

Unit 3. How smoking and vaping hurt the body

We know a lot about what smoking cigarettes can do to your body. Vaping hasn't been around very long and researchers are still learning about how it affects the body.

This can cause many young people think that vaping isn't a big deal and can't hurt them. But there are many things we do know, including that vaping IS harmful. Both vaping and smoking can damage the brain, the lungs and airways, the heart and blood vessels and the teeth and skin.

Smokers' cough

You've probably heard or seen someone who smokes coughing up sticky, green/yellow mucous (phlegm). This is sometimes called "smoker's cough" and it's pretty gross.

Smokers cough happens when the cilia in the lungs are damaged. Remember: cilia are the tiny, hair-like structures lining the airways that help clean out particles and pollutants from the air we breathe.

The tar in cigarettes smoke can damage the cilia. When cilia aren't able to properly clear out tobacco smoke and other particles from the lungs, the bacteria and debris can stay in the lungs and airways and can make you more susceptible to lung infections and lung disease. Without the cilia to help move mucous out of the airways, it can build up in your chest and airways.

Smokers aren't the only ones who can develop a phlegmy cough from their bad habit. Researchers have discovered that some of the chemicals found in flavouring in vaping devices can also damage the cilia in the airways.

Nicotine poisoning

Too much nicotine in the body can be poisonous. This can be caused by inhaling the nicotine, ingesting (swallowing) the nicotine or absorbing it through the skin or eyes.

It's hard to know for sure if there is nicotine in e-liquid. Some e-liquids that are advertised as "nicotine free" can actually contain nicotine. E-liquid and "smokeless" tobacco products like chewing tobacco or nicotine pouches are responsible for the majority of cases of nicotine poisoning in young people. Because of their small size, it doesn't take much nicotine to poison a child. For example, a small child can become become ill from consuming one cigarette.

Within the first 15 to 60 minutes following exposure, symptoms include: dizziness, increased heart rate and elevated blood pressure, upset stomach, a bad headache, vomiting, cold sweats, confusion and anxiety, blurred vision, weakness or fainting and rapid breathing. During the later phase of nicotine poisoning, other symptoms, blood pressure drops and the heart rates slows.

It is possible to die of nicotine poisoning, although it is uncommon in adults. With enough nicotine, the muscles that control breathing become paralyzed, fluid builds up in your airways and heart and blood vessels can fail.

Did you know?

The tar from burning cigarettes can stain your fingers and rot your teeth and gums.

Smoking a pack of cigarettes a day for one year deposits 1/2 cup of tar in your lungs!

Unit 3. How smoking and vaping hurt the body

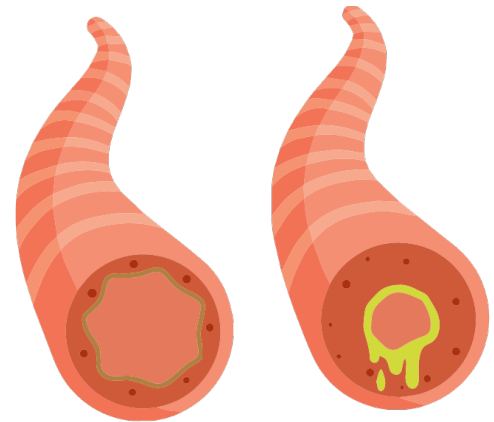
Asthma

Asthma is a lung disease that can cause the muscles around your airways to get tighter and your airways to swell and fill with mucous, making it harder to breathe.

Many people with asthma may not experience symptoms until they have a cold, they exercise hard or they're around something that can irritate their lungs – like cigarette smoke or vaping aerosols. This is what people call an "asthma attack". To help the muscles around their airway relax, they can take medication using an inhaler or a "puffer".

There is no cure for asthma. There are medications to treat asthma but someone can die from asthma if they don't take their medications properly or if they have severe asthma.

Almost 1 million children in Canada have asthma. Asthma is more common in children who grow up around people who smoke. If you have asthma, make sure you take any medicine the doctor has given you.



The airway on the left is a healthy airway. Asthma causes the airway to tighten and fill with mucous, like the airway on the right. This makes breathing difficult.

Chronic obstructive pulmonary disease (COPD)

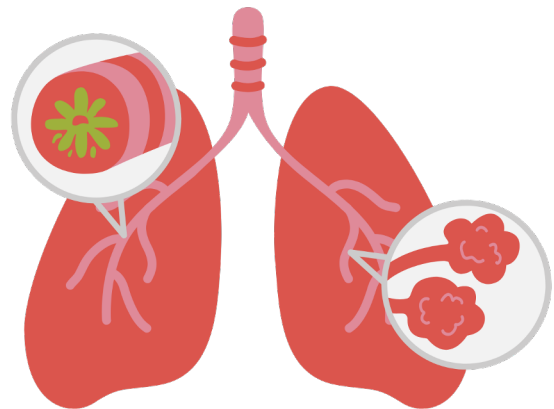
Chronic obstructive pulmonary disease (COPD) is a disease that causes your airways to become swollen and fill with mucus and causes the air sacs (alveoli) in your lungs to break down, trapping air in your lungs. This can make breathing very difficult.

Someone with COPD may not realize that they are becoming more short of breath until it becomes very hard to do simple tasks like walking up stairs. Some people with COPD need to use oxygen tanks to get enough oxygen into their blood because their lungs are so damaged. There is no cure for COPD. COPD can get worse over time and can be fatal.

Lung cancer

Lung cancer is another deadly disease that is often caused by smoking. More people in Canada die from lung cancer than any other type of cancer. Lung cancer kills more than 20,000 people in Canada every year. This is because many people don't know the symptoms of lung cancer and they don't go to the doctor until the cancer has spread. Smoking is the #1 risk factor for lung cancer.

Thanks to new treatments, technologies and medicines, fewer people are getting lung cancer and more people who have lung cancer are living longer. Getting diagnosed early can make a huge difference!



COPD can cause airways to swell and fill with mucus. It can cause the air sacs (alveoli) in the lungs to break down, trapping air in the lungs. People with COPD can get out of breath very easily.

Unit 3. How smoking and vaping hurt the body

Symptoms of lung cancer

- A cough that doesn't go away and gets worse over time
- Chest pain that doesn't go away
- Coughing up blood
- Feeling short of breath
- Wheezing
- Losing your voice (hoarseness)
- Frequent episodes of pneumonia and/or bronchitis
- Swollen neck and face
- Not hungry, losing weight without trying
- Feeling tired

Do you know someone who may be at high risk of lung cancer?

If someone you love, like your grandparent or another family member has smoked for many years, they are at a much higher risk of developing lung cancer. If you know someone who:

- has smoked for at least 20 years,
- still smokes or quit within the last 15 years, and
- is between 55 and 74 years old

you should talk to them about getting screened for lung cancer.

The Ontario Lung Screening Program uses CT machines to take detailed pictures inside the lungs of people who are at high risk of lung cancer from cigarette smoking. These tests can help catch lung cancer before it spreads. Lung cancer is much more treatable when it's caught early.

Encouraging someone you love to get screened can help save their life!

Ontario Lung Screening Program locations

HAMILTON: St. Joseph's Healthcare
905-522-1155 ext. 32115

OSHAWA: Lakeridge Health
1-905-576-8711 ext. 34449

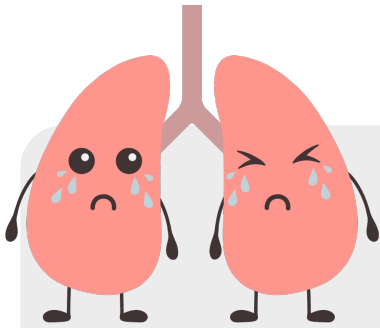
OTTAWA: The Ottawa Hospital
(affiliated with the Renfrew Victoria Hospital and Cornwall Community Hospital)
1-844-394-1124

SUDBURY: Health Sciences North
1-844-703-0164

TORONTO: University Health Network
416-340-4154

Unit 3. How smoking and vaping hurt the body

What vaping and smoking can do to your...



Lungs and respiratory system

- Coughing
- Sore throat
- Breathlessness
- Scarring of the lungs
- Narrowing of the airways
- Asthma or worsening asthma symptoms
- Less endurance and stamina (you can't run as far or as fast, it's harder for you to catch your breath when you're playing sports)
- More likely to get sick from infections like a cold, the flu or COVID-19



Teeth and skin

- Dry mouth
- Tooth decay
- Gum disease
- Dry, irritated skin
- Black, hairy tongue



Brain and nervous system

- Problems with memory
- Problems with impulsivity
- Problems with cognition (gaining and understanding new information)
- Problems with executive function (planning ahead, following directions)



Heart and circulatory system

- Heavy metal build up in blood and organs
- Heart arrhythmias (when your heart beats faster than normal or skips beats)
- Increased blood pressure
- Damage to blood vessels
- Increased risk of vascular disease (stroke, heart attack)