

# Vaping and E-cigarettes

## Choices and Consequences

Vaping was introduced as a way to encourage people to give up smoking and gradually wean themselves away from the nicotine cravings.

Whilst vapes have helped many people do just this, there is currently a surge in vaping among teenagers in the UK - so what does the current research say - how harmful is vaping?

# VAPING... A TOXIC MIX

It's more than just WATER VAPOR

## BENZENE

Benzene is a widely used industrial chemical. Benzene is found in crude oil and is a major part of gasoline. Benzene can lower bone marrow, and affect blood cell levels.



## ACETONE

Commonly used in nail polish remover. Acetone can irritate the eyes, along with depressing the central nervous system.



## TOLUENE

Commonly used paint thinner. Toluene is highly toxic. This chemical can cause headaches, nausea, and breathing difficulties.



## NICKEL

Commonly used in stainless steel, car production, magnets and batteries. Nickel can cause cancer, lung damage, and immune system failure.



## LEAD

Used in car batteries. Lead is highly toxic. It has been banned from many products. Lead poisoning stunts growth, causes brain damage, and can even lead to death!



## CADMIUM

Used in batteries, cadmium causes damage to the liver, kidneys, and brain. This chemical takes years to leave the body.



## ACROLEIN

Used as a herbicide to control weeds and algae. It is a toxic irritant to skin, eyes, and nasal passages.



## FORMALDEHYDE

This is used to preserve dead bodies. It causes cancer and can lead to lung damage. Formaldehyde also leads to skin and digestive system damage.



**LIQUID NICOTINE**

THE MOST DANGEROUS PART OF VAPING. HIGHLY ADDICTIVE AND TOXIC! EVEN SMALL AMOUNTS OF LIQUID NICOTINE ABSORBED THROUGH SKIN, OR SWALLOWED CAN CAUSE SEIZURES, VOMITING, AND EVEN DEATH IN CHILDREN.



Containers are not childproof, "e-juice" comes in candy flavors, bright colors, and the packaging is very appealing to younger kids.

The products shown contain chemicals found in e-cig vapor. The products themselves are not added to e-cigs and are used for illustrative purposes only.

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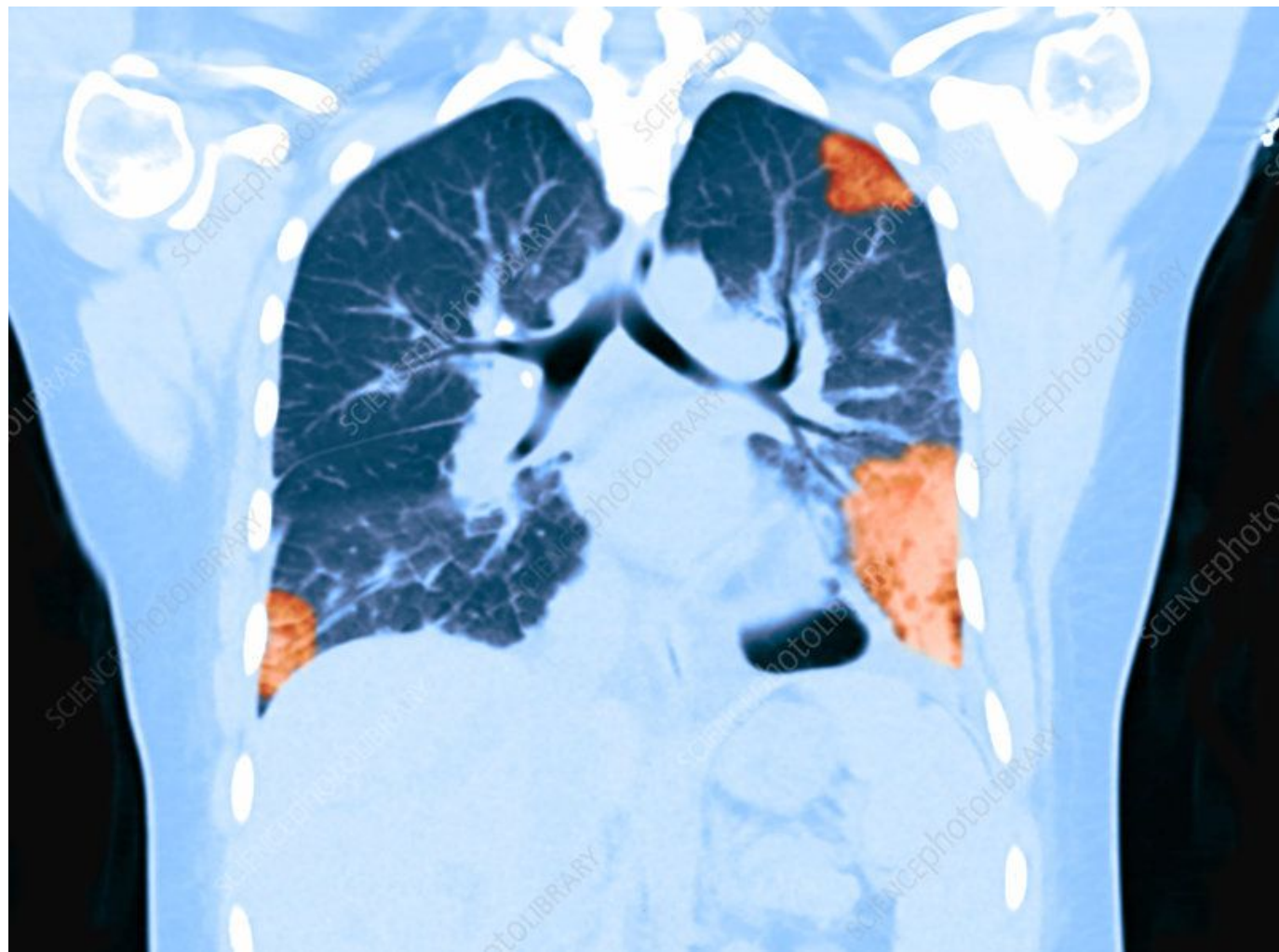
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Electronic cigarettes, known as e-cigarettes or vapourisers, are battery-powered devices that mimic the action of smoking, offering nicotine (in most cases) and a route out of smoking.

They've been in the UK since 2007 and are growing in popularity.

More people may be using them, but e-cigarettes are not harm-free. A **2016 study** published in Environmental Science & Technology identified harmful emissions in the vapour, including possible carcinogens and irritants, though at a much lower level than in conventional cigarettes.

*From the British Heart Foundation Website*



A study from the University of Dundee, published in November 2019 and funded by the British Heart Foundation, suggests that vaping may be less harmful to your blood vessels than smoking cigarettes. Within just one month of switching tobacco for electronic cigarettes, measures of blood vessel health, including **blood pressure** and stiffness of their arteries, had started to improve. The study looked at 114 people who had smoked at least 15 cigarettes a day for at least two years. **Therefore this is a useful route out of smoking.**

Professor Jeremy Pearson, Associate Medical Director at the British Heart Foundation, said: “Just because e-cigarettes may be less harmful than tobacco doesn’t mean they are completely safe. We know they contain significantly fewer of the harmful chemicals, which can cause diseases related to smoking, but we still don’t know the long-term impact on the heart and circulation, or other aspects of health. E-cigarettes and vaping should never be taken up by people who don’t already smoke, but could be a useful tool to help people to stop smoking completely.

*From the British Heart Foundation Website*



Sadly manufacturers have decided they can make a profit from marketing vapes at young people.



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## ANSWER THEIR QUESTIONS

Here are some questions and comments you might get from your teen about e-cigarettes and some ideas about how you can answer them.

### *Why don't you want me to use e-cigarettes?*

- Science shows that e-cigarettes contain ingredients that are addictive and could harm different parts of your body.
- Right now, your brain is still developing, which means you are more vulnerable to addiction. Many e-cigarettes contain nicotine, and using nicotine can change your brain to make you crave more nicotine. It can also affect your memory and concentration. I don't want that for you!
- E-cigarettes contain chemicals that are harmful. When people use e-cigarettes, they breathe in tiny particles that can harm their lungs.

- The cloud that people exhale from e-cigarettes can expose you to chemicals that are not safe to breathe.

### *What's the big deal about nicotine?*

- Your brain is still developing until about age 25. The Surgeon General reported that nicotine is addictive and can harm your brain development.
- Using nicotine at your age may make it harder for you to concentrate, learn, or control your impulses.
- Nicotine can even train your brain to be more easily addicted to other drugs like meth and cocaine.

*From the American Heart Foundation Website*





A young person who is in hospital with chronic lung disease as a result of vaping.

There are many unknowns about vaping, including what chemicals make up the vapor and how they affect physical health over the long term. “People need to understand that e-cigarettes are potentially dangerous to your health,” says Blaha. “Emerging data suggests links to chronic lung disease and asthma, as well as associations between dual use of e-cigarettes and smoking with cardiovascular disease. You’re exposing yourself to all kinds of chemicals that we don’t yet understand and that are probably not safe.”

Vapes that are associated with THC (cannabis) have been responsible for most (but not all) of the deaths associated with vaping and chronic lung disease.

Tetrahydrocannabinol is the principal psychoactive constituent of cannabis and one of at least 113 total cannabinoids identified on the plant.

*From the Hopkins Medicine Website*