

# COPD Air Purifiers

## Breathing Easy: Air Purifiers Can Help COPD

Chronic obstructive pulmonary disease or COPD is a result of the bronchial air passages narrowing over time due to other chronic pulmonary conditions such as bronchitis or emphysema. The most common cause of COPD is toxic gases or fumes that create inflammatory responses in the lung tissue. The biggest culprit of lung inflammatory responses is exposure to tobacco smoke, either first or second hand.

COPD is one of the leading causes of death: third in the US and fifth worldwide. A person with COPD will find themselves short of breath. In fact, shortness of breath or dyspnea is one of the most common symptoms. At first, a COPD patient will be short of breath during rigorous exercise, then over time, during light exertion, then as time passes and the disease progresses, a person with COPD may find themselves short of breath at all times, no matter what the exertion level. Almost all people with COPD have a history of smoking, although other causes can also be pinpointed:

- Air pollution: Those who live in urban areas with high levels of pollution seem to have higher rates of COPD.
- Autoimmune diseases: Lung inflammation due to the body attacking this organ is a possible cause of COPD.
- Genetics: Not all smokers end up with COPD. There seems to be a genetic predisposition for a percentage of people toward acquiring this disease. The link seems to be the ability to make enzymes that will take care of the inflammatory response more effectively. If you do not have this ability, the chances you will have COPD at some point in your life increases.
- Occupational hazards: Industrial workers and miners in particular, are chronically exposed to high levels of chemicals, silica dust, asbestos, fumes and particulate matter in their work environment. Long term exposure to these contaminants increases the likelihood of developing COPD.

## What Can I Do to Manage My COPD?

Besides smoking cessation, medication to control inflammation (e.g., corticosteroids) and medication that helps to open the bronchial airways (e.g. inhalers or beta agonists), you can make sure that you control your environment as much as possible. If you have a dangerous workplace where you are exposed to a toxic environment, be sure to wear the proper face mask or insist on an air purifier near your work area. An air purifier at work may not be possible, but if you are able to have even a small portable purifier near you, it would help your condition greatly.

At home, staying away from contaminants is very important. If others in your household smoke insist that they smoke outside instead of indoors. Indoor air pollution tends to be much worse than outdoor pollution because of the increased density of particulate matter and fumes. Most importantly, you have control over your home environment. This means that you are able to

install either a whole house air purification system or invest in portable air purifiers that will keep the indoor air clean.

### **Will Air Purifiers Really Clean the Air in My House? What Type of Purifier Should I Get?**

Johns Hopkins University recommends that a sufferer of COPD not purchase an air purifier that generates ozone. Breathing large amounts of ozone, especially indoors where the concentration can be very high, is dangerous especially for people with COPD and asthma.

While no air purifier will take away 100% of the indoor pollution, they will create a much healthier environment for you and your family. If you decide to purchase a portable air purifier, be sure to compare the clean air delivery rate (CADR) with the size of the relevant room. Air purifiers that are too small for a room are very ineffective as cleaners.

If your contaminants are mostly smoke and fumes, you will want to look at the air purifiers with adsorbent materials such as activated carbon. The more carbon in the purifier, the better the purifier is rated for cleaning. If your problem is due to allergens in the air such as dust, dander or other particulate matter, you will want a good HEPA filter (with a prefilter) to capture particles in the air down to 0.3 microns in diameter.