



COPD Medications and Treating Tobacco Dependence

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Global Initiative for Chronic Obstructive Lung Disease





GOLD Website Address

<http://www.goldcopd.org>



Global Strategy for Diagnosis, Management and Prevention of COPD

Definition of COPD

- COPD, a common preventable and treatable disease, is characterized by persistent airflow limitation that is usually progressive and associated with an enhanced chronic inflammatory response in the airways and the lung to noxious particles or gases.
- Exacerbations and comorbidities contribute to the overall severity in individual patients.



Global Strategy for Diagnosis, Management and Prevention of COPD

Therapeutic Options: COPD Medications

Beta₂-agonists

Short-acting beta₂-agonists

Long-acting beta₂-agonists

Anticholinergics

Short-acting anticholinergics

Long-acting anticholinergics

Combination short-acting beta₂-agonists + anticholinergic in one inhaler

Combination long-acting beta₂-agonist + anticholinergic in one inhaler

Methylxanthines

Inhaled corticosteroids

Combination long-acting beta₂-agonists + corticosteroids in one inhaler

Systemic corticosteroids

Phosphodiesterase-4 inhibitors



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Therapeutic Options: Bronchodilators

- Bronchodilator medications are central to the symptomatic management of COPD.
- Bronchodilators are prescribed on an as-needed or on a regular basis to prevent or reduce symptoms.
- The principal bronchodilator treatments are beta₂-agonists, anticholinergics, theophylline or combination therapy.
- The choice of treatment depends on the availability of medications and each patient's individual response in terms of symptom relief and side effects.



Short-Acting Bronchodilators

- These work quickly (within 15-20 minutes) to help decrease shortness of breath. They are sometimes described as "rescue" or "quick-reliever" medications:
 - Albuterol – ProAir, Ventolin, Proventil
 - Levalbuterol – Xopenex
 - Albuterol & Atrovent (ipratropium) – Combivent Respimat, DuoNeb
 - Atrovent (ipratropium) – anticholinergic alone



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Therapeutic Options: Bronchodilators

- Long-acting inhaled bronchodilators are convenient and more effective for symptom relief than short-acting bronchodilators.
- Long-acting inhaled bronchodilators reduce exacerbations and related hospitalizations and improve symptoms and health status.
- Combining bronchodilators of different pharmacological classes may improve efficacy and decrease the risk of side effects compared to increasing the dose of a single bronchodilator.



Long-Acting Bronchodilators

- Long-acting beta-agonists (LABAs) – long-acting bronchodilators
- Long-acting muscarinic receptor antagonists (LAMAs) – long-acting anticholinergic bronchodilators – block the parasympathetic nerve reflexes that cause the airways to constrict, so allow the airways to remain open. Muscarinic receptor antagonists bind to muscarinic receptors and inhibit acetylcholine mediated bronchospasm.
- Studies show that combination therapy – LABA & LAMA – can be superior to either agent used alone
- Coming soon...triple therapy! LABA & LAMA & ICS



Long-Acting Bronchodilators

Single agents:

- Tiotropium (Spiriva Handihaler & Respimat) – LAMA – once daily
- Salmeterol (Severent) – LABA q 12 hours
- Formoterol (Foradil, Perforomist) – LABA q 12 hours
- Arfomoterol (Brovana) – LABA – q 12 hours
- Indacaterol (Arcapta) – LABA – once daily
- Acridinium (Tudorza Pressair) – LAMA – q 12 hours
- Umeclidium (Incruse Ellipta) – LAMA – once daily

Combination agents (once daily):

- Umeclidium & Vilanterol - (Anoro Ellipta) – LAMA & LABA
- Tiotropium & Olodaterol (Stiolto Respimat) – LAMA & LABA



Therapeutic Options: Inhaled Corticosteroids

- Regular treatment with inhaled corticosteroids improves symptoms, lung function and quality of life and reduces frequency of exacerbations for COPD patients with an $FEV_1 < 60\%$ predicted.
- Inhaled corticosteroid therapy is associated with an increased risk of pneumonia.
- Withdrawal from treatment with inhaled corticosteroids may lead to exacerbations in some patients.



Oral and Inhaled Corticosteroids

- Oral steroids – typically used for exacerbations
- Long-term treatment with inhaled corticosteroids (ICS) added to long-acting bronchodilators is recommended for patients at high risk of exacerbations in COPD
- Long-term monotherapy with oral or inhaled corticosteroids including budesonide (Pulmicort) and fluticasone (Flovent) is not recommended in COPD because these are less effective than a combination ICS with LABA
- Regular treatment with ICS does not modify long-term decline of lung function or mortality risk
- Side effects of ICS: risk of pneumonia and increased risk of fractures with long-term exposure



Therapeutic Options: Combination Therapy

- An inhaled corticosteroid combined with a long-acting beta₂-agonist is more effective than the individual components in improving lung function and health status and reducing exacerbations in moderate to very severe COPD.
- Combination therapy is associated with an increased risk of pneumonia.
- Addition of a long-acting beta₂-agonist/inhaled corticosteroid combination to an anticholinergic (tiotropium) appears to provide additional benefits (triple therapy).



Therapeutic Options: Combination Therapy

- Combination ICS & LABA
 - Advair (fluticasone and salmeterol)
 - Symbicort (budesonide and formoterol)
 - Dulera (mometasone & formoterol) – currently indicated only for asthma
- Long-term treatment with ICS & LABA is recommended for patients at high risk of exacerbations
- Black box warning for all LABAs



Phosphodiesterase-4 Inhibitors

- Roflumilast (Daliresp) – an oral drug that acts as a selective, long-acting inhibitor of the enzyme PDE-4. Has anti-inflammatory effects and is approved for severe COPD associated with chronic bronchitis.
- Side effects include: diarrhea, nausea, headache, insomnia, abd. pain, UTI, depression, decreased appetite



Therapeutic Options: Phosphodiesterase-4 Inhibitors

- In patients with severe and very severe COPD (GOLD 3 and 4) and a history of exacerbations and chronic bronchitis, the phosphodiesterase-4 inhibitor, roflumilast, reduces exacerbations treated with oral glucocorticosteroids.



Methylxanthines

How Theophylline works:

- Mild bronchodilator, mild anti-inflammatory medicine
- Improves breathing by increasing the strength of the diaphragm (if it is weakened) and by stimulating the breathing control centers in the brain.

Side Effects

- Nausea and vomiting, seizures, arrhythmias, insomnia, nervousness & irritability, tachycardia, tachypnea
- May be able to reduce these side effects by avoiding caffeine
- Difference between a therapeutic dose and toxicity is small
- Significant interactions with other prescribed medicines, which can make it less effective and potentially life-threatening



Methylxanthines

How Well It Works

- A few studies have noted that, compared to a placebo, theophylline provides a small improvement in lung function as measured by spirometry in stable COPD.
- In a COPD exacerbation, methylxanthines, compared to a placebo, provide a small improvement in lung function as measured by spirometry.
- In general, research shows that the small improvement in lung function does not justify the severe side effects for most people who have COPD.
- In most cases, newer and safer medicines have replaced methylxanthines for treatment of people who have COPD.



Methylxanthines

Why It Is Used

- Because of their side effects, methylxanthines are not considered first-choice medicines to treat COPD. They are prescribed most often for people with COPD who:
 - Still have major difficulty breathing despite using both an inhaled beta2-agonist and an inhaled anticholinergic.
 - Have persistent nighttime symptoms.
 - Have frequent, rapid, and sometimes sudden increase in shortness of breath (COPD exacerbation).
- Medicines and illnesses can affect how quickly theophylline is cleared from the body so theophylline levels must be checked regularly.
- Smoking increases how quickly theophylline is cleared from the body so a person with COPD who continues to smoke may need larger doses of the medicine.



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Therapeutic Options: Theophylline

- Theophylline is less effective and less well tolerated than inhaled long-acting bronchodilators and is not recommended if those drugs are available and affordable.
- There is evidence for a modest bronchodilator effect and some symptomatic benefit compared with placebo in stable COPD. Addition of theophylline to salmeterol produces a greater increase in FEV₁ and breathlessness than salmeterol alone.
- Low dose theophylline reduces exacerbations but does not improve post-bronchodilator lung function.



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Therapeutic Options: Systemic Corticosteroids

- Chronic treatment with systemic corticosteroids should be avoided because of an unfavorable benefit-to-risk ratio.



Therapeutic Options: Other Pharmacologic Treatments

Influenza vaccines can reduce serious illness.

Pneumococcal polysaccharide vaccine is recommended for COPD patients 65 years and older and for COPD patients younger than age 65 with an $FEV_1 < 40\%$ predicted.

The use of *antibiotics*, other than for treating infectious exacerbations of COPD and other bacterial infections, is currently not indicated.



Therapeutic Options:

Other Pharmacologic Treatments

Alpha-1 antitrypsin augmentation therapy: not recommended for patients with COPD that is unrelated to the genetic deficiency.

Mucolytics: Patients with viscous sputum may benefit from mucolytics; overall benefits are very small.

Antitussives: Not recommended.

Vasodilators: Nitric oxide is contraindicated in stable COPD. The use of endothelium-modulating agents for the treatment of pulmonary hypertension associated with COPD is not recommended.



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Therapeutic Options: Rehabilitation

- All COPD patients benefit from *exercise training programs* with improvements in exercise tolerance and symptoms of dyspnea and fatigue.
- Although an effective pulmonary rehabilitation program is 6 weeks, the longer the program continues, the more effective the results.
- If exercise training is maintained at home, the patient's health status remains above pre-rehabilitation levels.



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Therapeutic Options: Other Treatments

- **Oxygen Therapy** - some studies have shown an increase in survival rates in patients who use oxygen more than 15 hours a day. Can improve sleep, mood, mental alertness and stamina and allows individuals to carry out normal, everyday functions.
- **Non-invasive ventilatory support** – positive pressure ventilation delivers intermittent positive airway pressure (PAP), which gives the patient ventilatory support using a face or nasal mask.
- **Lung volume reduction surgery (LVRS)** – small wedges of damaged lung tissue are removed to allow the remaining tissue to function better.
- In appropriately selected patients with very severe COPD, **lung transplantation** has been shown to improve quality of life and functional capacity.



Manage Stable COPD: Summary

- Long-acting formulations of beta₂-agonists and anticholinergics are preferred over short-acting formulations. Based on efficacy and side effects, inhaled bronchodilators are preferred over oral bronchodilators.
- Long-term treatment with inhaled corticosteroids added to long-acting bronchodilators is recommended for patients with high risk of exacerbations.



Manage Stable COPD: Summary

- Long-term monotherapy with oral or inhaled corticosteroids is not recommended in COPD.
- The phosphodiesterase-4 inhibitor roflumilast may be useful to reduce exacerbations for patients with $FEV_1 < 50\%$ of predicted, chronic bronchitis, and frequent exacerbations.



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Manage Stable COPD: Pharmacologic Therapy

RECOMMENDED FIRST CHOICE

	CAT < 10 mMRC 0-1	CAT ≥ 10 mMRC ≥ 2		
GOLD 4	C ICS + LABA <i>or</i> LAMA	D ICS + LABA <i>and/or</i> LAMA	2 or more <i>or</i> ≥ 1 leading to hospital admission	
GOLD 3				
GOLD 2	A SAMA <i>prn</i> <i>or</i> SABA <i>prn</i>	B LABA <i>or</i> LAMA		1 (not leading to hospital admission)
GOLD 1				0

Exacerbations per year



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Manage Stable COPD: Pharmacologic Therapy

ALTERNATIVE CHOICE

	CAT < 10 mMRC 0-1	CAT ≥ 10 mMRC ≥ 2		
GOLD 4	C LAMA and LABA <i>or</i> LAMA and PDE4-inh <i>or</i> LABA and PDE4-inh	D ICS + LABA and LAMA <i>or</i> ICS + LABA and PDE4-inh <i>or</i> LAMA and LABA <i>or</i> LAMA and PDE4-inh.	2 or more <i>or</i> ≥ 1 leading to hospital admission	
GOLD 3				
GOLD 2	A LAMA <i>or</i> LABA	B LAMA and LABA		1 (not leading to hospital admission)
GOLD 1	SABA and SAMA			0

Exacerbations per year



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Manage Stable COPD: Pharmacologic Therapy

OTHER POSSIBLE TREATMENTS

	C	D		
GOLD 4	<p><i>SABA and/or SAMA</i></p> <p><i>Theophylline</i></p>	<p><i>Carbocysteine</i></p> <p><i>N-acetylcysteine</i></p> <p><i>SABA and/or SAMA</i></p> <p><i>Theophylline</i></p>	<p>2 or more or ≥ 1 leading to hospital admission</p>	
GOLD 3				
GOLD 2	A	B		<p>1 (not leading to hospital admission)</p>
GOLD 1	<p><i>Theophylline</i></p>	<p><i>SABA and/or SAMA</i></p> <p><i>Theophylline</i></p>		
	<p>CAT < 10 mMRC 0-1</p>		<p>CAT ≥ 10 mMRC ≥ 2</p>	

Exacerbations per year



Global Strategy for Diagnosis, Management and Prevention of COPD

Manage Stable COPD: Pharmacologic Therapy

(Medications in each box are mentioned in alphabetical order, and therefore not necessarily in order of preference.)

Patient	Recommended First choice	Alternative choice	Other Possible Treatments
A	SAMA prn <i>or</i> SABA prn	LAMA <i>or</i> LABA <i>or</i> SABA and SAMA	Theophylline
B	LAMA <i>or</i> LABA	LAMA and LABA	SABA <i>and/or</i> SAMA Theophylline
C	ICS + LABA <i>or</i> LAMA	LAMA and LABA <i>or</i> LAMA and PDE4-inh. <i>or</i> LABA and PDE4-inh.	SABA <i>and/or</i> SAMA Theophylline
D	ICS + LABA <i>and/or</i> LAMA	ICS + LABA and LAMA <i>or</i> ICS+LABA and PDE4-inh. <i>or</i> LAMA and LABA <i>or</i> LAMA and PDE4-inh.	Carbocysteine (mucolytic) N-acetylcysteine (Mucomyst) SABA <i>and/or</i> SAMA Theophylline



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Manage Stable COPD: Non-pharmacologic

Patient Group	Essential	Recommended	Depending on local guidelines
A	Smoking cessation (can include pharmacologic treatment)	Physical activity	Flu vaccination Pneumococcal vaccination
B, C, D	Smoking cessation (can include pharmacologic treatment) Pulmonary rehabilitation	Physical activity	Flu vaccination Pneumococcal vaccination



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Manage Exacerbations

An exacerbation of COPD is:

“an acute event characterized by a worsening of the patient’s respiratory symptoms that is beyond normal day-to-day variations and leads to a change in medication.”



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Manage Exacerbations: Key Points

- The most common causes of COPD exacerbations are viral upper respiratory tract infections and infection of the tracheobronchial tree.
- Diagnosis relies exclusively on the clinical presentation of the patient complaining of an acute change of symptoms that is beyond normal day-to-day variation.
- The goal of treatment is to minimize the impact of the current exacerbation and to prevent the development of subsequent exacerbations.



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Manage Exacerbations: Key Points

- Short-acting inhaled beta₂-agonists with or without short-acting anticholinergics are usually the preferred bronchodilators for treatment of an exacerbation.
- Systemic corticosteroids and antibiotics can shorten recovery time, improve lung function (FEV₁) and arterial hypoxemia (PaO₂), and reduce the risk of early relapse, treatment failure, and length of hospital stay.
- COPD exacerbations can often be prevented.

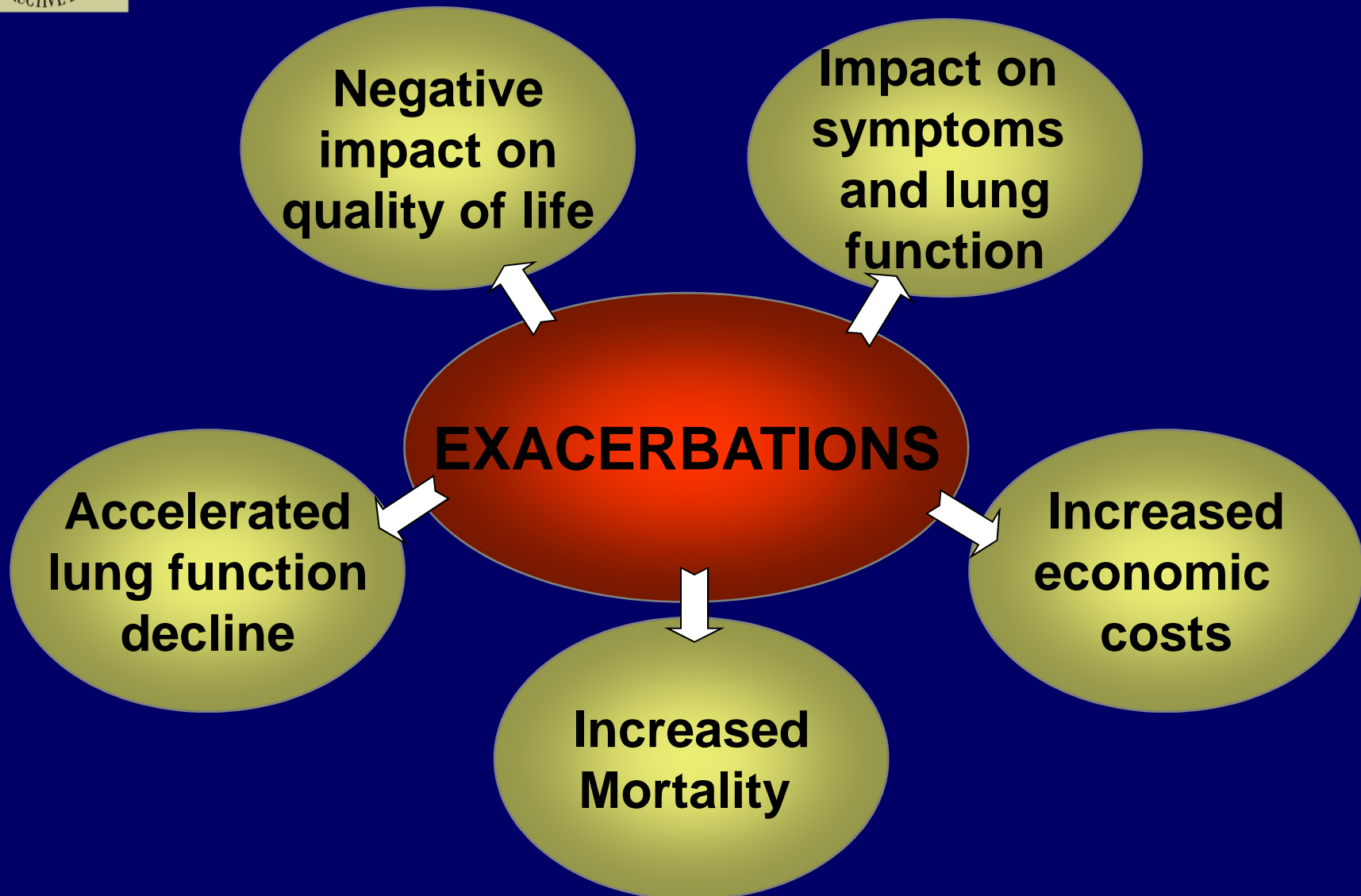
Exacerbations of COPD

- Defined as an acute change in a patient's baseline dyspnea, cough, and/or sputum beyond day-to-day variability, and sufficient to warrant a change in therapy¹
- Evidence supports that exacerbations are acute inflammatory events superimposed on the chronic inflammation characteristic of COPD²
- In a 12-month study, 77% of patients had at least 1 exacerbation³
- Frequency of exacerbations contributes to a decline in lung function and significant worsening in quality of life^{4,5}
- The prevention of exacerbations is recognized as a goal in COPD disease-state management⁶

1. American Thoracic Society/European Respiratory Society Task Force. *Standards for the Diagnosis and Management of Patients with COPD* [Internet]. Version 1.2. New York: American Thoracic Society; 2004 [updated 2005 September 8]. www.thoracic.org/go/copd. Accessed April 13, 2011.
2. Anzueto A, et al. *Proc Am Thorac Soc*. 2007;4:554-564
3. O'Reilly J, et al. *Prim Care Respir J*. 2006;15:346-353.
4. Donaldson GC, et al. *Thorax*. 2002;57:847-852.
5. Seemungal T, et al. *Am J Respir Crit Care Med*. 1998;157:1418-1422.
6. Global Initiative for Chronic Obstructive Lung Disease. *Global Strategy for the Diagnosis, Management and Prevention of COPD*, Global Initiative for Chronic Obstructive Lung Disease (GOLD) 2010. www.goldcopd.org. Accessed April 13, 2011.



Consequences Of COPD Exacerbations





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Manage Exacerbations: Treatment Options

Oxygen: titrate to improve the patient's hypoxemia with a target saturation of 88-92%.

Bronchodilators: Short-acting inhaled beta₂-agonists with or without short-acting anticholinergics are preferred.

Systemic Corticosteroids: Shorten recovery time, improve lung function (FEV₁) and arterial hypoxemia (PaO₂), and reduce the risk of early relapse, treatment failure, and length of hospital stay. A dose of 40 mg prednisone per day for 5 days is recommended.



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Manage Exacerbations: Treatment Options

Antibiotics should be given to patients with:

- Three cardinal symptoms: increased dyspnea, increased sputum volume, and increased sputum purulence.
- Who require mechanical ventilation.



Manage Exacerbations: Indications for Hospital Admission

- Marked increase in intensity of symptoms
- Severe underlying COPD
- Onset of new physical signs
- Failure of an exacerbation to respond to initial medical management
- Presence of serious comorbidities
- Frequent exacerbations
- Older age
- Insufficient home support

GOLD Website Address

<http://www.goldcopd.org>

WORLD COPD DAY

November 18, 2015



Raising COPD Awareness Worldwide

Tobacco Dependence is a
CHRONIC DISEASE

Tobacco Dependence



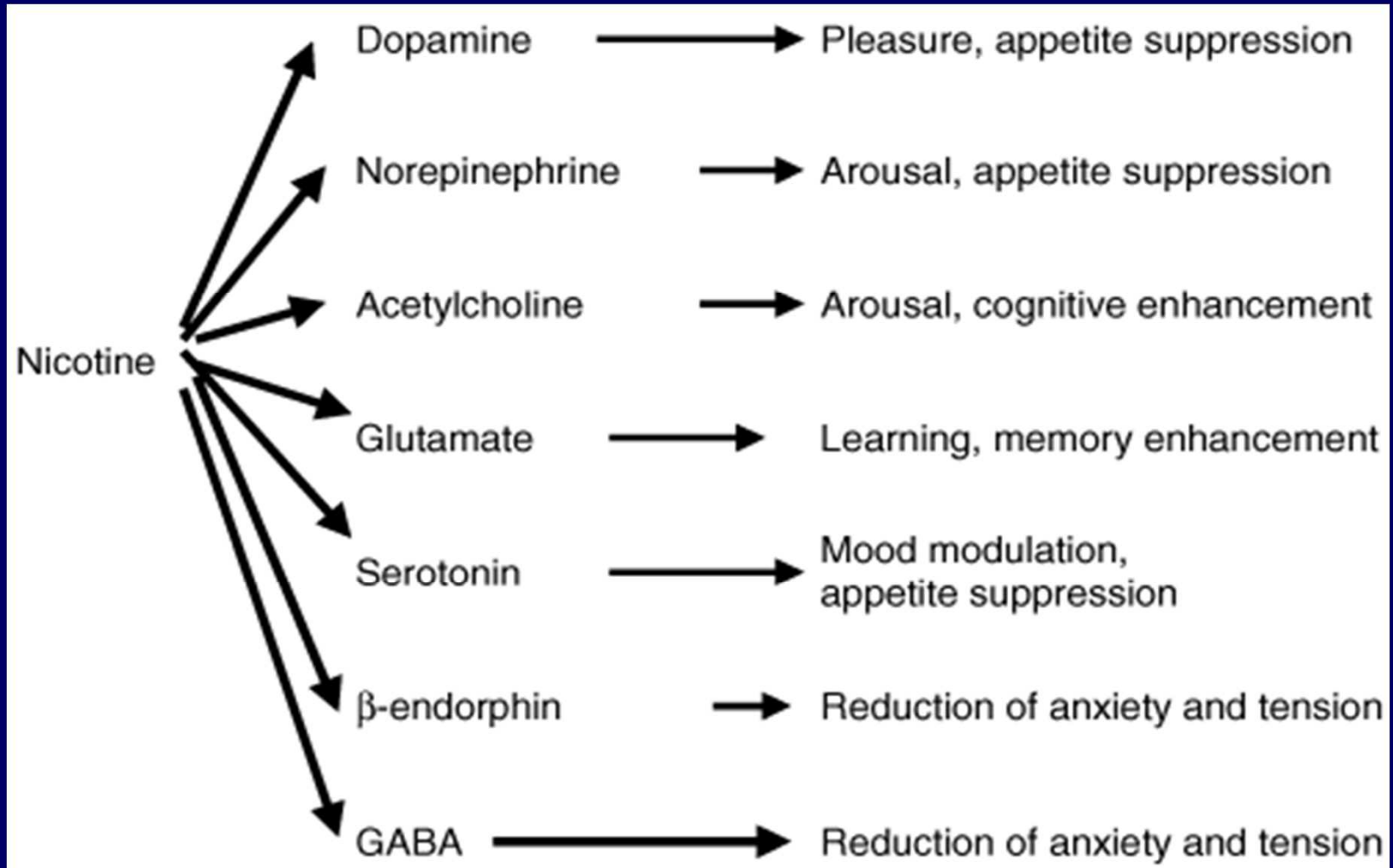
- Active smoking causes permanent changes to brain structure and chemistry
 - Cigarette smoking maintains near-complete saturation — and thus desensitization — of the nicotine receptors in the brain
 - Smokers rely on smoking to modulate mood and arousal, relieve withdrawal symptoms, or both
- Highly effective treatments for tobacco dependence are available

Benowitz NL. Nicotine Addiction. N Engl J Med 2010;362(24):2295

Fiore MC, et al. Treating Tobacco Use and Dependence. U.S. Department of Health and Human Services. 2008

Winickoff J et al. Pediatrics, 2005;115:1013 - 1017

Nicotine has Multiple Effects in the Brain



Nicotine Withdrawal Symptoms

- Cravings for cigarettes
- Irritability, frustration, anger
- Increased appetite
- Tremors
- Dysphoric or depressed mood
- Insomnia
- Anxiety, Restlessness
- Difficulty concentrating
- Slowed cognitive performance



Tobacco Dependence Toolkit

Access Now | ACCP - Internet Explorer

http://tobaccodependence.chestnet.org/access-now

Access Now | ACCP

File Edit View Favorites Tools Help

Convert Select

Access Now | What Are The ToolKit Benefits? | Success Stories | Login Here


CHEST
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Tobacco Dependence Treatment ToolKit

Access your ToolKit today!

The Tobacco Dependence Treatment ToolKit includes:

- Clinical background, rationale, and approach to the treatment of tobacco dependence
- Correct coding principles for tobacco dependence treatment reimbursement
- Downloadable and printable treatment algorithms, patient assessment, management, and communication tools, and patient education brochures
- Resources for health-care practitioners
- Physician advocacy information



The screenshot shows a preview of the website's content. At the top of the preview is a red button labeled 'What's Inside'. Below it is a navigation menu with items like 'Executive Summary', 'Clinical Background', 'Coding Principles', 'Treatment Algorithms', 'Patient Assessment', 'Management Tools', 'Communication Tools', 'Patient Education Brochures', 'Resources for Health-Care Practitioners', and 'Physician Advocacy Information'. The main content area displays the 'Executive Summary' section, which includes a sub-section for 'Rationale' and a paragraph of text. There is also a small image of a person in a white coat on the right side of the preview.

100%

Start

If you can treat asthma, you can treat tobacco dependence

- Goal of asthma therapy:
 - Normal lung function
 - Minimal to no asthma symptoms
- Goal of tobacco dependence therapy
 - Normal brain function
 - Minimal to no symptoms of nicotine withdrawal

If you can treat asthma, you can treat tobacco dependence

- Controller Medications

- Nicotine Patch (OTC)
- Bupropion (Rx)
- Varenicline (Rx)



- Reliever Medications

- Nicotine gum, lozenge (OTC)
- Nicotine inhaler, nasal spray (Rx)
- Severity of disease guides intensity of treatment
- Pre-medicate for at risk situations

On Follow-Up Visits

- If disease is well-controlled
 - Step down medications
- If disease is not well-controlled
 - Evaluate for triggers, adherence, etc.
 - Consider stepping up medication
- Medications are adjusted based on control of the underlying disease -- not on a fixed timetable.

Treating Tobacco Dependence: ARMR Model

- **A**SSESS the disease
- **R**ECOMMEND treatment
- **M**ONITOR for effectiveness and side effects.
- **R**EVISE the treatment plan



Assess

- Assess severity of disease
 - Faegerström Test for Nicotine Dependence
 - Modified Faegerström Tolerance Questionnaire (adolescents)
 - Hooked on Nicotine Checklist (autonomy over smoking)
- Previous experience with smoking cessation

The Fagerstrom Test for Nicotine Dependence

1. How soon after you wake up do you smoke your first cigarette?

Within 5 minutes (3 points)

5 to 30 minutes (2 points)

31 to 60 minutes (1 point)

After 60 minutes (0 points)

2. Do you find it difficult not to smoke in places where you shouldn't, such as in church or school, in a movie, at the library, on a bus, in court or in a hospital?

Yes (1 point)

No (0 points)

3. Which cigarette would you most hate to give up; which cigarette do you treasure the most?

The first one in the morning (1 point)

Any other one (0 points)

4. How many cigarettes do you smoke each day?

10 or fewer (0 points)

11 to 20 (1 point)

21 to 30 (2 points)

31 or more (3 points)

5. Do you smoke more during the first few hours after waking up than during the rest of the day?

Yes (1 point)

No (0 points)

6. Do you still smoke if you are so sick that you are in bed most of the day, or if you have a cold or the flu and have trouble breathing?

Yes (1 point)

No (0 points)

Scoring: 7 to 10 points = highly dependent; 4 to 6 points = moderately dependent; less than 4 points = minimally dependent.

Classification of Tobacco Dependence Severity

Adapted from ACCP Tobacco Dependence Treatment Toolkit 3rd Edition, 2010

	Cigarette Use	Nicotine Withdrawal Symptoms	Fagerström Test of Nicotine Dependence
Step 4 Very Severe	> 40/day Time to first cigarette: 0 - 5 min	Constant	8 - 10
Step 3 Severe	20 - 40/day Time to 1st cigarette: 6 - 30 min.	Constant	6 - 7
Step 2 Moderate	6 - 19/day Time to 1st cigarette: 31 - 60 min.	Frequent	4 - 5
Step 1 Mild	1 - 5/day Time to 1st cigarette: > 60 min.	Intermittent	2 - 3
Step 0 Non-daily/Social	Social settings only	None	0 - 1

If chronic medical or psychiatric disease, escalate severity by 1-2 steps

Assess

- Co-morbid conditions
 - Psychiatric conditions
 - Medications



Recommend

- Base treatment intensity on:

- Severity of underlying disease
- Prior experience with tobacco dependence treatment
- Combination therapy is more effective than single agent therapy



Cessation Treatment Options

- Nicotine replacement products
 - OTC – nicotine patch, gum, lozenge
 - Rx – nicotine patch, inhaler, nasal spray
- Prescription non-nicotine medications
 - Bupropion SR (Zyban)
 - Varenicline tartrate (Chantix)



Stepwise Approach to Treatment

<p>Controller: None</p> <p>Reliever: As needed reliever use may be considered.</p>	<p>Controller: Nicotine patch <i>or</i> Bupropion SR <i>or</i> Varenicline</p> <p><i>OR</i></p> <p>Reliever as needed</p>	<p>Controller: Nicotine patch <i>or</i> Bupropion SR</p> <p>Plus reliever as needed</p> <p><i>OR</i></p> <p>Varenicline alone.</p>	<p>Controller: Varenicline +Bupropion SR</p> <p><i>OR</i></p> <p>Nicotine patch+ Bupropion</p> <p><i>AND</i></p> <p>Reliever as needed</p>	<p>Controllers: Varenicline and/<i>or</i> Bupropion-SR</p> <p><i>AND/OR</i></p> <p>High Dose Nicotine Patch</p> <p><i>AND</i></p> <p>Multiple reliever medications</p>	<p>When withdrawal is controlled</p> <ul style="list-style-type: none"> • Step Down medications, • Monitor, to control maintained
<p>Step 0 Non- daily/Social</p>	<p>Step 1 Mild</p>	<p>Step 2 Moderate</p>	<p>Step 3 Severe</p>	<p>Step 4 Very Severe</p>	<p>Step Down/ Maintenance</p>

Freedom from Tobacco Action Plan

Tobacco use is more than a habit. It's an addiction.

In the green and good to go!

I have no real cravings for tobacco. I'm pretty calm. I feel like my brain can focus normally.

I use medicine to control nicotine cravings every day.

- Nicotine patch: _____ mg patch _____ # patches, apply once daily.
- Bupropion IR, SR, XL (Wellbutrin® or Zyban®): _____ mg/day once daily for first ____ days, then _____
- Varenicline (Chantix ®)
 - Use Starter Pack as directed
 - Use continuing month pack, _____ mg tab, _____ times per day
- Use prior to problem times: _____

Yellow, but not so mellow.



I'm craving tobacco. I may be feeling irritable, anxious, and restless. It is hard for me to get my brain to focus.

Continue your Green zone EVERY DAY Medicine

Need a rescue? Take a quick-relief nicotine medicine:

- Gum
- Lozenge
- Nasal Spray
- Inhaler

Take _____ (dose) every _____ minutes as needed.

Seeing red.

I am feeling strong cravings for tobacco. I really need a cigarette now. It may be very hard to get my brain to focus.

In the RED ZONE, take a quick-relief nicotine medicine.

Take _____ (dose) every _____ minutes as needed. Gum Lozenge Nasal Spray Inhaler

Continue your Green zone EVERY DAY Medicine.

If you are in the red zone, contact your physician or tobacco dependence treatment specialist. You may need stronger medicine

Classification of Tobacco Dependence Severity

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	Cigarette Use	Nicotine Withdrawal Symptoms	Fagerström Test of Nicotine Dependence
Step 4 Very Severe	>40/day Time to first cigarette 0-5 min	Constant	8-10
Step 3 Severe	20-40/day Time to 1 st cigarette: 6-30 min.	Constant	6-7
Step 2 Moderate	6-19/day Time to 1 st cigarette 31-60 min.	Frequent	4-5
Step 1 Mild	1-5/day Time to 1 st cigarette >60 min.	Intermittent	2-3
Step 0 Non-daily/Social	Social settings only	None	0-1

If chronic medical or psychiatric disease, escalate severity by 1-2 steps

Stepwise Approach to Treatment

<p>Controller: None</p> <p>Reliever: As needed reliever use may be considered.</p>	<p>Controller: Nicotine patch <i>or</i> Bupropion SR <i>or</i> Varenicline</p> <p><i>OR</i></p> <p>Reliever as needed</p>	<p>Controller: Nicotine patch or Bupropion SR</p> <p>Plus <i>reliever</i> as needed</p> <p><i>OR</i></p> <p>Varenicline alone.</p>	<p>Controller: Varenicline +Bupropion SR</p> <p><i>OR</i></p> <p>Nicotine patch+ Bupropion</p> <p><i>AND</i></p> <p>Reliever as needed</p>	<p>Controllers: Varenicline and/or Bupropion-SR</p> <p><i>AND/OR</i></p> <p>High Dose Nicotine Patch</p> <p><i>AND</i></p> <p>Multiple reliever medications</p>	<p>When withdrawal is controlled</p> <ul style="list-style-type: none"> • Step Down medications, • Monitor, to control maintained
<p>Step 0 Non- daily/Social</p>	<p>Step 1 Mild</p>	<p>Step 2 Moderate</p>	<p>Step 3 Severe</p>	<p>Step 4 Very Severe</p>	<p>Step Down/ Maintenance</p>

Freedom from Tobacco Action Plan

Tobacco use is more than a habit. It's an addiction.

In the green and good to go!

I have no real cravings for tobacco. I'm pretty calm. I feel like my brain can focus normally.

I use medicine to control nicotine cravings every day.

- Nicotine patch: 21 mg patch 1 # patches, apply once daily.
- Bupropion IR, SR, XL (Wellbutrin® or Zyban®): _____ mg/day once daily for first _____ days, then _____
- Varenicline (Chantix®)
 - Use Starter Pack as directed
 - Use continuing month pack, _____ mg tab, _____ times per day
- Use prior to problem times: Nicotine gum, 4 mg



Yellow, but not so mellow.

I'm craving tobacco. I may be feeling irritable, anxious, and restless. It is hard for me to get my brain to focus.

Continue your Green zone EVERY DAY Medicine

Need a rescue? Take a quick-relief nicotine medicine:

- Gum
- Lozenge
- Nasal Spray
- Inhaler

Take 4mg (dose) every 30 minutes as needed.

Seeing red.

I am feeling strong cravings for tobacco. I really need a cigarette now. It may be very hard to get my brain to focus.

In the RED ZONE, take a quick-relief nicotine medicine.

Take 4 mg (dose) every 20 minutes as needed. Gum Lozenge Nasal Spray Inhaler

Continue your Green zone EVERY DAY Medicine.

If you are in the red zone, contact your physician or tobacco dependence treatment specialist. You may need stronger medicine

Reduction Toward Cessation

- Use nicotine patch to reduce smoking and prepare for cessation
- Use of NRT to reduce smoking and gain greater control of smoking behavior

Morre D et al. BMJ. 2009 Apr
2;338:b1024

E-cigarettes: NOT RECOMMENDED

- FDA analysis found **carcinogenic and toxic** substances in the vapor of these devices
- Vapor **contains anti-freeze**
- An “introductory” product to get kids hooked
- Use of flavorings (chocolate, strawberry and mint) is designed to appeal to young people

A woman with long brown hair wearing a black beret is shown in profile, exhaling a plume of white vapor from a black e-cigarette. The background is dark with a faint, abstract pattern. The text is overlaid on the right side of the image.

Vaping safe?

Think again.

Think that's just water vapor? Here's what e-cig vapors can also carry into your lungs:

- ▶ solvents
- ▶ flavorings
- ▶ preservatives
- ▶ additives
- ▶ particles of tin, chromium, nickel, heavy metals

And when the vapes run out? You're vaping battery vapor.

© ToucanEd Inc. (BBB) 386-9226 www.toucaned.com

E-Cigarettes

- Liquid nicotine is health risk to young children
- Fine particles in aerosol degrades lung function
- Unknown if exposure to secondhand emissions are harmful
- User can exhale formaldehyde, benzene and other toxins
- No acute risks of active vaping have been identified



E-Cigarettes



- Dual use dangers
 - Smokers may be using them along with traditional cigarettes
- At present, research regarding safety of e-cigarettes is not conclusive
- Possible health risks of e-cigarettes appear to be far less than the dangers associated with tobacco use
- Not regulated in the U.S.
- Not enough scientific studies on risk

E-Cigarettes and Smoking Cessation

- One study in *The Lancet* found that e-cigarettes were equivalent to the patch
- Another study in *Addiction* found e-cigarettes associated with increases in attempts to quit but not smoking cessation
- ***BUT***...the FDA has not found any e-cigarette safe and effective in helping smokers quit
- More studies needed to assess effectiveness
- **Not approved as a cessation device**

Future of E-Cigarettes

- For individuals who switch to vaping (not dual use), can favorably impact standard cigarette use – but what are long-term effects on health??
 - Need to study effectiveness of e-cigarettes to help smokers quit
 - Need to study health status of individuals who have switched from smoking to e-cigarettes
 - Need research on how e-cigarettes can be made safer

Tobacco has a long history of promotion...

SOMETHING WONDERFUL HAPPENS
when you change to **PHILIP MORRIS!**

YOU FEEL BETTER BECAUSE, in case after case, coughs due to smoking disappear . . . parched throat clears up . . . that stale, "smoked-out" feeling vanishes.*

**Proof of superiority published in leading medical journals.*



CALL FOR **PHILIP MORRIS**



Cigarette Advertisement, 1953

Before you scold me, Mom ...
maybe you'd better light up a

Marlboro

Yes, you need
never feel
over-smoked
... that's the
Miracle of
Marlboro!

100% CIGARETTES BY JEROME S. ROSEN • PLAIN PAPER • 800 mg. TARS • 11 mg. NICOTINE

Gee, Mommy
you sure enjoy your
Marlboro

Yes, you need
never feel
over-smoked
... that's the
Miracle of
Marlboro!

100% CIGARETTES BY JEROME S. ROSEN • PLAIN PAPER • 800 mg. TARS • 11 mg. NICOTINE

Marketing Marlboro to Mothers 1950

1970s Virginia Slims advertisement



- 1971 ban on advertising on television
- 1998 prohibited tobacco companies from targeting children

1989 Virginia Slims advertisement

Virginia Slims

You've come a long way, baby.

© Philip Morris Inc. 1989

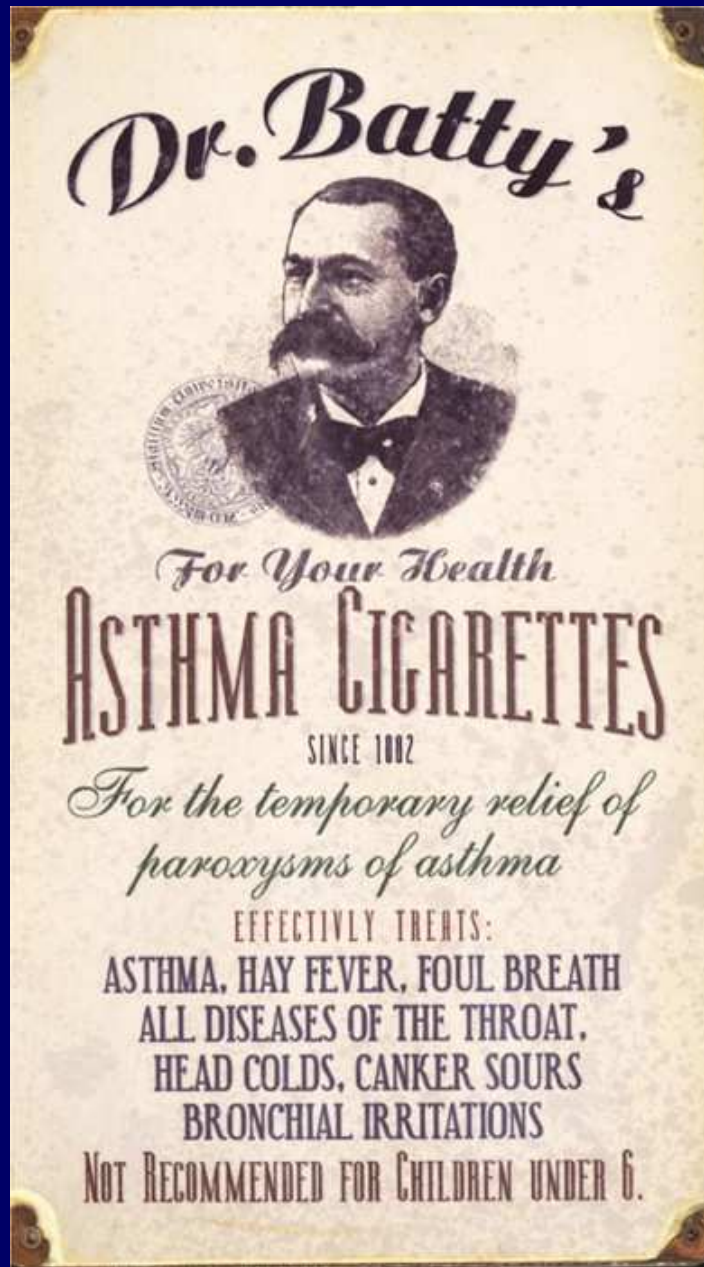
SURGEON GENERAL'S WARNING: Smoking Causes Lung Cancer, Heart Disease, Emphysema, And May Complicate Pregnancy.

1 mg "tar," 0.7 mg nicotine av. per cigarette by FTC method.

Found in Mom's Basement

The advertisement features a woman with voluminous blonde hair, wearing a red off-the-shoulder top and a patterned skirt. She is holding a cigarette. The background shows a woman in a white blouse and black skirt working in a restaurant or cafe. The text "Virginia Slims" is written vertically on the left. The slogan "You've come a long way, baby." is written vertically next to it. A small pack of Virginia Slims cigarettes is shown at the bottom left. A warning box is at the bottom right. The copyright notice "© Philip Morris Inc. 1989" is at the bottom center. The slogan "Found in Mom's Basement" is at the bottom right.

We've come a long way –
from this to this



Tobacco Dependence Treatment Resources

- For Patients:
 - Quit line: 1 800 QUIT NOW
- For Providers:
 - American College of Chest Physicians
Tobacco Dependence Treatment Toolkit
 - Tobaccodependence.chestnet.org

Questions?

- Karen Meyerson, MSN, APRN, FNP-C, AE-C
- Phone: 616-685-1432
- Email: meyersok@trinity-health.org
- Websites:
 - www.asthmanetworkwm.org
 - www.goldcopd.org
 - <http://tobaccodependence.chestnet.org/>