

# Harmful effects of e-cigarettes

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The Norwegian Institute of Public Health (NIPH) was commissioned by the Ministry of Health and Care Services (HOD) to assess whether the use of e-cigarettes containing nicotine can be harmful to health. The [report](#) is based on results from systematic overviews and a toxicological assessment of the ingredients in e-cigarette vapor.

The report is limited to consumption patterns, transitions and varying [health risks](#) between different tobacco and [nicotine](#) products.

The report is an update of the NIPH's previous knowledge summary from 2015.

## **May increase the risk of adverse health effects**

Based on current knowledge, the overall assessment from NIPH is that the use of [e-cigarettes](#) containing nicotine can have [harmful effects](#) on the respiratory tract and the cardiovascular system.

As with other nicotine-containing products, vaping during pregnancy will also pose a risk to mother and child. Similarly, nicotine can affect development of the brain, which is not fully developed until the mid-20s.

In addition, there have been reported cases of poisoning after intake of e-cigarette liquid, as well as damage caused by explosion or where the unit / battery has overheated.

Most studies performed in humans have only investigated the effect of short-term use. In order to accurately estimate the increased risk, long-term studies performed on humans are required, but these do not exist.

"Nevertheless, the underlying knowledge is sufficient to conclude that [e-cigarette use](#) can be harmful to health," says Rune Becher, senior researcher at NIPH.

## **On sale since 2005**

E-cigarettes were introduced to the American market in the period 2005–2010 without adequate studies to discover their potential harmful

effects.

"E-cigarettes are a complex product group with a wide variety of product type and ingredients in the liquids. This means that there will also be great variation in what the individual user will be exposed to. E-cigarettes should not be considered to be a harmless nicotine product," explains Becher.

In Norway, e-cigarettes can be sold with nicotine-free e-liquid. It is currently illegal to sell e-liquid containing nicotine, but [private individuals](#) may, under certain conditions, import a limited amount for personal use. New regulations have been adopted to allow the sale of e-liquid containing nicotine in Norway, based on the EU Tobacco Directive and these are expected to come into force during the coming year.

**More information:** Adverse health effects of electronic cigarette use: an umbrella review and toxicological evaluation.

[www.fhi.no/contentassets/5ddc2...rette-use\\_110522.pdf](http://www.fhi.no/contentassets/5ddc2...rette-use_110522.pdf)

Provided by Norwegian Institute of Public Health

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