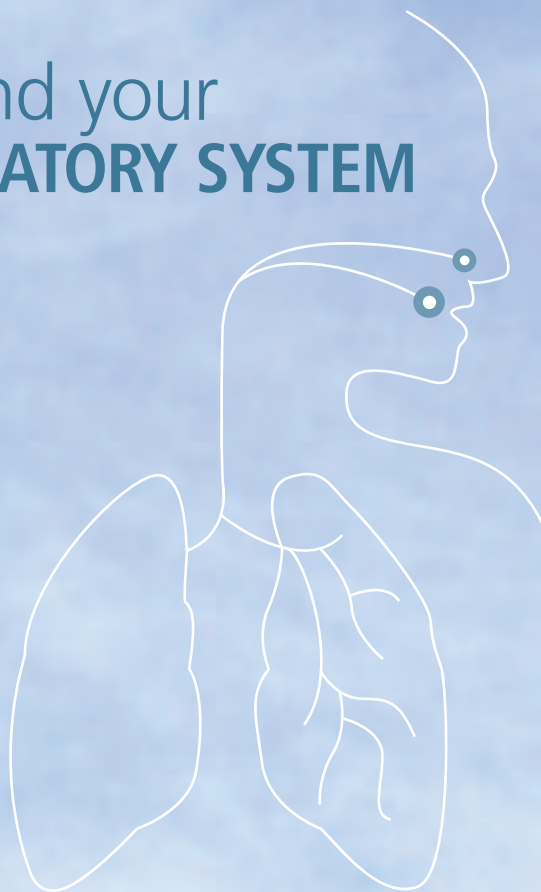


# **COPD** and your **RESPIRATORY SYSTEM**



# How your respiratory system works.

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Your respiratory system is divided into three segments: the upper airways, the lower airways and the lungs.

## Upper airways

- > The nose, mouth and pharynx
- > Responsible for filtering, warming and adding moisture to the air you inhale

## Lower airways

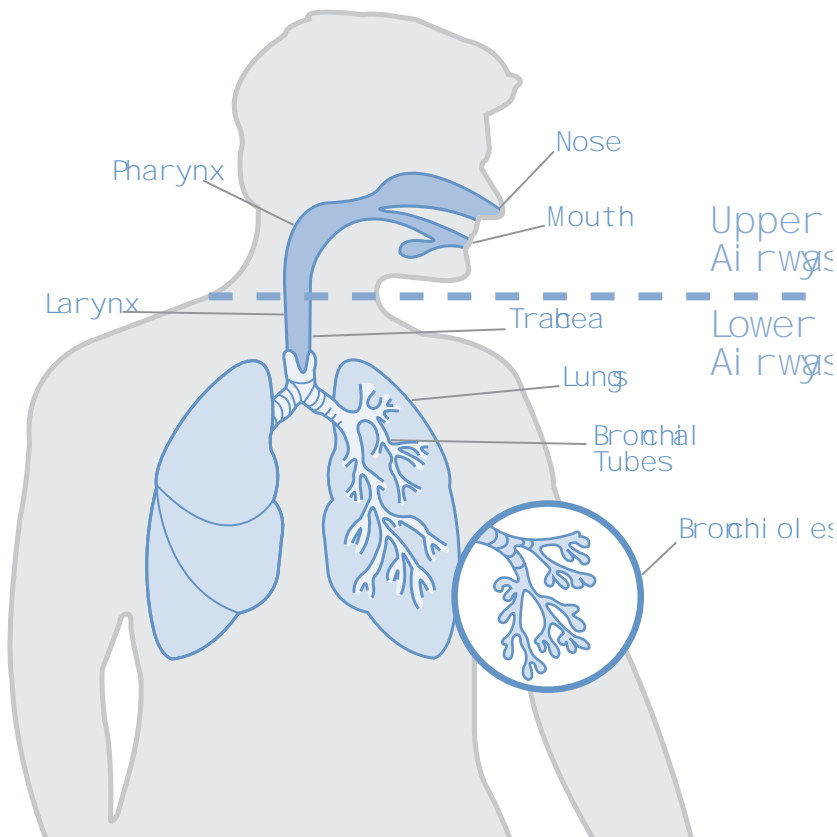
- > Larynx, trachea, bronchial tubes and bronchioles
- > Responsible for the movement of air, the voice and the exchange of oxygen (in) and carbon dioxide (out) from the blood stream

# Your lungs at work.

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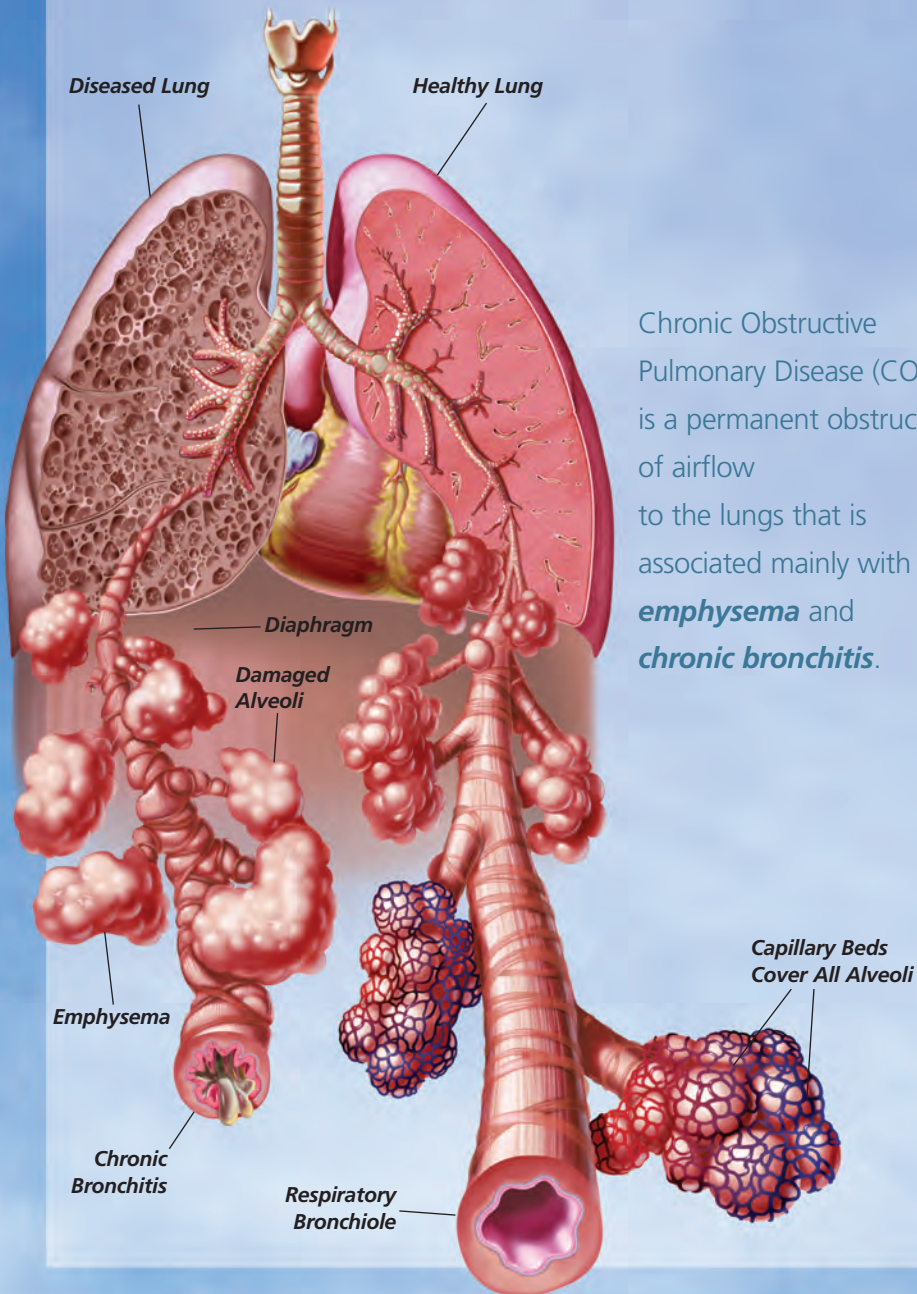
As the third segment of your respiratory system, your lungs perform a number of important functions.

- > Exchange O<sub>2</sub> (oxygen) from inhaled air for CO<sub>2</sub> (carbon dioxide) in the blood
- > Disperse O<sub>2</sub> from inhaled air into the bloodstream to feed body tissues
- > Disperse CO<sub>2</sub> from the blood into the air so it can be dispensed



What is COPD?

# CHRONIC OBSTRUCTIVE PULMONARY DISEASE



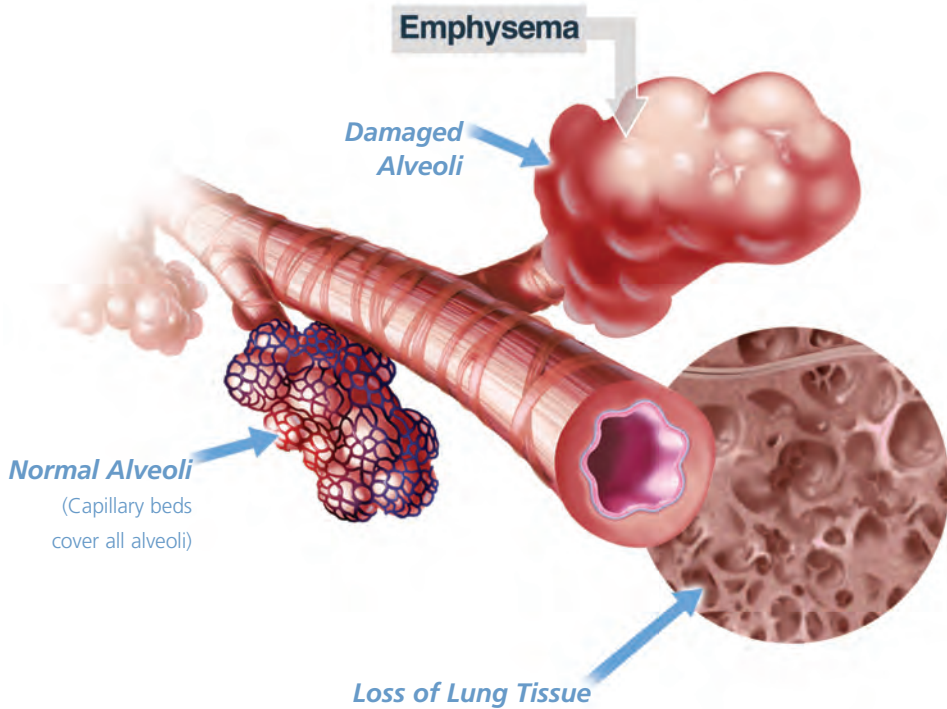
Chronic Obstructive Pulmonary Disease (COPD) is a permanent obstruction of airflow to the lungs that is associated mainly with **emphysema** and **chronic bronchitis**.

What is COPD?

# Emphysema

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**Emphysema** destroys or enlarges the alveolar sac and their walls. Shortness of breath is a common symptom.

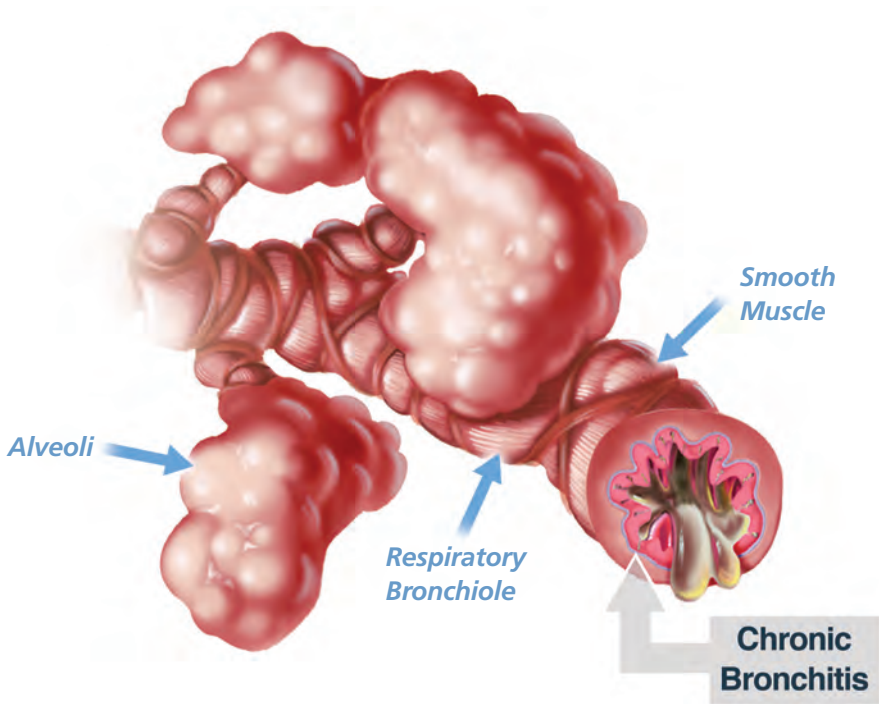


What is COPD?

# Chronic Bronchitis

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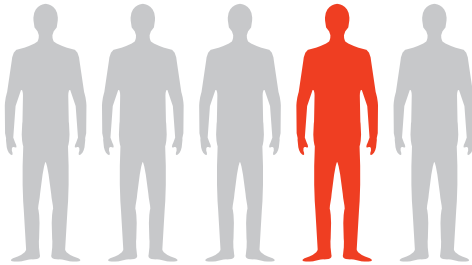
**Chronic Bronchitis** is a chronic inflammation of the lower airways resulting in a frequent cough that produces mucus and sputum. This cough occurs almost daily for at least three months a year for two consecutive years.



## What causes COPD?

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- > 90% of all reported COPD cases are caused by cigarette smoking
- > Secondhand smoke
- > 1 out of 5 smokers can expect to develop COPD during their lifetime

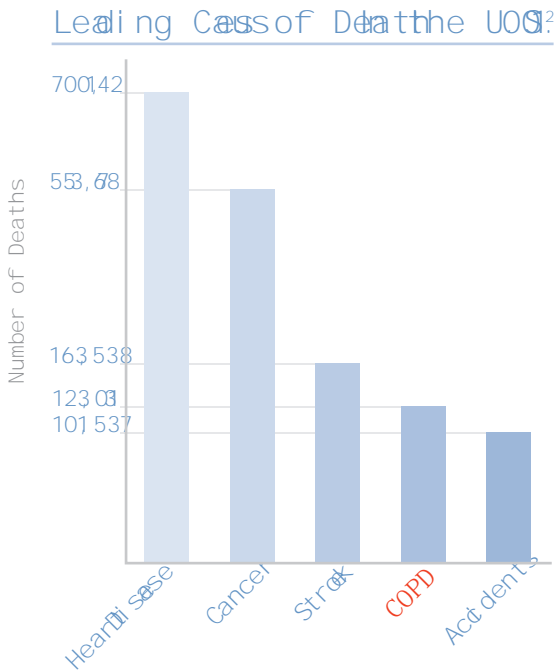


### Other causes:

- > Chronic respiratory infections
- > Air pollution
- > Allergies

# What are the consequences?

- > COPD is the fourth leading cause of death in the U.S.<sup>1</sup>
- > COPD is projected to be the third leading cause of death in both males and females by the year 2020.<sup>1</sup>
- > In 2000, COPD was the direct cause of death in nearly 119,000 adults, ages 25 and older.<sup>1</sup>



- > COPD was responsible for more deaths in 2001 than diabetes and kidney disease combined.<sup>2</sup>

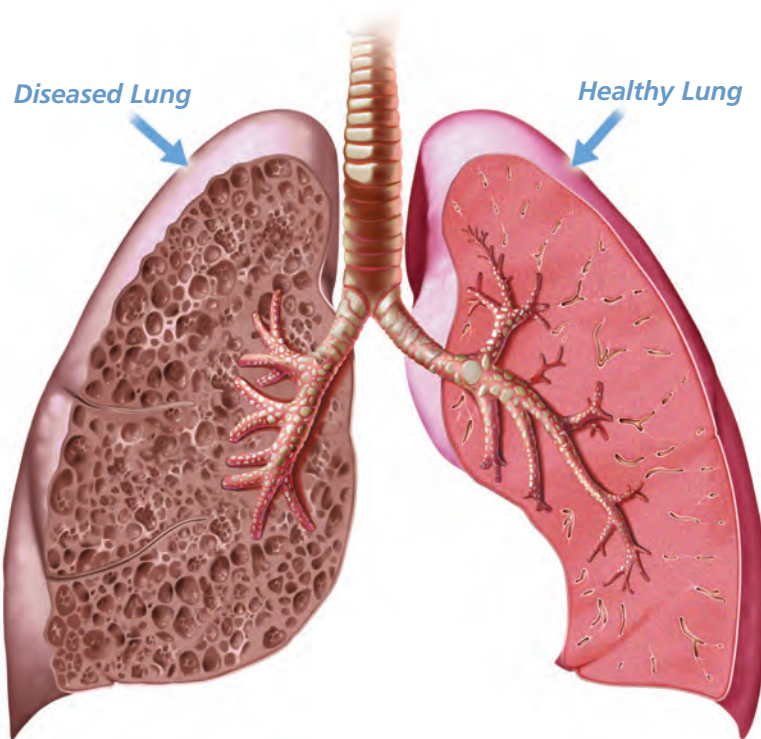
1. National Heart, Lung, and Blood Institute Data Fact Sheet. *National Institute of Health Publication*. March 2003; No. 03:5229.  
2. Arias E, Anderson RN, Kung HC, Murphy SL, Kochanek KD. *Deaths: Final Data for 2001*. Division of Vital Statistics, National Vital Statistics Report; September 18, 2003. Volume 52, Number 3.

What Next?

## Get a lung check-up.

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- > If you are a smoker, ex-smoker or frequently exposed to secondhand smoke, you may be at risk for COPD. Your doctor can perform a spirometry test to determine your lung health.
- > If you are diagnosed with COPD, your doctor can prescribe an appropriate therapy to help your lungs breathe easier.

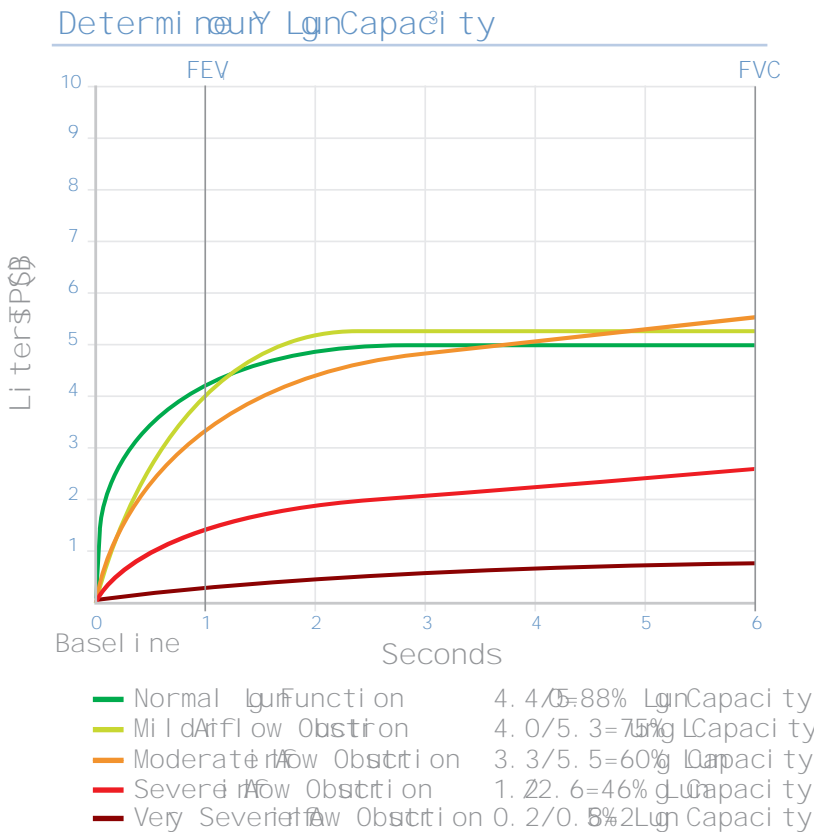


What Next?

# Measure the effects of smoking.

Take a spirometry test to help determine your lung capacity.

- > FEV<sub>1</sub>\*- This test represents how much air you can forcibly breathe out in one second.
- > FVC\*- This test represents the total volume of air you can forcibly breathe out.
- > FEV<sub>1</sub>/FVC = Lung capacity

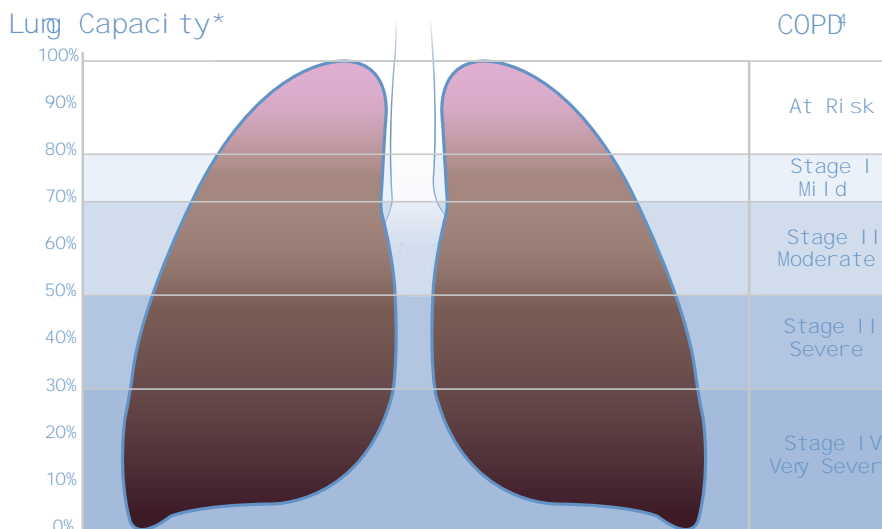


\*FEV (forced expiratory volume), FVC (forced vital capacity)

What Next?

## What the measurements mean.

A spirometry test result below-100% means that you may be at risk for COPD.



\*As a percentage of normal predicted FEV<sub>1</sub>

## Symptoms of COPD

- > Shortness of breath
- > Wheezing
- > Frequent coughing
- > Sputum and mucus production
- > Chest tightness

What Next?

## What treatment options exist?<sup>4</sup>

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### > At risk

- Avoid risk factors (stop smoking)
- Get a flu vaccination regularly

### > Mild

Add:

- Use a short-acting bronchodilator as needed for fast relief

### > Moderate

Add:

- Regular treatment with one or more long-acting bronchodilators for long-term relief
- Pulmonary rehabilitation

### > Severe

Add:

- Steroid treatments (inhaled glucocorticosteroids) if severe symptoms persist
- Long-term oxygen therapy if airflow capacity drops below 55%

### > Very severe

Add:

- Consider surgical treatments

O<sub>2</sub> Therapy

# What is oxygen therapy?

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- > Oxygen therapy provides additional oxygen to your lungs to help you breathe
- > Oxygen therapy may be:
  - Stationary or portable (ambulatory)
  - Liquid or gas
  - Any combination of the two
- > Oxygen therapy is a treatment option for advanced stage COPD
- > Oxygen therapy is nonaddictive



# The benefits of oxygen therapy.

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- > Oxygen therapy can help improve:
  - Life expectancy
  - Emotional outlook
- > Oxygen therapy can help reduce:
  - Hospitalizations
  - Visits to the emergency room
- > Ambulatory oxygen therapy provides:
  - Maximum mobility at home and away
  - Increased physical fitness
  - Greater social acceptance
  - More freedom
  - Greater independence
  - Improved quality of life



# How the HELIOS® system fits into your life.

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The **HELIOS**® Personal Oxygen System is the smallest, lightest, longest-lasting ambulatory oxygen system for COPD patients who require supplemental oxygen.



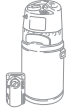





# HELIOS® Personal Oxygen System

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- > Lightweight: 3.6 lbs. filled
- > Small size: 10 inches tall
- > Long lasting: Up to 10 hours (at a setting of 2 lpm)
- > Low pressure operation: 22 psi
- > Maximum portability
- > Hands-free operation
- > Easy to carry: Use a shoulder strap or waist belt
- > On-demand oxygen control valve
- > Releases oxygen comfortably
- > Fast refills: 40 seconds (approx.)
- > Electricity-free and battery-free operation
- > Quiet operation
- > Operates vertically or horizontally



## HELIOS Compared to Other Supplemental Oxygen Systems<sup>5</sup>

Supplemental Oxygen Systems		Accommodates Activity/Ability to Exercise	Easy to Operate and Carry	Quiet Operation
<p><b>At-Home Use:</b> HELIOS Reservoir</p> <p><b>Portable Use:</b> HELIOS Portable Unit</p>		<i>Excellent</i>	<i>Excellent</i>	<i>Excellent</i>
<p><b>At-Home Use:</b> Liquid oxygen stationary</p> <p>Portable Use: Conventional liquid portable</p>		<i>Above Average</i>	<i>Excellent</i>	<i>Excellent</i>
<p><b>At-Home Use:</b> Concentrator</p> <p><b>Portable Use:</b> Conventional liquid portable, liquid stationary to fill portable</p>		<i>Above Average</i>	<i>Above Average</i>	<i>Average</i>
<p><b>At-Home Use:</b> Concentrator</p> <p><b>Portable Use:</b> M-6 or M-9 cylinder with conserving device</p>		<i>Above Average</i>	<i>Average</i>	<i>Average</i>
<p><b>At-Home Use:</b> Concentrator</p> <p><b>Portable Use:</b> E-Cylinder and standard flow regulator.</p>		<i>Average</i>	<i>Average</i>	<i>Average</i>
<p><b>At-Home Use:</b> Concentrator</p> <p><b>Portable Use:</b> Cylinder filled by patient from additional concentrator</p>		<i>Above Average</i>	<i>Average</i>	<i>Average</i>

5. Guide to Prescribing Home Oxygen. Thomas L. Petty, MD



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[www.heliosoxygen.com](http://www.heliosoxygen.com)

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