What’s new in Respiratory Care?  
New Medications, New Devices, New Approaches

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- L. Manikel paid speaker for tonight’s presentation
- Use of brand (and generic) drug names throughout presentation intended to help the audience with ease of understanding.
- All companies and available devices have been included or discussed in best possible way. No bias is intended.
- This talk is sponsored by Almirall and Forest labs Canada
Learning Objectives
After attending this session, the participant will be able to:

- Differentiate between Asthma and COPD in respiratory clients, and understand the importance of proper diagnostics
- Readily locate the current Asthma and COPD Canadian Thoracic Society (CTS) guidelines, action plans, and updates for use in practice
- Describe the new therapies available for COPD, understand the differences between them, and learn where they fit into the CTS Continuum of Care
- Educate clients on the new medication inhaler device techniques
- Understand the theory behind other non-pharmacological therapies available for clients with COPD
- Understand the components of the COPD Action Plan Prescription
- Describe how to make a referral to the Pulmonary Rehab Program in Winnipeg for clients with moderate to severe COPD
- Describe how to make a referral to the Home Oxygen Program in Manitoba and understand how clients qualify for home oxygen therapy
- Describe what is required under the new regulations to become an Extended Practice Pharmacist in respiratory care management

Abbreviations

- COPD = Chronic Obstructive Pulmonary Disease
- CTS = Canadian Thoracic Society
- FEV1 = forced expiratory volume in one second
- FVC = forced vital capacity
- GOLD = Global Initiative for Chronic Obstructive Lung Disease
- ICS = inhaled corticosteroid
- LAAC = long-acting anticholinergic or LAMA = long-acting muscarinic antagonist
- LABA = long-acting beta2-agonist
- MRC = Medical Research Council
- SAAC = short-acting anticholinergic or SAMA = short-acting muscarinic antagonist
- SABA = short-acting beta2-agonist
- SABD = short-acting bronchodilator

WHAT DO WE NEED FOR RESPIRATORY MEDICATIONS TO WORK?

- THE RIGHT DIAGNOSIS
- THE RIGHT DRUG
- THE RIGHT DOSE
- PROPER TECHNIQUE
- ADHERENCE
- ?
Distinguishing Asthma from COPD

<table>
<thead>
<tr>
<th></th>
<th>Asthma</th>
<th>COPD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of onset</td>
<td>Usually &lt;50 years</td>
<td>Usually &gt;35 years</td>
</tr>
<tr>
<td>Smoking history</td>
<td>Not causal (but people with asthma sometimes smoke)</td>
<td>Usually &gt;10 pack-years</td>
</tr>
<tr>
<td>Sputum production</td>
<td>Infrequent unless poorly controlled</td>
<td>Often in exacerbation-prone chronic bronchitis, infrequent in emphysema</td>
</tr>
<tr>
<td>Allergies</td>
<td>Often in early onset but less often in late onset</td>
<td>1/3 of the general population</td>
</tr>
<tr>
<td>Disease course</td>
<td>Stable (with exacerbations)</td>
<td>Progressive worsening (with exacerbations)</td>
</tr>
<tr>
<td>Spirometry</td>
<td>More likely to normalize with treatment</td>
<td>May improve but never becomes normal</td>
</tr>
<tr>
<td>Clinical symptoms</td>
<td>Intermittent and variable</td>
<td>Persistent and variable</td>
</tr>
<tr>
<td>Response to therapy</td>
<td>Responds well to therapy, especially corticosteroids</td>
<td>Does not respond as well to therapy</td>
</tr>
</tbody>
</table>

Adapted from O’Donnell DE, et al. Can Respir J. 2007 Sep;14 Suppl B:5B-32B.

Spirometry (pulmonary function testing)

- COPD is diagnosed with lung function testing
- Spirometry is as essential in managing lung disease as:
  - Blood pressure monitoring – cardiovascular disease
  - Blood sugar monitoring – diabetics

Spirometry

**Asthma** – FEV1 > 12% change Post–Bronchodilator
- Further diagnostics may be required

**COPD** – FEV1/ FVC < 0.7 Post–Bronchodilator (airflow obstruction)
- Look at FEV1 % to determine severity
- Severity will help to determine management options
Acute Event Mortality

**Heart Attack**
- 25–38% of patients die within 1 year of a first hospitalization with a COPD exacerbation.

**Lung Attack**
- 23–43% of patients hospitalized with a COPD exacerbation die within 1 year.

**PRACTICE PEARL:**
Consider referring to AECOPDs as “COPD lung attacks” when speaking with patients that may not appreciate the seriousness of COPD.

In-hospital mortality rate for COPD exacerbations is 8–11%.

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COPD: The Leading Cause of Hospital Admissions Today

**Ambulatory Care Sensitive Condition**

- An ambulatory care sensitive condition is a condition that is normally manageable on an outpatient basis.

Data are for the Canadian population, excluding Quebec.

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The Shared HCP’s Roles in COPD Management

- **Monitor for Symptoms of:** COPD, Exacerbation of COPD (AECOPD)
- **Ensure Appropriate Drug Therapy Management**
- **Ensure proper Delivery Device Administration**
- **Monitor Compliance:** Refills too soon, Refills too late
- **Non-drug Measures:** Smoking Cessation, Exercise, Vaccination, Pulmonary Rehab, Resources
- **Monitor Self-Medication**
COMPREHENSIVE APPROACH TO MANAGEMENT OF COPD

Long-acting bronchodilator(s)

Smoking cessation/exercise/self-management/education

Inhaled corticosteroids/LABA

Pulmonary rehabilitation

Surgery

Oxygen

Lung Function Impairment

MRC Dyspnea Scale

Early diagnosis (spirometry) prevention

Prevent/RX AECOPD Follow-up

End of life care

Mild

Very Severe

2

5

Pre-1986

2008

Clinical Guidelines - Invasive Approaches to Chronic Obstructive Pulmonary Disease

2007 Pulmonary Rehabilitation Guidelines

2006 Long-Acting Bronchodilator(s)

2012 Pulmonary Function Tests

2005 Smoking Cessation Guidelines

2008 COPD Management

2003 Non-steroidal Anti-inflammatory Drugs

2002 Oxygen in COPD

End of life care

2014 Key Considerations

2009 Treatment of Acute Exacerbations of COPD

2007 COPD Assessment Tools

2007 Short-acting Bronchodilator(s)

Respiratory Guidelines & Updates

www.respiratoryguidelines.ca
The importance of Smoking Cessation

- Smoked regularly and susceptible to effects of smoking
- Never smoked or not susceptible to smoking

Effect on FEV1

Disability

Death

Stopped smoking at 65

Stopped smoking at 45


Smoking Cessation:

The SINGLE most effective way to reduce decline in lung function.

Reasons to learn the basics

- Evaluated 1,640 volunteers (mean age 36 – 43)
  - 746 patients
  - 466 nurses
  - 428 physicians

- Correct inhaler technique
  - 9% of patients
  - 15% of nurses
  - 29% physicians (GP’s and pediatricians)

Need for substantial changes in education
How To Use A Pressurized Metered-Dose Inhaler aka MDI

- Remove cap
- Shake well
- Breathe normally
- Exhale (away from device)
- Tilt chin up slightly
- Inhale & depress cartridge **once**
- Keep breathing in **slowly & deeply**
- Hold breath 5 – 10 seconds
- Exhale slowly
- Replace cap
- If a 2nd puff is needed, wait 30-60 sec before next dose
Delivery of Medications With and Without Spacers

Recommended for all asthma/COPD patients!

How To Use A Puffer (MDI) with a Spacer Device

1) Shake the MDI
2) Remove the caps
3) Attach MDI to spacer
4) Exhale (away from spacer)
5) Seal lips around spacer mouthpiece
6) Tilt chin up slightly (not shown)
7) Inhale slowly & deeply
8) Hold breath 5 – 10 seconds

How To Use a Turbuhaler®

1) Holding upright remove the cap
2) Turn the base once in one direction as far as it goes & back in the other as far as it goes and you should hear ONE click (turn twice, one click)
3) Exhale (away from the device)
4) Tilt chin up slightly place between lips and Inhale fast & deep
5) NOT SHOWN: Hold breath 5 – 10 seconds then exhale
6) Once the RED mark appears in the window – only 20 doses left!!

Always replace cap when not in use!
How To Use A Diskus®

- Open the Diskus®
- Slide the lever all the way in one direction
- Exhale (away from device)
- Tilt chin up slightly
- Seal lips around the mouthpiece
- Inhale fast & deep
- Hold breath 5 – 10 seconds
- Exhale
- Close Diskus®

*IMPORTANT: make sure you are holding device upright so that the medication does not pour out!

How To Use A Handihaler®

1) Open dust cap and mouthpiece
2) Place capsule in center chamber
3) Close mouthpiece until click is heard
4) Hold Handihaler upright and press green button once & release
5) Exhale completely away from mouthpiece
6) Place mouthpiece in lips, tilt chin up slightly (not shown) Breathe in fast & deep

HOLD BREATH FOR 5-10 SECONDS and REPEAT steps 5 & 6

New COPD Medications

LABA
Onbrez (indacaterol) Breezhaler – Novartis
Striverdi (olodaterol) Respimat – Boehringer (2015)

LAMA
Seebri (glycopyrronium) Breezhaler – Novartis
Tudorza (aclidinium bromide) Genuair – prev. Forest labs
Incruse (umeclidinium) Ellipta – GSK (coming soon)**

LAMA/LABA – Dual Bronchodilator therapy
Anoro (umeclidinium/vilanterol – LABA) Ellipta – GSK
Ultibro (indacaterol/glycopyronium) Breezhaler – Novartis

LABA/ICS – Combination therapy
Breo (fluticasone/vilanterol) Ellipta – GSK
**LABA – BRONCHODILATOR**

**Onbrez Breezhaler®**
(indacaterol)

- 75 mcg/dose
- Onset: 5–15 min
- Duration: 24h
- Use: 1 capsule OD
- Company: Novartis
  - Covered by Pharmacare Part 1

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**LAMA – BRONCHODILATOR**

**Seebri Breezhaler®**
(glycopyrronium)

- 50 mcg/dose
- Onset: 5 min
- Duration: 24h
- Use: 1 capsule OD
- Company: Novartis
  - Covered Part 3 EDS

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**LABA/LAMA DUAL–THERAPY BRONCHODILATOR**

**Ultibro Breezhaler®**
(indacaterol/glycopyrronium)

- 110/50mcg
- Onset: 5 min
- Duration: 24h
- Use: once daily
- Company: Novartis
  - *Not covered at this time*
**How To Use the Breezhalers®**

1. Pull cap off
2. Hold base of inhaler and tilt mouthpiece to open inhaler
3. Place capsule in centre chamber
4. Close inhaler until you hear a “click”
5. Hold Breezhaler upright and press both buttons once and release
6. Breathe out fully away from the mouthpiece
7. Place mouthpiece between lips and breathe and breathe in rapidly but steadily (whirring sound should be heard)
8. Hold breath for 5-10 seconds
9. Breathe out
10. Open to see clear capsule
11. IMPORTANT: If not all clear, repeat steps 6-9
12. Discard empty capsule

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**LAMA – BRONCHODILATORS**

**Tudorza Genuair®**  
(acclidinium bromide)

- 400 mcg/dose
- Onset: 30 min
- Duration: 12h
- Use: 1 puff BID

Company: Almirall/Forest Labs (will be changing to AZ soon)  
Covered Part 3 EDS

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**How To Use the Genuair®**

1. Remove the green cap (lightly squeeze the arrows)
2. Press and release the green button all the way down
3. Release the green button
4. Check that the colour control window is green. Green means ready.
5. Breathe away from the inhaler. Inhale strongly and deeply through the mouthpiece. **Keep breathing in even after you hear the inhaler “click”**
6. Check that the colour control window has turned to red. If not, repeat inhaling strongly and deeply.
7. Replace cap.
Combination Therapy ICS/LABA

Breo Ellipta®
(fluticasone furoate*/
vilanterol)
100/25 mcg dose
Onset: 16 min
Duration: 24h
Use: 1 inhalation OD
Company: GSK

LABA/LAMA DUAL–THERAPY
BRONCHODILATOR

Anoro Ellipta®
(umeclidinium/vilanterol)
62.5/25 mcg/dose
Onset: 27 minutes
Duration: 24h
Use: 1 inhalation OD
Company: GSK

How To Use an Ellipta®

1. Open the cover of the inhaler.
2. Breathe out away from the inhaler.
3. Breathe in long and deep (do not block air vent).
4. Remove inhaler from mouth and hold breath for ~5-10 sec or as long as comfortable.
5. Breath out slowly and gently.
6. Close the inhaler (slide cover up and over mouthpiece)
7. Rinse mouth.
8. Get refill when left half of counter shows red (10 doses left)
LABA BRONCHODILATOR – COMING SOON (2015)

Striverdi Respimat SMI®
(olodaterol)
2.5 mcg dose
Onset of Action: 5 min
Duration: 24h
Use: once daily
*approved but not released yet
Company: Boehringer Ingelheim

How To Use a RESPIMAT®

1. Inserting the cartridge
   - With yellow cap closed, press safety catch while pulling off the clear base
   - Take cartridge out of box. Push the narrow end of the cartridge into the inhaler until it clicks.
   - Press the cartridge firmly against a firm surface to ensure that it has gone all the way in

How To Use a RESPIMAT® cont’d

2. Priming the Respimat for first-time use
   1) Hold Respimat upright with yellow cap closed. Turn the base in the direction of the black arrows on the label until it clicks (half a turn)
   2) Open the yellow cap until it snaps open
   3) Press
   4) Repeat TOP steps until a cloud is visible. Then repeat steps three more times to ensure the inhaler is prepared for use.
How To Use a RESPIMAT®

1. Hold the inhaler upright with orange cap closed.
2. TURN clear base in direction of the white arrows on the label until it clicks (half turn).
3. OPEN the orange cap until it snaps fully open.
4. Breathe out slowly and fully.
5. Close lips around the mouthpiece without covering air vents.
6. Point your inhaler to the back of the throat.
7. While taking slow, deep breath, PRESS the dose release button and continue to breathe in slowly.
8. Hold breath for 10 seconds or as long as you can.
9. Close the orange cap.

Daxas™ (roflumilast)

- A new non-steroidal, anti-inflammatory agent (PDE-4 inhibitor)
- Indicated as ‘add-on’ therapy to bronchodilator treatment of severe COPD associated with chronic bronchitis (cough and sputum) and a history of frequent exacerbations (>1 per year)
- NOT for acute relief
- Dosed as 500 mcg once daily (oral tablet)
- Currently not covered (Takeda)

So where will all these new medications fit into the guidelines?
New evidence for an Old Drug

- Theophylline – lower doses may be helpful in COPD and Asthma – antiinflammatory effects VS. bronchodilator effects
- In the future, low-dose theophylline may be useful in reversing corticosteroid resistance in COPD and severe asthma.

Pulmonary Perspectives. Theophylline. Peter J. Barnes. May 2013
Optimal Pharmacotherapy in COPD

**ACF/ACCP/ATS/ERS 2011 COPD Guidelines**

**Recommendation 2:** In stable COPD patients with respiratory symptoms and FEV₁ between 40% and 80% predicted, ACP, ACCP, ATS, and IRS suggest that treatment with inhaled bronchodilators may be used (Grade: weak recommendation, low-quality evidence).

**Recommendation 3:** In stable COPD patients with respiratory symptoms and FEV₁ <40% predicted, ACP, ACCP, ATS, and IRS recommend treatment with inhaled bronchodilators (Grade: strong recommendation, moderate-quality evidence).

**Recommendation 4:** ACP, ACCP, ATS, and IRS recommend that clinicians prescribe monotherapy using either short-acting inhaled anticholinergics or long-acting inhaled β-agonists for symptomatic patients with COPD and FEV₁ <80% predicted. (Grade: strong recommendation, moderate-quality evidence). Clinicians should base the choice of specific monotherapy on patient preference, cost, and adverse effect profile.

**Recommendation 5:** ACP, ACCP, ATS, and IRS suggest that clinicians may administer combination inhaled therapies (long-acting inhaled anticholinergics, long-acting inhaled β-agonists, or inhaled corticosteroids) for symptomatic patients with stable COPD and FEV₁ <50% predicted. (Grade: weak recommendation, moderate-quality evidence).

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**Cost**

<table>
<thead>
<tr>
<th>INHALER</th>
<th>COST per MONTH</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Short-acting β-agonists</strong></td>
<td></td>
</tr>
<tr>
<td>Ventolin (Salbutamol MDI) 2 puff QID</td>
<td>$19.60</td>
</tr>
<tr>
<td><strong>Short-acting anticholinergic</strong></td>
<td></td>
</tr>
<tr>
<td>Atrovent (Ipratropium bromide MDI) 2 puff TID or QID</td>
<td>$34.12</td>
</tr>
<tr>
<td><strong>Long-acting anticholinergic</strong></td>
<td></td>
</tr>
<tr>
<td>Spiriva (Tiotropium bromide) 1 puff daily</td>
<td>$35.72</td>
</tr>
<tr>
<td><strong>Long-acting β-agonists</strong></td>
<td></td>
</tr>
<tr>
<td>Oxeze Turbuhaler (Formoterol) 6 mcg 12 mcg 1 puff BID</td>
<td>$50.70</td>
</tr>
<tr>
<td>6 mcg 1 puff BID</td>
<td>$63.19</td>
</tr>
<tr>
<td>Salmeterol Diskus (Seretide) 1 puff BID</td>
<td>$75.85</td>
</tr>
<tr>
<td>Onbrez (Indacaterol) 1 puff daily</td>
<td>$65.10</td>
</tr>
<tr>
<td><strong>Long-acting muscarinic antagonist</strong></td>
<td></td>
</tr>
<tr>
<td>Seebri (Glycopyrronium) 1 puff daily</td>
<td>$72.49</td>
</tr>
<tr>
<td>Tudorza Genuair (Aclidinium) 1 puff BID</td>
<td>$85.82</td>
</tr>
<tr>
<td><strong>Inhaled corticosteroid/long-acting β-agonist</strong></td>
<td></td>
</tr>
<tr>
<td>Symbicort Turbuhaler 100/6 mcg 200/6 mcg 2 puff BID</td>
<td>$84.48</td>
</tr>
<tr>
<td>200/6 mcg = $105.88</td>
<td></td>
</tr>
<tr>
<td>Advair Diskus 250/50 mcg 500/50 mcg 1 puff BID</td>
<td>$126.66</td>
</tr>
<tr>
<td>500/50 mcg = $177.46</td>
<td></td>
</tr>
<tr>
<td>Advair MDI 125/25 mcg 250/25 mcg 2 puff BID = $126.66</td>
<td></td>
</tr>
<tr>
<td>250/25 mcg = $177.46</td>
<td></td>
</tr>
<tr>
<td><strong>PDE-4 Inhibitor</strong></td>
<td></td>
</tr>
<tr>
<td>Daxas (Roflumilast) 1 tab daily</td>
<td>$83.58</td>
</tr>
</tbody>
</table>

*Costs are approximate and include a $12 fee.

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**Acute Exacerbations of COPD (AECOPD)**
Systemic Steroids in AECOPD

- **Efficacy**
  - Significant ↑ FEV1 (>20%) in 5/8 studies
  - Treatment failure in several studies

- **Dose**
  - Very wide range studied (~20 – 150mg prednisone equivalent)

- **Duration**
  - Up to 2 weeks
  - Largest trial (SCOPE) showed largest benefit (FEV1) at 3 days
  - 2 studies showed most effect in 5 days with little subsequent improvement beyond
  - Several others studied 10 days

What is usually done?

- 30–50mg daily x 5–14 days

Antibiotic Treatment for AECOPD

**Group: Simple COPD**

- **Risk Factors:**
  - Smokers
  - FEV1 > 50% predicted
  - < 4 exacerbations/year

- **Antibiotic Treatment:**
  - Amoxicillin, 2nd or 3rd gen cephalosporin, doxycycline, extended spectrum macrolide, TMP/SMX
  - Fluoroquinolone

Repeat prescriptions of the same antibiotic class should be avoided within a 3-month interval

**Group: Complicated COPD with at least one risk factor**

- **Risk Factors:**
  - FEV1 < 50% predicted
  - ≥ 4 exacerbations/year
  - Ischemic heart disease
  - Use of home oxygen
  - Chronic oral steroid use

- **Antibiotic Treatment:**
  - Fluoroquinolone
  - Beta lactam/beta-lactamase inhibitor (e.g. amox/clav)

Repeat prescriptions of the same antibiotic class should be avoided within a 3-month interval
New CTS Action Plan

- **Part 1** – action plan details
  - Consists of patient copy, physician copy and **educator copy**
- **Part 2** – action plan prescription
  - Consists of patient copy, physician copy and **pharmacist copy**
  - Prescriptions may be refilled two times each up to 1 year
Effective patient self-management

- Self management includes education AND an action plans
- Action plans can be used as a tool to facilitate communication between the patient and the healthcare team
- Consider it a contract between the patient and their physician
- Ideally coordinated by a qualified case manager (i.e. respiratory educator)
- Follow up is essential for these to be effective!
- **Bottom line:** An action plan with minimal support is **NOT effective**

Principles & Practical Tips

1. COPD medications generally don’t show massive improvements, but they do work
2. Be sure to allow for patient preference
3. Add inhalers one at a time to assess for true effect
4. If symptom improvements are not optimal on Atrovent after a few

**PRACTICE PEARL**
Assess all patients looking to purchase OTC products for a non-productive or phlegmy cough to determine the nature and pattern of their symptoms and their smoking status.

5. If a patient is on an ICS and no additional benefit (e.g. over 6 months - 1yr) or has had several pneumonias, this is a good indication to stop it
6. Continually re-educate and re-assess adherence and technique
7. “The specialist said so” is not reason enough to be on a particular inhaler

Courtesy of Jamie Falk 2012
A score of 10 or higher may warrant a possible referral to Pulmonary Rehab.

Pulmonary Rehabilitation (PR)

Definition:
"An evidence-based multidisciplinary program and comprehensive intervention for patients with chronic respiratory diseases who are symptomatic and often have decreased daily activities. Integrated into the individualized treatment of the patient, pulmonary rehab is designed to reduce symptoms, optimize functional status, increase participation, and reduce health care costs through stabilizing or reversing systemic manifestations of the disease."


Guidelines, Recommendations, and Comments

<table>
<thead>
<tr>
<th>Table 3.5 Benefits of Pulmonary Rehabilitation in COPD</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Improves exercise capacity (Evidence A)</td>
</tr>
<tr>
<td>• Reduces the perceived intensity of breathlessness (Evidence A)</td>
</tr>
<tr>
<td>• Improves health-related quality of life (Evidence A)</td>
</tr>
<tr>
<td>• Reduces the number of hospitalization and days in hospital (Evidence A)</td>
</tr>
<tr>
<td>• Reduces anxiety and depression associated with COPD (Evidence A)</td>
</tr>
<tr>
<td>• Strength and endurance training of the upper limbs improves arm function (Evidence B)</td>
</tr>
<tr>
<td>• Benefits extended well beyond immediate period of training (Evidence B)</td>
</tr>
<tr>
<td>• Improves survival (Evidence B)</td>
</tr>
<tr>
<td>• Respiratory muscle training can be beneficial especially when combined with general exercise training (Evidence C)</td>
</tr>
<tr>
<td>• Improves recovery after hospitalization for an exacerbation (Evidence A)</td>
</tr>
<tr>
<td>• Enhances the effect of long-acting bronchodilators (Evidence B)</td>
</tr>
</tbody>
</table>

Non-pharmacological Management

"Clinically stable patients who remain dynamic and limited in their exercise capacity despite optimal pharmacotherapy should be referred for supervised pulmonary rehabilitation." (CTS)

PR covers a range of non-pulmonary problems that may not be adequately addressed by medical therapy for COPD, including exercise de-conditioning, relative social isolation, altered mood states (especially depression), muscle wasting and weight loss." (GOLD)
Who to refer to PR?

- **Stable symptomatic COPD**
- Reduced activity levels and increased dyspnea despite optimal pharmacological treatment
- No evidence of active cardiac ischemia, musculoskeletal, psychiatric or other systemic disease that will prevent the client from learning or exercising
- Sufficient motivation
- Able to participate in group setting
- Transportation/Access

Referral form

- New/updated form has been approved by Health Information
- Available on WRHA website (insite) http://home.wrha.mb.ca/hinfo/chif/files/WC-C-00165.pdf
- Intake Coordinator (Lorna Pankratz) – (204) 831-2181
Lung Health Clinic
Brandon Hospital, Prairie Mountain Health Region

- A 10 week multidisciplinary program located on the main floor of the Brandon Hospital
- Program sessions focus on: education, exercise and rehabilitation for patients diagnosed with COPD
- Program is facilitated by a lung health nurse and exercise program is conducted by a physiotherapist
- **Referral:** outpatients may be referred by their family physician or Dr. Bookatz (local physician in Brandon whom is quite knowledgeable in respirology)
- For further program information please contact:
  
  Barb Hutchinson R.N.
  Lung Health Clinic, Brandon Hospital
  Phone: (204) 578-4203

Home Oxygen Program
is a Provincial Program managed by Home Care

Home Care Oxygen Program began in 60’s, when usually it was men with COPD, now under the age of 75 more women than men are diagnosed with COPD

NOTT study - Dr. Anthonisen
Showed if oxygen was used minimum 18 hrs./day
  » Enhances quality of life
  » Prolongs length of life

There are 900+ clients on oxygen in Wpg. and about the same number in rural Manitoba

*Common Diagnoses: e.g. COPD, Pulmonary Fibrosis, Sleep Disorders*
Respiratory Home Care Program
Specialty, Centralized Program
4-496 Hargrave street, Winnipeg, Mb
Team manager – Margarete Moulden

- Home Care Respiratory Case Coordinators
  Nurse – Roslyn Greenberg
  Social Worker – Joshua McCullough
  Respiratory Therapist – Tira Sanderson

- Home Care Respiratory Therapists
  Respiratory Therapy Lead – Lynne Manikel
  Respiratory Therapists
  Barb Kenton
  Clara Marques
  Colleen Braun

Winnipeg map & Respiratory Therapist Assignment

COPD clients on oxygen are often end stage disease.

Comprehensive Management of COPD

Surgery
Pulmonary rehabilitation
Bronchodilators
Smoking cessation/Exercise/self-management/education
End of Life Care

Canadian Respiratory Guidelines
COPD
Lung function impairment
MRC Dyspnea
Early diagnosis (spirometry)
Prevent Rx AECOPD
Follow-up

LM
Manitoba Home Oxygen Concentrator Program Criteria

Must be medically stable (e.g. off antibiotics/prednisone)

- Hypoxia
  - 2 room air ABGs (Arterial Blood Gas) one week apart with PO2 < 59 usually are not discharged till after the 2nd ABG

- Exertional
  - ABG PO2 > 59
  - Blinded 6MWT increased distance >25% plus minimum 30 meters

- Nocturnal
  - Level 1 sleep study

WRHA H.C.O.P. Admission Criteria

- Resting Hypoxia
  - 1 room air arterial blood gas Pa02 < 60 (ABG within 48 hrs. of discharge)

- Exertional
  - 1 room air arterial blood gas Pa02 > 59
  - Blinded 6MWT (6 Minute walk test)

- Sleep Disorders
  - Level one sleep study

HCOP (WRHA) Initial Education

History & Assessment

Respiratory Therapy Home Visit

- RRT visits every client new to oxygen
  - Education
    - Complete respiratory history; oximetry, auscultation, smoking history (cessation) respiratory medication review, medication reconciliation and appropriate referrals
    - Assessment (Canadian Thoracic Society recommendation for management of COPD)
  - Assessment and recommendations are shared with; Family physician, Respiriologist and Home Care
  - Client is reassessed in 1-3 months to reassess oxygen needs
  - RRT follow and manage the client when services are not required
Home care Oxygen Program provides:
- Oxygen concentrator and maintenance
- Nasal prongs
- Large back up emergency cylinder

**Oxygen Concentrator Humidifier**

Not necessary for most clients
Not very effective humidifier
Water based lubricant can help for dryness – Secaris, Mouth Kote
never Vaseline
If humidifier used; the jar and 50’ of tubing must be washed weekly

**Use Distilled Water**

- Humidifiers, oxygen or cpap/bilevel machines should be filled every night, emptied every am
- Distilled water is sterile
  - has no minerals
- Reverse osmosis
  - Has minerals
  - Not sterile
- Boiled water
  - Has minerals
  - Sterile
The minerals damage the equipment
Empty tanks are returned and refilled.

Portable Oxygen Concentrators not provided by the program, but often covered by Pharmacare

- Portable Oxygen Concentrators (POC)
  - Similar to home oxygen concentrator, lightweight, operate on batteries, plug into car electrical outlet
  - Pulse dosing, evaluation necessary to ensure client can trigger pulse
  - Will recharge when plugged in and while in use

Available from Medigas, Rana and VitalAire

OCD (oxygen conserving device)

- Attachment for oxygen tanks
- Delivers oxygen only on inspiration (pulsing)
- Extending the length of oxygen supply by 2-3 times
- Conserving devices are not for everyone, must be assessed

Available for purchase from Medigas, Rana and VitalAire
Reasons people do not use oxygen when they go out.

- May be embarrassed to be seen using/wearing oxygen
- Can not afford the portable tanks
- Don’t understand they can claim 100% on Pharmacare
- Too completed to change the oxygen regulator—the company providing the tanks/regulator will teach them how to use the equipment
- The equipment may be too hard for them to carry/maneuvre
- Afraid of the oxygen equipment
- May not understand how important it is to use oxygen with exertion

3rd Party Funding

- FNHi (First Nations & Inuit Health) clients living in Winnipeg qualify for HCO and MHCOP
- NiHiB (Non Insured Health Benefits) will often cover the cost of portable tanks.
  - To qualify ABG P02 < 56
  - Re-qualify in 3 months
- Pharmacare deductible must be met for portable tank reimbursed
- Detuctible Instalment Payment Program (Previously called MB Hydro plan) to cover deductible—see pharmacist for forms
- DVA (Department of Veterans Affairs)
- EIA (Employment and Income Assistance)
- Private Insurance

Safe smoking and oxygen

- Smoke out side
  - Ask family and friends to smoke outside
  - Shut off concentrator AND remove oxygen cannula
  - Stay 10’ away from oxygen
  - Avoid oil based cosmetics, hand creams, hair spray, hand sanitizer, ointments, if must use apply & allow to absorb before using oxygen

Serious injury can occur when smoking and wearing oxygen
Aerosol Compressor and budesonide, salbutamol, ipratropium Nebules

**Not Recommended**
- Particle size of medication larger than MDI or power devices
- Not all medications available
- Time consuming (15–20 min.)
- Source of infection if not cleaned
- Requires electricity, noisy

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**COPD in a disease of air trapping**
**therefore 24 hour bronchodilation really important**

- CTS Guidelines recommend long acting bronchodilators with mild COPD and right through to moderate/severe
- 24 hour bronchodilation is the mainstay medication in treating COPD; it reduces air trapping, improves shortness of breath and quality of life.
- In cases when nursing is required to give inhalers they could be going into homes OH4, OH6 or QID, to give inhalers, not good utilization of nursing resources and often no bronchodilation medication for nighttime—not best for the pt. and not Best Practice.

*Label the device not the box, so care providers know the prescription!!*

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**Practical tips for hospital and community pharmacists – Key messages**

- Technique
- Dosing
- Collaborating with RT re: diagnostics…..etc
- Action plans!
- Work with community pharmacists
- Refer to pulmonary rehab!
Extended Practice Pharmacist

Requirements
A pharmacist may apply for registration as an extended practice pharmacist if she or he:

a) Meets one or more of the qualifications under section 96 of the regulation
b) is qualified as a specialist under a program approved by the College (Section 96(g)) or
c) has a postgraduate clinical degree of Pharmacy (Pharm D, Masters or PH.D.) or
d) has successfully completed certification as a Diabetes Educator, Respiratory Educator or Anticoagulation Provider

The pharmacist must also meet the specialty practice hours requirements listed in Section 96 of the Regulation. An extended practice pharmacist must practice in a collaborative practice with a physician or a registered nurse.

Certified Respiratory Educators (CREs) perform a critical role in improving the lives of Canadians living with respiratory illness.

They assists with adherence, they deal with patient fears and review inhaler techniques.

These highly professional, knowledgeable and skilled CREs support the disease management approach:

Education / Evaluation / Reinforcement

Education takes time!

“To be effective, education must be supported by a physician and provided by trained educators.”

Dr. Ken Chapman
President
Canadian Network for Respiratory Care

Learn more at the Canadian Network for Respiratory Care website at http://cnrchome.net

New COPD guidelines

› Coming soon! November 2014
› RESPTrec webinar 7:30–9:00 pm, Thursday, November 20th contact 774-5501 for more information
Ask the RESPIRATORY Expert: Canadian Healthcare Network

Winnipeg’s own Jugnu Lodha!

Thank you!
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