

## Flavoured e-cigarettes linked to cardiovascular disease



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Growing awareness of the health risks of smoking has increased the popularity of alternative tobacco products including electronic cigarettes (e-cigarettes). A rapid rise in e-cigarette use is largely attributed to flavourings added to tobacco products and perception of less harm than traditional combustible cigarettes.

And now this burning question: Could flavoured e-cigarettes cause bodily harm?

Numerous studies have been done on the risks of e-cigarettes to lungs, but the risk to blood vessels and how flavourings can affect the body are largely unknown.

In a new study, researchers at Boston University School of Medicine (BUSM) examined the short-term effects of flavouring chemicals used in tobacco products like e-cigarettes on endothelial cells, cells that line the blood vessels. Samples of endothelial cells were taken from both smoking and nonsmoking participants for comparison.

The researchers noticed that when blood vessels were exposed to flavouring additives, normally released chemicals to promote blood flow were decreased and increased inflammation, indicators of short-term toxicity. They also found that endothelial cells from smokers showed the same toxicity as those treated with flavouring chemicals.

"Our findings show that flavouring additives themselves were directly toxic to blood vessels and have adverse effects that may have relevance to cardiovascular toxicity long-term similar to combustible cigarettes," explained corresponding author Jessica Fetterman, PhD, assistant professor of medicine at BUSM.

The study's findings are published in the journal *Arteriosclerosis, Thrombosis, and Vascular Biology*.

Source: [Boston University School of Medicine](#)

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