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**2019 Novel Coronavirus (COVID-19):** (<https://UFandShands.org/2019-novel-coronavirus-covid-19>)

UF Health to resume elective surgeries, procedures on Monday, May 4. For more information on our ongoing response to COVID-19 in Gainesville, Jacksonville and Central Florida, visit our coronavirus website.  
(<https://UFandShands.org/2019-novel-coronavirus-covid-19>) Visit Our Dedicated Site (<https://UFandShands.org/2019-novel-coronavirus-covid-19>)

## Emphysema

### What is emphysema?

Emphysema is a long-term lung condition that causes shortness of breath due to damaged and enlarged air sacs in the lungs (alveoli).

Those suffering from emphysema see a reduction in the amount of oxygen that reaches the bloodstream. That happens as a result of smaller surface area in the lungs from the degrading and rupturing of the inner walls of the air sacs.

Emphysema and another condition, chronic bronchitis, are the two major forms of chronic obstructive pulmonary disease (COPD) (<https://ufhealth.org/chronic-obstructive-pulmonary-disease-copd>).

### Alternative names

Pulmonary emphysema, chronic obstructive pulmonary disease (COPD).

### Types of emphysema

**There are three morphological types of emphysema:**

- Centriacinar – Begins in the respiratory bronchioles and spreads mainly in the upper half of the lungs. This is the most common type of emphysema and is usually linked with long-standing cigarette smoking.
- Panacinar – Commonly resides in the lower half of the lungs and destroys the tissue of the air sacs, causing a distinctive, uniform enlargement of air spaces. It is associated with a genetic disease (homozygous alpha-1 antitrypsin deficiency).
- Paraseptal – Tends to localize around the septa or pleura. It's often associated with inflammatory processes, such as prior lung infections.

### Causes & risk factors

Although there are many things that can lead to the development of emphysema, the vast majority of occurrences arise from exposure to cigarette smoke. Even in the case where genetics are a factor, like in panacinar emphysema (see above), the inflammation is usually spurred by inflammatory compounds, many of which are found in tobacco smoke. The risk is associated with the number of years and the amount of tobacco the person has been smoking.

**Here are a few risk factors:**

- Cigarette smoking
- Secondhand smoke exposure

- Fumes, dust or wood smoke exposure in the environment
- Pollution
- Age

## Symptoms

Due to the gradual onset of emphysema, one can have the condition for several years without noticing any signs or symptoms. The main symptom is shortness of breath, but smokers may simply attribute that to their smoking habits. Others may attribute it to their older age or being physically unfit. Some may also steer clear of activities that cause them to be winded, thus leaving it somewhat unnoticed. However, emphysema in advanced stages can cause shortness of breath even while resting.

### Here are some symptoms to look out for:

- Shortness of breath
- Cough
- Wheezing
- Decrease in exercise tolerance
- Pursed lip breathing (exhaling through tightly pressed lips and inhaling through the nose with mouth closed)
- Barrel chest (distance from chest to back becomes more noticeable)

## Exams and tests

### Other tests that identify problems that can be related to emphysema include:

- Chest X-ray (<https://ufhealth.org/chest-x-ray>)
- Lung function tests (<https://ufhealth.org/pulmonary-function-tests>)
- Blood tests (to evaluate for alpha-1 antitrypsin deficiency, to check white blood cell count or to measure how much oxygen and carbon dioxide is in your blood, called an arterial blood gas analysis)

## Treatment

There is no cure for emphysema, but there are different approaches to slow its progression and treat symptoms.

### Medications

There are a few different types of medications a doctor might prescribe.

- Bronchodilators – Drugs that can allow airway to open up. These are typically the first medications that a doctor will prescribe for emphysema.
- Steroids – Reduce inflammation and can alleviate shortness of breath. They may be given orally or inhaled through an MDI or other inhaler.
- Antibiotics – These can also help with shortness of breath in those who have a bacterial infection like acute bronchitis or pneumonia.

### Surgery

Those with advanced emphysema can benefit from a couple different surgical options.

- Lung volume reduction surgery – Removal of damaged lung tissue in subgroup of emphysematous lung could help the remaining lung tissue operate more efficiently.
- Lung transplant – Transplantation of one or both lungs can almost act as a cure for those with the most advanced

## Therapy

- Pulmonary rehabilitation – Instructs those suffering from emphysema about breathing exercises and techniques that may mitigate breathlessness and improve tolerance for exercise.
- Nutrition therapy – Proper nutrition can help those in the early stages of emphysema lose weight, while helping those with late-stage emphysema gain weight.
- Supplemental oxygen – Regular usage of oxygen at home and during exercise can provide relief for those battling severe emphysema with low blood oxygen levels. This is typically delivered by narrow tubing in the nostrils, and many people use it 24 hours a day.

## Outlook (Prognosis)

Emphysema is a chronic lower respiratory disease, the third-leading cause of death in the United States. It is a chronic, progressive disease that affects the quality of life at least as much as the length of life.

Similar to many chronic diseases, the prognosis is affected by too many variables to be discussed here. There is no cure, but there are effective methods of treatment, which can slow the progression of the disease and allow for a normal life.

In short, the diagnosis of emphysema is not a death sentence. Rather, it is a medical condition that should prompt you to take an active role in the management of your disease. Quitting smoking is the best first step. Regular visits to your doctor and taking medications as prescribed are also very important. However, the prognosis decreases if the individual decides to continue to smoke.

## Possible complications

- Collapsed lung ([pneumothorax \(https://ufhealth.org/collapsed-lung-pneumothorax\)](https://ufhealth.org/collapsed-lung-pneumothorax))
- Heart problems (such as [cor pulmonale \(https://ufhealth.org/cor-pulmonale\)](https://ufhealth.org/cor-pulmonale))
- Large holes in the lungs (bullae)

## When to contact a medical professional

**Call a provider if you or someone you know is experiencing any of the following:**

- Shortness of breath is so limiting that you can't climb stairs
- Lips or fingernails turn blue or gray with exertion
- Mental alertness is lacking

## Prevention

Don't smoke and avoid secondhand smoke. If you work with chemical fumes or dust, wear a mask to protect your lungs.

## Related health topics

- [Arterial blood gas analysis \(https://ufhealth.org/blood-gases\)](https://ufhealth.org/blood-gases)
- [Chronic obstructive pulmonary disease \(COPD\) \(https://ufhealth.org/chronic-obstructive-pulmonary-disease-copd\)](https://ufhealth.org/chronic-obstructive-pulmonary-disease-copd)
- [Collapsed lung \(pneumothorax\) \(https://ufhealth.org/collapsed-lung-pneumothorax\)](https://ufhealth.org/collapsed-lung-pneumothorax)

- [Cor pulmonale \(https://ufhealth.org/cor-pulmonale\)](https://ufhealth.org/cor-pulmonale)
- [Lung function tests \(https://ufhealth.org/pulmonary-function-tests\)](https://ufhealth.org/pulmonary-function-tests)
- [Lung transplant \(https://ufhealth.org/lung-transplant\)](https://ufhealth.org/lung-transplant)
- [Shortness of breath \(https://ufhealth.org/palliative-care-shortness-breath\)](https://ufhealth.org/palliative-care-shortness-breath)
- [Using oxygen at home – what to ask your doctor \(https://ufhealth.org/using-oxygen-home-what-ask-your-doctor/\)](https://ufhealth.org/using-oxygen-home-what-ask-your-doctor/)