Primary Care Networks CALGARY AND AREA

Specialist *LINK* Linking Physicians

Alberta Health Services

COPD PATHWAY

This AHS Calgary Zone pathway has been developed with consideration of guidelines. The following is a best-practice clinical pathway for management of COPD relevant to the primary care medical home that includes a flow diagram and expanded details

CLINICAL CARE CHECKLIST | EXPANDED DETAIL | PHYSICIAN / NP RESOURCES | PATIENT RESOURCES

CLINICAL FLOW DIAGRAM: CONFIRMED COPD

DETERMINE THE TYPE OF VISIT

POST-ER OR HOSPITALIZATION | ROUTINE | EXACERBATION

INVESTIGATIONS

- COPD diagnosis confirmed with post-bronchodilator spirometry FEV1/FVC < 0.7
- Chest x-ray at initial diagnostic evaluation
- 02 saturation (< 90% at rest consider ABGs for home 02)
- Document BMI (low BMI may dictate need for nutritional support)
- Assess for comorbidity illness (depression, cardiac disease, diabetes etc.)

PATIENT SELF-MANAGEMENT & NON-PHARMALOGICAL MANAGEMENT

MORE DETAILS

- Smoking -- harm reduction / cessation
- Patient education / health literacy
- Exercise ■ Immunizations ■ Nutrition
- Social determinants of health ■ Home care ■ Advance Care Planning

RISK STAGING VIA SYMPTOMS & SPIROMETRY

MORE DETAILS

- Consider using modified Medical Research Council dyspnea scale (mMRC)

Mild COPD, mMRC < 1

SABA pm

↓

LAMA or LABA

Moderate and severe < 50% FEV, mMRC > 2; no hospitalizations/ER for COPD

LABA or LAMA

↓

LAMA / LABA 'Dual bronchodilator therapy

↓

LAMA + ICS / LABA 'Triple therapy'

Moderate and severe COPD, at high risk for repeat exacerbations -- mMRC > 2; ER visit, hospitalization for COPD

- Triple inhaler therapy (LAMA / LABA / ICS)
- COPD Action Plan
- Refer to CRE for COPD education, inhaler technique
- Refer to pulmonary rehab / COPD homecare

CONSIDER COPD ACTION PLAN

ACTION PLAN

ONGOING SURVEILLANCE

- At least yearly for mild COPD
- Increased frequency for moderate / severe or unstable patients

SUSPECTED EXACERBATION

EXACERBATION PATHWAY

ADVANCED SYMPTOM MANAGEMENT

- Consider referring symptomatic severe patients for behavioural interventions (i.e. pacing, pursed lip breathing techniques etc.) or end stage therapies (daily opioids)
- COPD advanced symptom management clinic or palliative care

Focused summary of COPD relevant to primary care

Chronic Obstructive Pulmonary Disease (COPD) is a common and preventable disease. The 2014 self-reported prevalence of COPD in Canada was estimated at 4% while the actual prevalence is estimated to be as high as 12%.[1] COPD is caused by exposure to noxious particles or gases resulting in lung damage, airflow limitation and persistent respiratory symptoms.[2] Symptoms include dyspnea, cough and/or sputum production. In Canada the primary risk factor for the development of COPD is exposure to cigarette smoke, however globally, biomass fuel exposure and air pollution may be significant contributors. It is a treatable illness, but associated with progression of disease and often results in significant morbidity and mortality. In most patients, the best place for diagnosis and management for COPD is within the primary care setting.

The diagnosis of COPD is made by completing post-bronchodilator spirometry in symptomatic, "at risk" individuals. Demonstration of fixed airflow obstruction is essential to objectively prove the diagnosis and help differentiate from conditions such as asthma. Clinical exam, history and chest imaging can help exclude other conditions on the differential diagnosis for dyspnea and cough, such as congestive heart failure, bronchiectasis, tuberculosis and other less common airway conditions. Spirometry is also used along with the level of disability to classify severity of COPD and subsequently guide therapy decisions. Consideration should be given to referral to a Certified Respiratory Educator to provide COPD education, smoking cessation advice and ensure proper inhaler technique. Prescription inhaled medications (chosen according to national/international treatment guidelines) help to prevent COPD exacerbations which lead to increased morbidity and mortality. Prompt treatment of exacerbations with a "COPD Action Plan" can help reduce frequency and severity of COPD exacerbations. A multi-disciplinary approach to address needs in more severe patients (such as dietician, palliative care as well as pulmonary specialists) can improve the overall quality of life for COPD patients.

1. Canadian Institute for Health Information. *COPD in Alberta: Examining the Characteristics and Health Care Use of High Users*. Ottawa, ON: CIHI; 2017.

2. Global Initiative for Chronic Obstructive Lung Disease; 2019

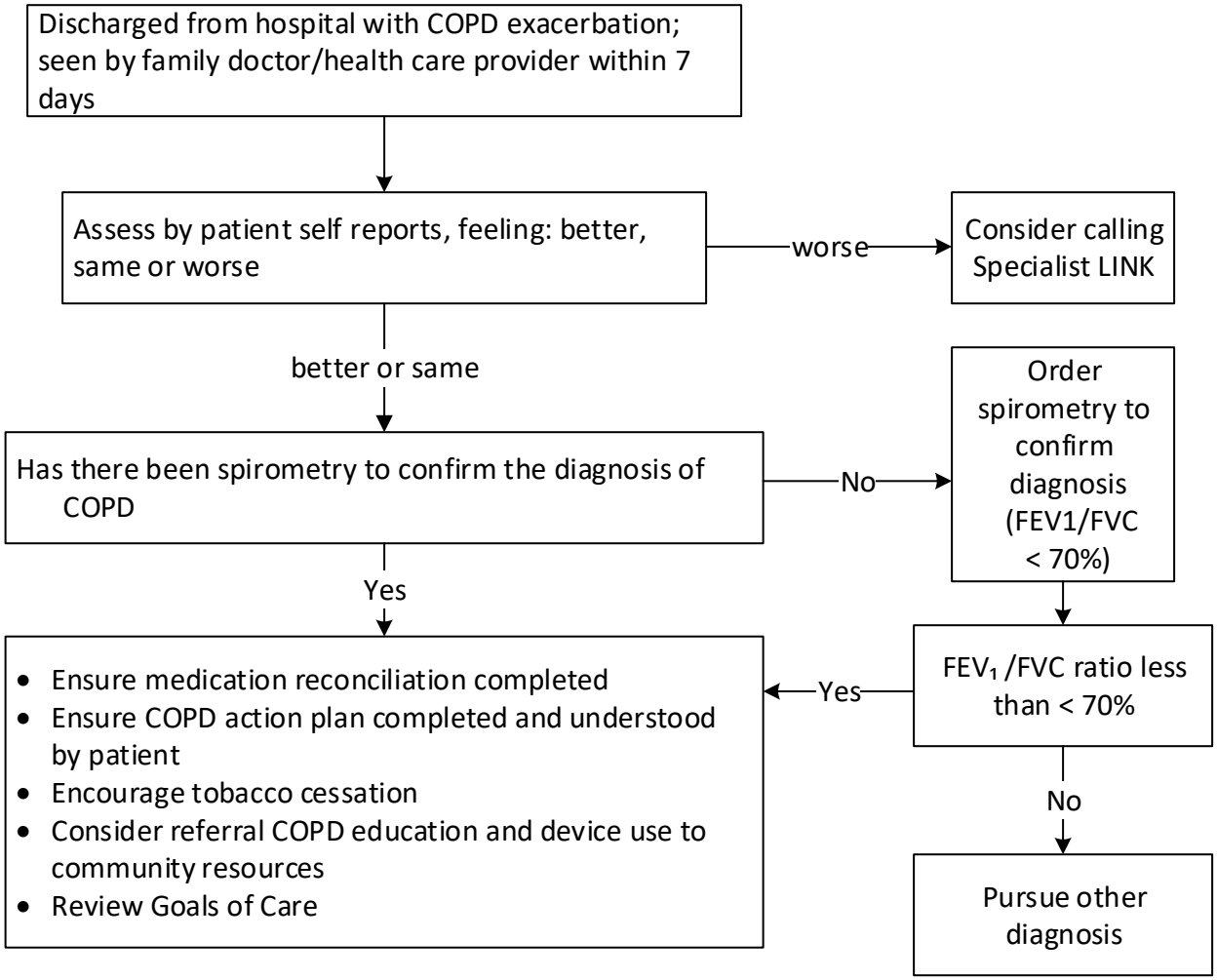
Clinical Care Checklist to guide your review of patient with COPD symptoms

- ❑ If patients at risk for COPD (example - history of smoking) have symptoms (example - exertional dyspnea or persistent cough) consider investigating for COPD by ordering pre and post salbutamol spirometry
- ❑ COPD is confirmed only if FEV1 to FVC ratio is <.7
- ❑ For patients with confirmed COPD, risk stratify on the basis of symptoms using the modified Medical Research Council Dyspnea Scale (mMRC Dyspnea Scale). COPD severity is also increased with a history of exacerbations requiring hospitalization, Emergency Room treatments or prednisone for acute worsening.
- ❑ Initiate pharmacologic therapy (short acting bronchodilator, inhaled bronchodilation: long acting muscarinic antagonist/ long acting beta agonist, plus inhaled corticosteroid for patients with frequent exacerbations) as per guidelines based on spirometry results, exacerbation history and symptoms
- ❑ Patients should be encouraged to have COPD specific education, smoking cessation counseling and review of proper inhaler technique (Calgary COPD and Asthma program, or other programs with Certified Respiratory Educators)
- ❑ Create a COPD action plan including a prescription (prednisone plus antibiotic) for self-management in appropriate patients (with history of exacerbations and ability to understand and use an Action Plan)
- ❑ Patients should be reviewed one week after being treated for COPD exacerbation- upon discharge from hospital or ER visit for COPD exacerbation
- ❑ In severe COPD patients discuss goals of care, dyspnea control and referral to palliative care for advanced symptom management

Exacerbation Pearls

- ❑ Ensure that inhaler technique is correct- referring patient to a certified respiratory educator or community pharmacist can support this.
- ❑ Perform clinical status check within 7 days of intervention for exacerbation (same or improvement expected)
- ❑ Remember return to baseline may take up to 6 weeks
- ❑ Always encourage smoking cessation at every visit
- ❑ Long term daily inhaled combination LABA/LAMA therapy in moderate to severe COPD will help prevent exacerbations
- ❑ In patients that have moderate to severe COPD and experience one or more exacerbations, consider moving to triple inhaled therapy (i.e. LAMA/LAMA/ICS) to prevent further exacerbations
- ❑ Consider providing 'COPD Action Plan' to all patients who have history of exacerbations

Post Hospital/ER Visit- Safety Visit



Expanded detail

Diagnosis of COPD

COPD diagnosis is made when there are symptoms (dyspnea, cough etc.) plus fixed airflow obstruction (reduced FEV1/FVC of <70% and/or <lower limit of normal for age). Spirometry is a subset of pulmonary function tests and is the testing that is needed for diagnosis of COPD.

Patient self-management and non-pharmacological management

COPD treated with both pharmacotherapy and non-pharmacological management can improve symptoms and quality of life for patients at any stage of disease severity. The below table includes considerations for self-management and non-pharmacological management.

	Recommendations	Local resources
Smoking	Smoking cessation advised; however a harm reduction approach should be used	Albertaquits.ca Alberta Healthy Living Program (AHLP) PCN resources
Patient education	Patients should be should be provided with disease specific education	AHLP Calgary COPD & Asthma Program (CCAP) PCN resources
Exercise	Goal is starting at 10 minutes, increasing to 30 minutes 2-3X/week	AHLP Pulmonary rehab PCN Resources
Immunization	Annual flu vaccine Periodic pneumococcal pneumonia immunization (as per product monograph)	PCN pharmacists, AHS and community resources
Nutrition	Consider a referral to Registered Dietitian to ensure appropriate nutrition status	PCN Resources AHLP Dietitian
Social determinants of health	Consider that living with COPD may impact other factors of health; may consider a referral to social worker	PCN Resources
Home Care	General homecare as well as COPD specific homecare may be appropriate	Alberta Referral Directory
Advance Care Planning	Encourage patients to choose an agent, communicate their values and document these in a Personal Directive	www.conversationsmatter.ca

Risk Stratification

The Modified Medical Research Council (MMRC) Dyspnoea Scale

Grade of dyspnoea	Description
0	Not troubled by breathlessness except on strenuous exercise
1	Shortness of breath when hurrying on the level *or* walking up a slight hill
2	Walks slower than people of the same age on the level because of breathlessness *or* has to stop for breath when walking at own pace on the level
3	Stops for breath after walking about 100 m *or* after a few minutes on the level
4	Too breathless to leave the house *or* breathless when dressing or undressing

+ FEV_1

Risk stratification is completed using the mMRC Dyspnea scale and FEV_1. Mild COPD= mild symptoms, FEV1>80%; moderate COPD is FEV1 between 50 and 80 %; severe COPD is FEV1<50% predicted

Management

Review patient management yearly in stable patient. Review more frequently in severe disease, recent medication changes, or recent exacerbation

Ongoing surveillance includes:

- Patient self-reports feeling better/same/worse; if better or same, ensure patient is maintained on a LAMA/LABA
- mMRC
- Weight- patients in end stage COPD will lose weight
- O2 sat
- Exacerbation history
- C-x-ray not routine; consider repeat spirometry if deterioration

Non-urgent considerations:

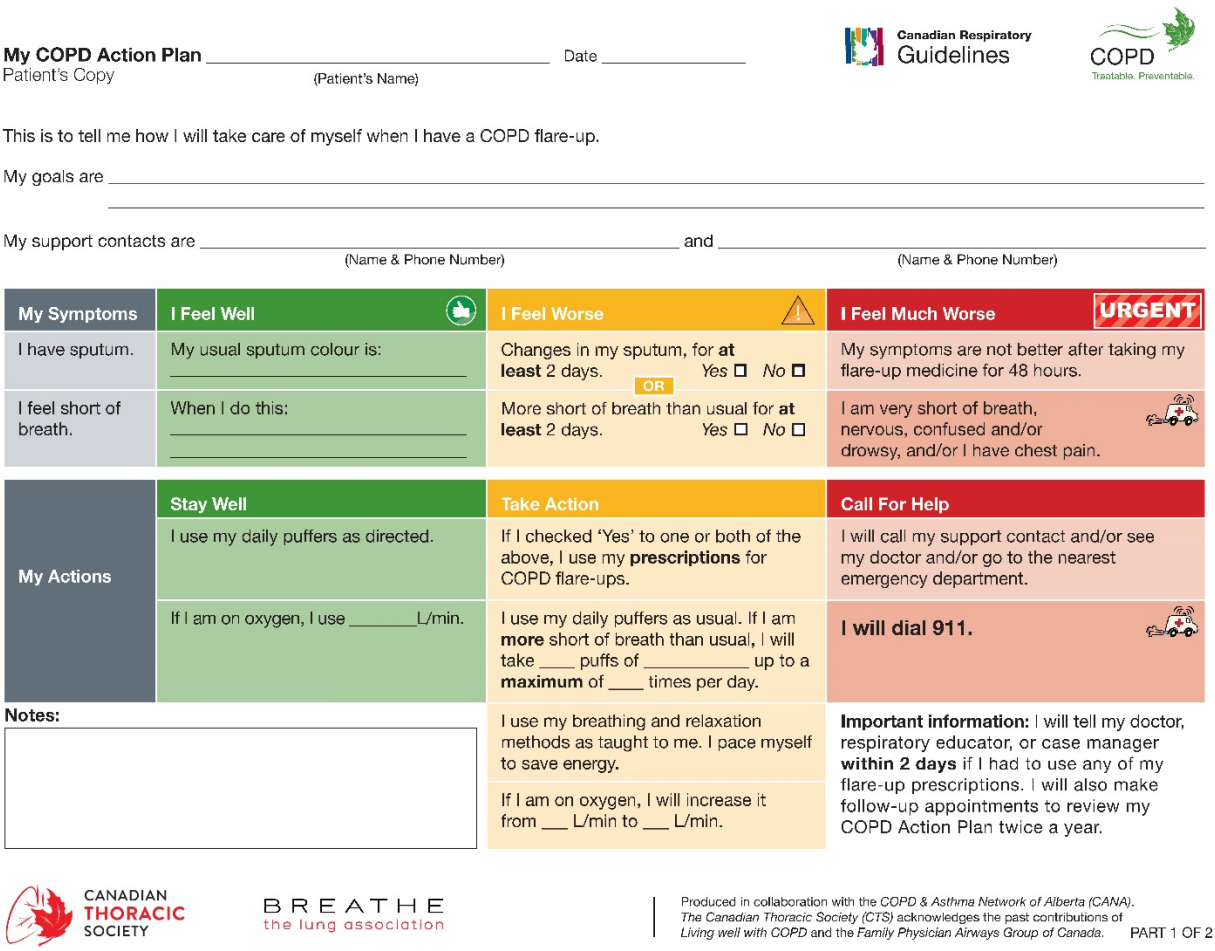
- Alberta blue cross coverage for triple therapy is met (hyperlink to Alberta blue cross)
- Smoking cessation referral
- Consider pneumococcal immunization

Pharmacotherapy:

- additional information for medication management can be found here: https://www.ucalgary.ca/asthma/files/asthma/hcp-med-sheet.pdf

COPD Action Plan

Reducing the number of exacerbations improves mortality. If a patient has an exacerbation and is able to reliably follow a self- management plan, a COPD action plan should be put in place. A fillable PDF action plan can be found here https://cts-sct.ca/wp-content/uploads/2019/03/5491_THOR_COPDActionPlanUpdate_2019_Editable_Eng_v2.pdf



My COPD Action Plan _____ Date _____
Patient's Copy (Patient's Name)

Canadian Respiratory Guidelines

COPD Treatable. Preventable.

This is to tell me how I will take care of myself when I have a COPD flare-up.

My goals are _____

_____

My support contacts are _____ and _____
(Name & Phone Number) (Name & Phone Number)

My Symptoms	I Feel Well	I Feel Worse	I Feel Much Worse URGENT
I have sputum.	My usual sputum colour is: _____	Changes in my sputum, for **at least** 2 days. *Yes* ☐ *No* ☐ OR	My symptoms are not better after taking my flare-up medicine for 48 hours.
I feel short of breath.	When I do this: _____ _____	More short of breath than usual for **at least** 2 days. *Yes* ☐ *No* ☐	I am very short of breath, nervous, confused and/or drowsy, and/or I have chest pain.

My Actions	Stay Well	Take Action	Call For Help
	I use my daily puffers as directed.	If I checked 'Yes' to one or both of the above, I use my **prescriptions** for COPD flare-ups.	I will call my support contact and/or see my doctor and/or go to the nearest emergency department.
	If I am on oxygen, I use _____L/min.	I use my daily puffers as usual. If I am **more** short of breath than usual, I will take ____ puffs of _____ up to a **maximum** of ____ times per day.	**I will dial 911.**
		I use my breathing and relaxation methods as taught to me. I pace myself to save energy.	**Important information:** I will tell my doctor, respiratory educator, or case manager **within 2 days** if I had to use any of my flare-up prescriptions. I will also make follow-up appointments to review my COPD Action Plan twice a year.
		If I am on oxygen, I will increase it from ___ L/min to ___ L/min.	

Notes:

CANADIAN THORACIC SOCIETY

BREATHE the lung association

Produced in collaboration with the *COPD & Asthma Network of Alberta (CANA)*. *The Canadian Thoracic Society (CTS)* acknowledges the past contributions of *Living well with COPD* and the *Family Physician Airways Group of Canada*. PART 1 OF 2

Exacerbation management

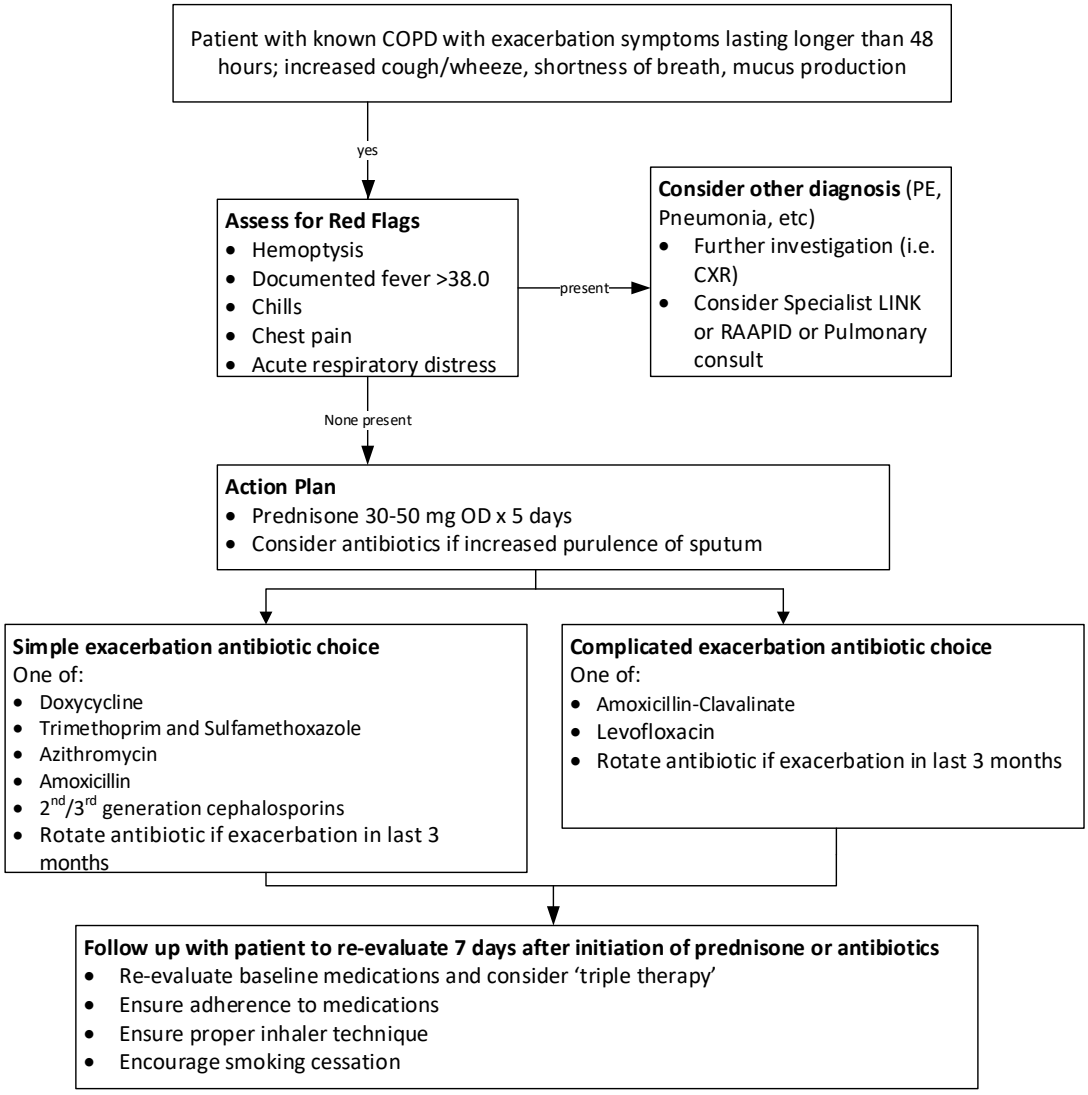
A COPD exacerbation is defined as a flare up of COPD symptoms that get **worse for at least 48 hours.** Symptoms include: increased coughing/wheezing, shortness of breath, and mucus production. There are 2 different types of exacerbation:

-Simple: COPD without risk factors

-Complicated: COPD with one of following risk factors:

- FEV1 < 50% predicted
- ≥ 4 exacerbations yearly
- Ischemic heart disease
- Home O2
- Chronic steroid use

More information on managing a COPD exacerbation can be found at https://cts-sct.ca/wp-content/uploads/2018/01/Highlights-for-Primary-Care-COPD.pdf



Advanced symptom management

- Review and update goals of care
- Consider pulmonary consult (reasons for referral may include co-management, diagnostic uncertainty, prognostatician, other therapies, including potential for lung transplant)
- Discuss advanced symptom management
- Consider palliative and end of life care

Physician / NP Resources

Provider resources	
2019 CTS COPD fillable action plan	https://cts-sct.ca/wp-content/uploads/2019/03/5491_THOR_COPDActionPlanUpdate_2019_Editable_Eng_v2.pdf
CTS COPD AP and guideline	https://cts-sct.ca/wp-content/uploads/2018/01/Pharmacotherapy-of-COPD-2017.pdf

Pulmonary Rehab

For: patients that are over 18 that require individualized specialty intervention for the management of mod-severe chronic lung disease Patients must be medically stable, able to walk 125m in 6 minutes and transfer independently, physically and cognitively able to participate, and able to commute to and from appointments.

Services offered:

- Supervised individual exercise program and self-management education program to pts with moderate – severe chronic lung disease (either in a group or at home). Also offer bronchial hygiene instruction.
- Patients are managed by physiotherapists, RRTs, therapy assistants. Also have social worker, psychologist, OT, dietitian, and rec therapist

Referral by: Can be referred by physicians and allied health. Fax to CAR central triage (fax – 403-776-3842)

Calgary COPD & Asthma Program (CCAP)

For: patients over 18 with asthma, COPD, and/or smokers at risk. Patients need to be mobile and able to understand given instructors (translators and caregivers can attend).

Services offered:

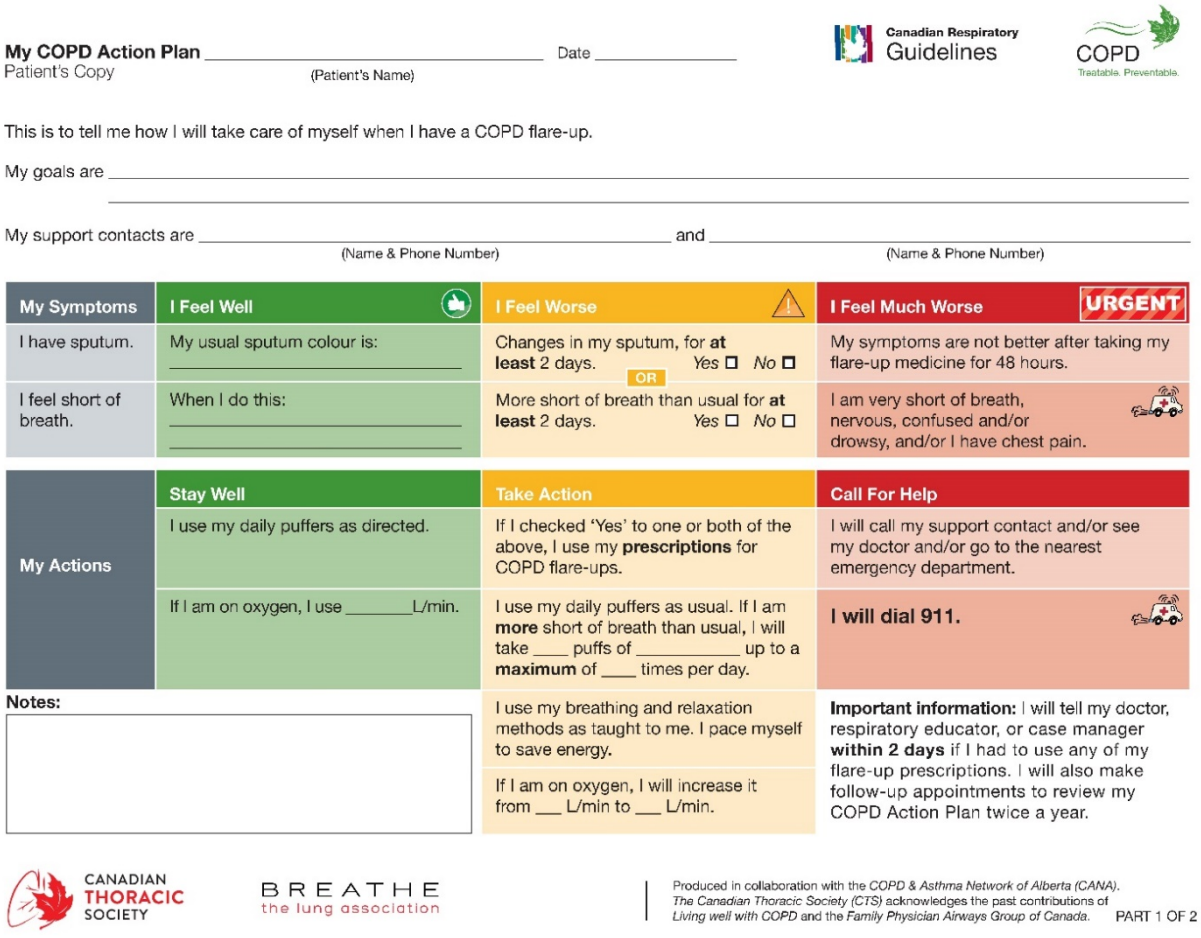
- Education program for adults with COPD, asthma, and smokers at risk. Education includes inhaler techniques, management, and action plan for the individual.
- 1:1 appointments with Certified Respiratory Educator.
- Patients may or may not have a spirometry done.

Referral by: Any physician (to include spirometry). Self-referrals / referrals from other professionals can be made for education only. Referral form found on www.ucalgary.ca/asthma and Alberta Referral Directory.

Alberta Healthy Living Program (AHLP)
For: Patients with a chronic condition and a primary care provider that are physically able to attend sessions. **Services offered:** **Education:** Health professionals or volunteers teach disease specific & general interest classes. Offered in English, Cantonese, Mandarin, and Punjabi. **Nutrition Services**: RDs facilitate various classes. Individual appointments available in Cantonese, Hindi, and Punjabi. **Better Choices, Better Health:** 6-week self-management workshop to live successful, healthier lives. Offered in English, Cantonese, and Punjabi. **Group Exercise**: Supervised group exercise monitored by health professionals. **Referral by:** Health care providers (any) or patient self-referrals.
Community Paramedics (CP)
For: Adults with known COPD requiring short term intervention(s). **Services offered:** Short-term crisis intervention. Mobile minor emergency service/clinic. Can provide treatments, draw labs, perform ECGs. Care needs to be provided in collaboration with primary care or specialty physician. **Referrals from:** Multiple providers in the form of telephone call or completion of community paramedic patient referral form.
Home Care (COPD homecare specific teams)
For: Patients 65 years or older and admitted to hospital in the last 12 months with a confirmed diagnosis of COPD who would benefit from focused case management by the HF team and are willing and able to make lifestyle changes. **Services offered:** Clients with advanced COPD for symptom management, end of life care, ED avoidance, and to improve quality of life. **Referrals from:** Currently must be referred through Home Care and then will be assessed for COPD specialty team.
Alberta Quits
For: Anyone interested in reducing their tobacco intake. **Services Offered:** • -Quit Line (helpline) with 1:1 counseling, texting, online community, and in-person group sessions • -QuitCore is a 6 week in-person program that offers teaching and counseling. • Also offers free education for healthcare providers to become certified tobacco educators (CTE) **Referrals from:** Self-referral, or any healthcare provider. Information found at www.albertaquits.ca

Patient Resources

Patient resources	
COPD Action plan	http://www.copdactionplan.com/CTS_COPD_updated_Action_Plan_editable_PDF_2013.pdf
Calgary COPD and Asthma Program	https://www.albertahealthservices.ca/findhealth/service.aspx?Id=1794 https://www.ucalgary.ca/asthma/
Living well with COPD	www.livingwellwithcopd.com
The Lung Association	www.lung.ca/copd Support Groups: https://ab.lung.ca/what-we-do/support



My COPD Action Plan _____ Date _____
Patient's Copy (Patient's Name)

Canadian Respiratory Guidelines — COPD Treatable. Preventable.

This is to tell me how I will take care of myself when I have a COPD flare-up.

My goals are _____

My support contacts are _____ (Name & Phone Number) and _____ (Name & Phone Number)

My Symptoms	I Feel Well	I Feel Worse	I Feel Much Worse URGENT
I have sputum.	My usual sputum colour is: _____	Changes in my sputum, for **at least** 2 days. *Yes* ☐ *No* ☐	My symptoms are not better after taking my flare-up medicine for 48 hours.
I feel short of breath.	When I do this: _____ _____	OR More short of breath than usual for **at least** 2 days. *Yes* ☐ *No* ☐	I am very short of breath, nervous, confused and/or drowsy, and/or I have chest pain.

My Actions	Stay Well	Take Action	Call For Help
	I use my daily puffers as directed.	If I checked 'Yes' to one or both of the above, I use my **prescriptions** for COPD flare-ups.	I will call my support contact and/or see my doctor and/or go to the nearest emergency department.
	If I am on oxygen, I use _____L/min.	I use my daily puffers as usual. If I am **more** short of breath than usual, I will take ____ puffs of _____ up to a **maximum** of ____ times per day.	**I will dial 911.**
		I use my breathing and relaxation methods as taught to me. I pace myself to save energy.	**Important information:** I will tell my doctor, respiratory educator, or case manager **within 2 days** if I had to use any of my flare-up prescriptions. I will also make follow-up appointments to review my COPD Action Plan twice a year.
		If I am on oxygen, I will increase it from ___ L/min to ___ L/min.	

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