronic and progressive dyspnea**
- **Recurrent wheeze**
- **Chronic cough**
- **Recurrent respiratory infections**
- **Risk factors including exposure to tobacco smoke**

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Diagnosis requires spirometry demonstrating post-bronchodilator FEV1/ FVC ratio <0.7 (or LLN). Spirometry in Kingston

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Is the airflow obstruction reversible with bronchodilators (FEV1 improves by ≥200ml AND ≥12%)

Yes → **Diagnosis is more likely to be asthma**

No ↓

COPD is confirmed

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Determine severity

Mild: FEV1≥80% predicted	Consider referring to a respirologist if not responding to treatment as outlined below
Moderate: FEV1 50-80% predicted	Consider referring to a respirologist if symptomatic or FEV1<70%, document GOC discussion
Severe: FEV1 30-49% predicted	Patient should be seen by a respirologist, document GOC discussion
Very Severe: FEV1<30%	Patient should be seen by a respirologist, document GOC discussion

Assessing symptoms – Consider:
COPD Assessment Test (CAT)
MRC grade

Refer your patient:
Pulmonary Function Laboratory at KHSC – HDH site

Initiating treatment for COPD

Preventative measures
For all COPD patients

Vaccinations: Pneumococcal vaccine, **yearly** influenza vaccine, **yearly** covid vaccine, Herpes Zoster vaccine
Smoking cessation: Counselling, nicotine replacement (STOP program), Bupropion, Varenicline resources
Advanced care planning: Discuss and document goals of care and wishes in the event of an exacerbation
COPD action plan:

- For increased dyspnea, cough: **prednisone 40mg po daily x 5 days and**
- If fever or green/brown sputum: **add antibiotics** ex: Amox-Clav 875mg BiD x 5-7 days, Levofloxacin 750mg po daily x 5-7 days; Moxifloxacin 400mg po daily x 5-7 days.
- COPD action plan template

Pharmacological treatment for COPD

Stable COPD management
If FEV1 ≥ 80% predicted, few symptoms and no previous AECOPD:
Prescribe either LABA (formoterol, salmeterol, indicaterol) or LAMA (tiopropium, aclidinium, umeclidinium, glycopyrrolate).

If FEV1 <80% predicted and stable COPD without exacerbations but patient has significant symptom burden:
Prescribe both LABA AND LAMA or a combination product with both ingredients.

If FEV1 <80% predicted and stable COPD without exacerbations but patient has significant symptom burden despite taking LAMA & LABA:
Add inhaled steroid by switching to a LAMA/LABA/ICS combination puffer. In addition to triple inhaled therapy consider **referring to pulmonary rehabilitation**, which can improve symptoms considerably.

*If FEV1 < 80% and the patient is taking LAMA/LABA/ICS and has had either **2 AECOPD** within the last year or **1 AECOPD that sent them to the ER or to hospital** admission:*
Add azithromycin 250mg OD (consider risk of hearing impairment and QT prolongation with arrythmias).

Inhaler examples
LABA examples: Salmeterol Diskus 50mcg 1 puff BiD (LU 391) *or* Olodaterol 2.5mcg/puff 2 puffs OD *or* Oxeze Turbuhaler 6mcg inhaled Bid *or* 12 mcg inhaled BiD *or* Foradil 12 mcg inhaled BiD.

LAMA examples: Spiriva Respimat 2.5 mcg/puff 2 puffs OD *or* Aclidinium 400mcg BiD or umeclidinium 62.5 mcg 1 puff OD

Combination LAMA & LABA examples: Aclidinium 400mcg & Formoterol 12 mcg 1 puff BiD (LU 459) *or* Olodaterol 2.5 mcg & tiotropium 2.5 mcg 2 puff once daily or umeclidinium 62.5 mcg & vilanterol 25 mcg 1 puff OD (LU 459).

Combination LABA/LAMA/ICS examples: Trelegy Ellipta (fluticasone 100mcg/umeclidinium 62.5 mcg/vilanterol 25 mcg) 1 puff OD (LU 567) or Breztri Aerosphere (budesonide 160mcg/glycopyrrolate 9mcg/formoterol 4.8 mcg) 2 puffs BiD (LU 638).

Advanced therapies

Home Oxygen Therapy
Mortality benefit in patients with chronic hypoxia

Option 1
Oxygen for maintenance use ≥ 15 hours/day

→ (i) **PaO2 ≤ 55mmHg**
or
(ii) **PaO2 56-59 mmHg** but the patient has **pulmonary hypertension** or **raised hematocrit**.

Option 2
Oxygen for exercise capacity

→ Significant **improvement in exercise tolerance** with the addition of oxygen, in a patient whose **SpO2 falls to <85% with exercise**.
Often, there is no improvement with added oxygen because dyspnea relates to the respiratory mechanics and not to low oxygen saturation.

Vendors

Pulmonary Rehabilitation

Patients with **FEV1 < 80%** who are **symptomatic despite inhaler treatment** should be referred to pulmonary rehabilitation.
Teaches breathing techniques, nutrition, self-management, behavioral interventions, psychological support and improves exercise capacity.
Find local programs here

Recent hospitalization for AECOPD?

The patient should be seen **in person by PCP within 7 days of discharge**

→ Referral to **pulmonary rehabilitation should be considered**
If referred, pulmonary rehabilitation should commence within one month of hospital discharge.

Palliative approaches to care for patients with COPD

It is important to have and document a detailed GOC discussion w/ the patient, including:

- patient wishes in the event of deterioration in respiratory status – medical management + symptom relief vs. symptom relief only
- consideration of hospitalization vs. management in the community
- patient wishes for resuscitative measures including non-invasive ventilation, intubation and ventilation, and CPR (in the event of cardiorespiratory arrest)

Consider low dose oral opioids for refractory dyspnea – e.g. kadian 10 mg PO daily, or morphine 2.5 mg TID-QID

Resources

Spirometry sites in Kingston and surrounding area
Click on the link to find information and referral form

- Pulmonary Function Laboratory at KHSC – HDH site
- Kingston Respiratory Services
- Lennox and Addington County General Hospital (Outpatient Services)
- KCHC Regional Lung Health Program

Spirometry is also offered by the KHSC Nurse Navigator.
Phone: 613 893 8430
Fax: 613 548 7803

Home oxygen vendors

- InspiAIR
- VitalAire
- ProResp
- Linde
- Kingston Oxygen Home Healthcare Centre