

**Bruce Dan, MD**

Patients with emphysema may feel they have a difficult time taking a breath, but in truth, their problem is one of getting a breath out. Hello, I'm Dr. Bruce Dan, executive director for The Patient Channel. Emphysema, or its medical term, Chronic Obstructive Pulmonary Disease is the fourth leading cause of death in America. In nearly ninety percent of the cases, smoking is the cause. Reduced airflow and shortness of breath are the results. And closely linked: is the problem of chronic bronchitis. Our program: *Emphysema and Chronic Bronchitis: Coming Up For Air* will help shed light on these misunderstood diseases.

**Narrator**

Seventy-three year old Leonora Jernagin battles emphysema every day of her life. Most of the time she feels like it's a battle she's losing.

**Leonora Jernagin, Patient**

"It takes away your breath. It shortens your breath. It gives you an inability to do anything in motion, in that the least exertion renders you breathless."

**Narrator**

Leonora has been smoking for more than half a century. Most days she wishes she'd never started.

**Leonora Jernagin, Patient**

"I still miss smoking. I have cravings. I smoked for over 50 years but I guess there was a criminal offense on my part because I'm serving my time."

**Narrator**

Leonora's "sentence" is emphysema, a disease of the lungs that makes the normally unconscious effort of breathing seem almost impossible. Her condition is also known as Chronic Obstructive Pulmonary Disease or COPD.

Ninety percent of COPD cases are smoking-related, either through direct smoke or second hand smoke. In fact, children who grew up in homes where their parents smoked are at higher risk for developing obstructive lung diseases like COPD both in childhood and later as adults. In the ten percent of cases that are not related to smoking, there is either a genetic condition that causes COPD or the cause is unknown.

COPD—chronic bronchitis and emphysema-- is the fourth leading cause of death in the United States. It kills approximately 112,000 people every year.

**Gene Colice, MD, Washington Hospital Center**

"The mortality rate for COPD is increasing every year. And there's no indication at all that it's going to decrease."

**Narrator**

A major part of the problem is that Chronic Obstructive Pulmonary Disease is largely a silent condition, doing damage for decades without the patient even knowing anything's wrong.

The natural history of the disease in smokers follows a clearly recognizable pattern: Here's a typical example for those who start smoking when they are young:

At age 18, the lungs are grown and completely open, no damage is evident.

By age 28, there is a consistent cough, sometimes called a smoker's cough.

By the mid- to late 40's lung function is beginning to be seriously impaired and there is difficulty breathing with some simple tasks.

By the 50's, blue-collar workers can no longer work, and most COPD patients can't walk for long distances, and can't lift objects.

By the late 50's / early 60's quality of life is severely impaired. Patients, assuming they continue to smoke, find they cannot perform simple activities of daily living without difficulty.

Most long time smokers with emphysema and chronic bronchitis die about 15 years earlier than they would have otherwise.

### **Narrator**

Later in this show we'll take a look at a program showing some success in helping patients quit smoking, but just ahead more about how Chronic Obstructive Pulmonary Disease develops and its early warning signs.

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### **Natural Sound**

"Deep breath"

### **Narrator**

COPD: chronic obstructive pulmonary disease is *chronic* because patients have symptoms for a long duration. And it's *obstructive* because it restricts normal airflow in the lungs. The major cause of COPD is smoking.

Patients can smoke for years and be losing lung function without even realizing it. By the time symptoms are recognized and treated, patients may have lost their ability to do almost anything, in the way of physical activity.

Doctor Frank Rahaghi is the director of Pulmonary Rehabilitation at the Cleveland Clinic Florida.

### **Frank Rahaghi, MD, Cleveland Clinic Florida**

"As we age we lose a little bit of lung all the time. But if you start smoking, you lose more and more. And if you don't have chronic bronchitis or another irritation to sort of remind you that your lungs are hurting. If they just disappear in silence, well then you would just comfortably smoke until its just really too late. Suddenly you realize that if you take two steps you can't breathe."

**Narrator**

The lungs provide a large surface to exchange oxygen and carbon dioxide. This is called gas exchange. Healthy lungs do this very well. But with the inhalation of irritants over a long time, such as dust, pollutants and especially cigarette smoke, the lungs become irritated and inflamed.

**John Kirkwood, President & CEO, American Lung Association**

“Basically what it means is loss of lung function, you’re just not able to exchange oxygen for carbon dioxide and to re-energize yourself and re-oxygenate your blood.”

**Narrator**

Sixty-one year old James Mitchell smoked for more than thirty years. He knew smoking wasn’t good for him, and he ignored subtle warnings over the years that something might be wrong.

**James Mitchell, Patient**

“Even now I look back and I could see years before that I know there was a lot of signs and I just didn’t pay attention to them. I thought they were different things until this came up”.

**Natural Sound**

“Put this on before you do anything.”

**Narrator**

The diagnosis of Chronic Obstructive Pulmonary Disease took him completely by surprise.

**James Mitchell, Patient**

“When I was told that I had COPD first of all I didn’t know what it was. It was explained to me that is was a chronic disease. It wasn’t something that was just going to go away and not necessarily even controlled.”

**Narrator**

His decreasing ability to breathe normally made it clear that he had to make a choice: either quit smoking or risk dying early. He wasn’t the only one affected by the disease—his wife suffered emotionally right along with him.

**Barbara Mitchell, Patient’s Wife**

“It is very scary. It’s very frightening. You stand there and you watch someone you love they can’t breathe and you can’t do anything for them. You just have to stand there with him until he can catch his breath. It’s so bad that there are times, even in bed at night I will just put my hand on his back to make sure that he’s breathing.”

**Narrator**

Chronic Obstructive Pulmonary Disease commonly develops as two distinct yet associated diseases: chronic bronchitis and emphysema. In chronic bronchitis, the bronchial tubes, the airways between the windpipe and the lungs, become irritated and inflamed. Inflammation results in excess mucus production and obstruction of the airways, making it more difficult to breathe.

**Frank Rahaghi, MD, Cleveland Clinic Florida**

“The airways, trying to defend themselves against a foreign substance, start secreting mucus which lines the inside of the airways and with time the mucus also causes irritation and blocks the airways. And all the above contributes to the fact that you can’t breathe out.”

**Narrator**

In emphysema, lung tissue and the tiny air sacs at the end of the airways, known as alveoli are also damaged. This reduces their numbers and the lung’s ability to transport oxygen to the bloodstream. And as the walls separating the alveoli are destroyed air becomes trapped in the deep recesses of the lungs, also making it more difficult to move air out.

**Natural Sound**

“Take a deep breath in. Now blow it out as hard as you can”

**Narrator**

When the airways are severely narrowed lung function is seriously impaired. As lung function is slowly compromised, shortness of breath becomes evident. This breathlessness may not be obvious when someone is resting, but that same person will note severe shortness of breath upon exertion. This difficulty in breathing may be so severe that many patients reduce their physical activity altogether.

Doctor Gene Colice is the director of pulmonary care and respiratory services at Washington Hospital Center in the District of Columbia.

**Gene Colice, MD, Washington Hospital Center**

“Initially patients will notice they can’t walk up hills or can’t mow their lawn or can’t do the shopping that they’re used to but as the disease gets worse patients are more and more restricted. In real severe cases people are really limited. They are so short of breath they can’t do anything else other than sit in a chair and watch television.”

**Narrator**

COPD patient Marvin Tibbits describes how it feels to lose your breath.

**Marvin Tibbits, Patient**

“To sum it up real fast its like you’re drowning. If you can visualize yourself underwater and you expand all the air in your body and you need a breath of air, its not there.”

**Frank Rahaghi, MD, Cleveland Clinic Florida**

“Most of the time what happens is people start feeling that they can’t catch up with their friends. They have to stop and rest. Their activity is limited. And a lot of times they adjust their life to deal with it.”

**Narrator**

Treating the symptoms of COPD can help patients get moving again. We’ll take a look at which medications and therapies are most effective next.

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**Narrator**

The symptoms of Chronic Obstructive Pulmonary Disease are usually clearly recognizable.

Along with shortness of breath they include a chronic cough, also known as a smoker's cough, excess sputum from increased mucus production, chest tightness, and a noticeable inability to breathe out.

**Natural Sound**

"Hi Mr. Tibbits how you doing today."

**Narrator**

Although COPD is an umbrella term used to describe both emphysema and chronic bronchitis, it is important to properly distinguish which condition is causing patients the most problems. But whether patients have chronic bronchitis or emphysema, discovering the disease soon enough for treatments to be effective offers the best possibility for a positive outcome.

**Frank Rahaghi, MD, Cleveland Clinic Florida**

"The most important factor I think in the diagnosis of COPD is to catch it early because that's when you may be able to influence the progression of the disease."

**Natural Sound**

"I want you to have a seat in the booth there."

**Narrator**

A spirometry exam records the volume of the lungs and how quickly a person can exhale a certain amount of air. This process is repeated several times and the measurements give doctors a sense of how well the lungs are working. Spirometry exams are the simplest way to determine if a patient is at risk for COPD.

**Natural Sound**

"Take a big breath in"

**Narrator**

In fact, many doctors recommend that any adult who smokes or smoked at one time, receive a spirometry exam.

**Frank Rahaghi, MD, Cleveland Clinic Florida**

"Since it's chronic obstructive pulmonary disease if you're obstructed you can't breathe out well. So, the machine can pick it up even if you can't."

**Gene Colice, MD, Washington Hospital Center**

“That’s very important information to use when you speak to the patient who is continuing to smoke. You know, look at how your lung function has deteriorated over the past couple of years and if you continue to smoke this is what you are going to be like at five to 10 years.”

**Narrator**

In addition to a spirometry exam, a chest x-ray can assist with diagnosis by helping to rule out other conditions with similar symptoms such as asthma. Other tests, including some blood work, may help assess lung function. Once the diagnosis is confirmed, patients must work with their health-care team have to determine which treatments are most appropriate.

While treatments can’t reverse or repair lung damage medications and oxygen therapy can help patients perform routine daily activities. Medications that expand the airways, called bronchodilators, are a standard treatment for COPD. They work by relaxing and opening the airways.

**Gene Colice, MD, Washington Hospital Center**

“Bronchodilators, when they are inhaled, will open up the breathing tubes. These inhaled drugs will act directly on the muscle in the tracheo-bronchial tree to relax it and open it up and that will make it easier for people to breathe.”

**Frank Rahaghi, MD, Cleveland Clinic Florida**

“Inhalers come in multiple formats. Some are sort of like a spray puff that you put in front of your mouth and breathe in. Some are in powder format that you essentially inhale. And for some people who have a hard time dealing with any of the above there is a nebulized format which essentially you put the medication into a device that turns it into a vapor. And you hold the device in front of you and sort of breath in and out the vapor for ten or fifteen minutes.”

**Narrator**

For people with more severe emphysema or chronic bronchitis, using oxygen is useful.

**Natural Sound**

“I’m going to measure your oxygen saturation in your blood.”

**Narrator**

The disease robs the body of oxygen and lowers the level in the bloodstream, called the oxygen saturation level. A healthy oxygen saturation level is considered anything above 90 percent. In patients with advanced chronic obstructive pulmonary disease, the level is often dangerously low, somewhere in the 80 percent range. For those patients, supplemental oxygen therapy has been shown to lower the death rate associated with the disease and reduce hospitalizations.

**Frank Rahaghi, MD, Cleveland Clinic Florida**

“It has been shown that if you use oxygen you really improve your mortality. People who use 15 to 16 hours of oxygen a day and bring up their oxygen levels to above 90 percent really have a mortality benefit. They live longer.”

**Narrator**

Medications and oxygen therapy help Leonora Jernigan get through the day.

**Leonora Jernagin, Patient**

“I receive relief from the inhalants together with the oxygen but I don’t think I can live without either—not comfortably anyway- I would be panting like a young puppy or something.”

**Narrator**

A supervised exercise program called pulmonary rehabilitation can also help patients manage their condition.

Laura Pluskis is the director of Pulmonary Rehabilitation at Memorial Hospital West in South Florida.

**Laura Pluskis, Memorial Hospital West**

“Pulmonary rehab is a combination of exercise and education that is geared to promote self care of patients with pulmonary conditions. Because there is no cure, we don’t want the condition to get worse and then reduce the quality of life any further. So the exercise and education help to at least stabilize if not show some improvements in their physical condition.”

**Narrator**

Following his doctor’s suggestion, Marvin Tibbits enrolled in a pulmonary rehab program.

**Natural Sound**

“Concentrate on your breathing. Remember to drop your shoulders.”

**Narrator**

He’s delighted with the result.

**Marvin Tibbits, Patient**

“Rehab has helped me learn better breathing techniques: how to inhale how to exhale, how to pick up things, how to walk stairs.”

**Laura Pluskis, Memorial Hospital West**

“Pulmonary rehab teaches the patients how to exercise safely. A lot of times patients will speak to their doctors and they’ll get a diagnosis of COPD or emphysema for example and then automatically they stop doing everything which actually makes it worse.”

**Narrator**

In addition to medical and rehabilitation programs, there is one step all patients are encouraged to take: quit smoking. Up next we’ll take a look at a smoking cessation program that’s available from the American Lung Association.

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**Narrator**

No person interested in living a healthy life should continue to smoke, but in patients with Chronic Obstructive Pulmonary Disease smoking is an absolute death sentence. Quitting smoking is the only thing that alters the course of COPD.

**Gene Colice, MD, Washington Hospital Center**

“There are very good studies that show that if we are able to get people to stop smoking the disease course will not be as bad as it would be otherwise. People will not go back to normal but the deterioration of lung function overtime will not be as bad.”

**Narrator**

At Sacred Heart Hospital in Pensacola, Florida, Lisa Masterson is conducting a smoking cessation class. It’s a six-week program adopted from the American Lung Association called Freedom From Smoking.

**Natural Sound**

“Because you’re concentrating on another human”

**Lisa Masterson, BS, RRT, Sacred Heart Hospital.**

“We spend the first 3 weeks teaching them about nicotine addiction, teaching them about medications that are available, helping them to recognize their individual habit and then looking at ways to change their habit or behavior and what alternatives they can use.

And we meet 3 weeks after that consecutively. Those weeks are discussing the things that people normally relapse for like social situations, some stress, also weight control and diet and also exercise.”

**Narrator**

People interested in this type of program can contact the American Lung Association for a Freedom from Smoking program in their area. Also, there is also a web-based program entitled “Freedom from Smoking Online” available on the American Lung Association website free of charge. Just visit [www.lungusa.org](http://www.lungusa.org) to sign up.

**John Kirkwood, American Lung Association**

“The first thing people need to do is make up their mind that they want to quit and that they will quit. Once they do that, the American Lung Association’s programs can help them.”

**Narrator**

For the second time, 57-year old Donna Goff has decided to stop smoking. And in her case, she believes the second time is the charm.

**Donna Goff, Patient**

“I just want to be free from this. This is not the thing I want to be controlling my life.”

**Natural Sound**

“It is responsible for one percent of your reasoning and decision-making”

**Lisa Masterson, BS, RRT, Sacred Heart Hospital**

“What I tell my groups is on quit day they no longer are a smoker so they refer to themselves as a non-smoker from that day on. We never say we’re hoping to be a non-smoker, we’re hoping we can quit, we think we can quit, it is we are.”

**Narrator**

Quitting smoking isn’t easy but it’s the only way to change the progression of COPD. Medications, oxygen therapy, and pulmonary rehabilitation help patients manage the disease, but quitting smoking is the required first step. Ask COPD patients: they’ll give you the same advice.

**Leonora Jernagin, Patient**

“But I would not tell them not to smoke or to stop smoking. I would let them look at me and listen to me and let them judge themselves.”

**Marvin Tibbits, Patient**

“It not as terrible and horrible to stop as what you think it is. But you’re going to have to want to stop, that’s the key: you want to stop. And my advice to people is: stop before you get sick.”

This program was reviewed by:

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For more information:

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