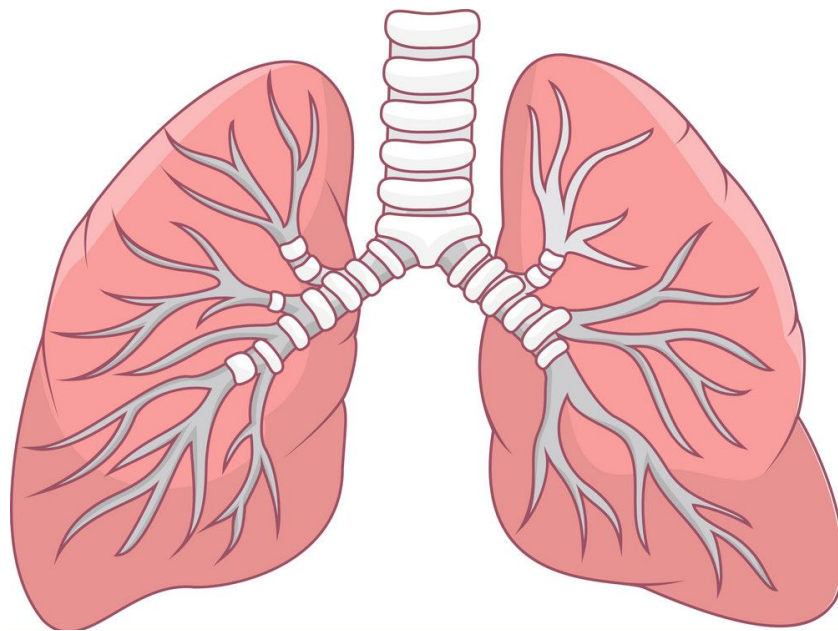


# Healthy Lungs



Brought to you by the RVU Student Osteopathic Surgical Association

Fall Fest 2020

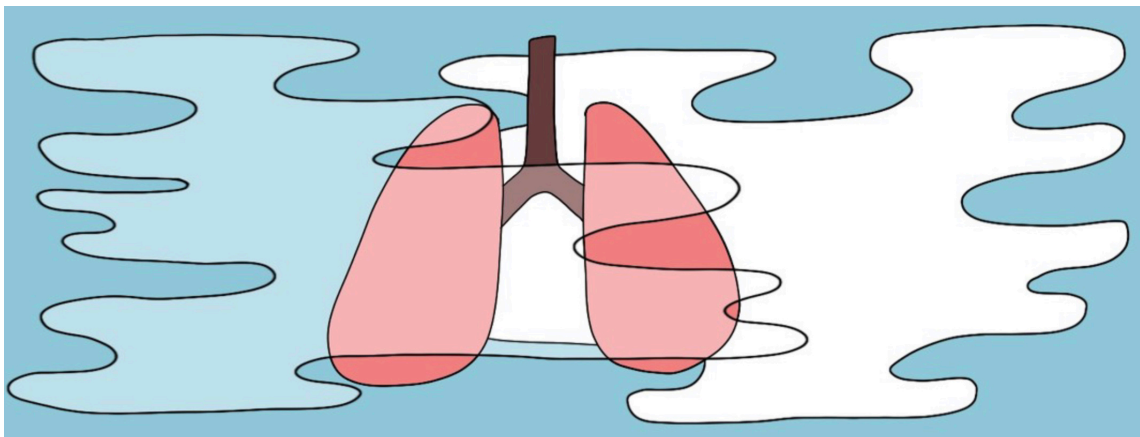
## How does vaping affect the lungs?

While vaping, you inhale an aerosolized mixture of harmful chemicals that coat the lungs. These compounds include:

- **Carcinogens** (cancer-causing) such as formaldehyde, acetaldehyde, and acrolein.
- **Reactive oxygen species (ROS)**: which damage cells, particularly their DNA which can lead to mutations.<sup>1</sup>
- **Metals!** Such as Chromium, Manganese, Nickel, Lead, and even... Arsenic.<sup>2</sup>

The inhalation of these chemicals can lead to a number of issues not only affecting the lungs. However, there are many lung diseases that have been linked to vaping. We will highlight three:

1. **Obliterative bronchiolitis (OB)**<sup>3</sup>- Inflammation leads to permanent scarring in the airways. When the doctor checks your lungs with his stethoscope, he will hear crackling when you breathe in. The symptoms include coughing, wheezing, shortness of breath, and chest pain. This disease is not reversible L.
2. **Lipoid pneumonia**<sup>4</sup>: This is when a lipid or fatty substance is found accumulated in the lungs. Vape (e-cigarettes) contain vegetable glycerin, an oily substance, which coats the lungs and can accumulate causing problems. Symptoms include chronic cough, shortness of breath, and even coughing up blood.
3. **Collapsed lung**<sup>5</sup>: blisters can sometimes form on your lungs, particularly during a growth spurt. Normally, these don't rupture leaving a hole. However, vaping has shown to aid in the bursting of these blisters resulting in a collapsed lung.



## Exercise and your Lungs!



When you exercise, your heart and lungs work harder to supply the additional oxygen your muscles need. Just like exercise makes your muscles stronger, it also makes your lungs and hearts stronger! That's one of the reasons you become less short of breath during exercise over time!

### Benefits of Exercise

Exercise has lots of benefits for everyone! Being active can help you stay active. It strengthens your bones, improves your flexibility, reduces weight gain, and improves sleep. Regular exercise is good for your brain too! It can reduce feelings of anxiety and depression, improve attention and memory, and reduce the risk of other diseases!

### What Types of Exercises and how Much?

30 minutes to 1 hour of moderate physical activity five days a week. Some examples of moderate activity include walking, playing sports, jumping rope, riding your bike, or other outdoor exercises!

Aerobic activities and muscle-strengthening activities can benefit your lungs. Aerobic activities like walking, running, or jumping rope give your heart and lungs the kind of workout they need to function efficiently.

### Some Things to Keep in Mind

Always talk to your doctor before you begin or change your exercise routine. This is especially important if you have an underlying health condition. Indoor exercises are a good choice if the air quality outside is poor. Get creative, stay healthy, and happy!

# The effects of smoking tobacco are VERY debilitating on the lungs!



[https://www.tobaccofreekids.org/press-releases/2014\\_06\\_23\\_report](https://www.tobaccofreekids.org/press-releases/2014_06_23_report)

## Difficulty breathing:

Tobacco smoking is the leading cause of COPD, a condition that results in a painful cough and agonizing breathing difficulties. It also exacerbates asthma, which restricts activity and contributes to disability<sup>1</sup>.

## Less airflow:

Smoking inflames and irritates the lungs. Even one or two cigarettes cause irritation and coughing. Smoking also can destroy your lungs and lung tissue. This decreases the number of air spaces and blood vessels in the lungs, resulting in less oxygen to critical parts of your body<sup>2</sup>

## Fewer cilia:

The lungs are lined in broom-like hairs called cilia, which clean the lungs. A few seconds after you light a cigarette, cilia slow down in movement.

Smoking just one cigarette can slow the action of your cilia for several hours. Smoking also reduces the number of cilia in your lungs, leaving fewer to properly clean the organ<sup>2</sup>.



Sources:

<sup>1</sup><https://www.euro.who.int/en/media-centre/events/events/2019/05/tobacco-and-lung-health-world-no-tobacco-day-2019>

<sup>2</sup><https://share.upmc.com/2016/04/how-smoking-affects-lungs/>

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