Early results of an experimental vaping study have shown significant lung injury from E-cigarette (eC) devices with nickel-chromium alloy heating elements. The findings were consistent, with or without the use of nicotine, vitamin E oil or tetrahydrocannabinol (THC), which have previously been thought to contribute to the life-threatening respiratory problem.

The current research aimed to study the impacts of breathing in E-cigarette vapors on heart function in a well-established pre-clinical experimental model. Over the course of nearly a year, none of the subjects exposed to vapors from the stainless steel devices, both with and without additives, contracted respiratory distress and only one showed a less than 10% area of inflammation in the lungs. Once the new eC device was introduced, affected subjects showed severe respiratory distress, with labored breathing, wheezing and panting. The lung injury occurred without nicotine, THC, or Vitamin E additives; and may also have been related to higher wattage of power settings on the E-cigarette devices. These preliminary studies will be followed...
up with additional future studies to systematically try to determine the cause of the lung problem.

"While further research is needed, these results indicate that specific devices and power settings may play a key role in the development of EVALI as much as the additives do," said Kloner. "The harms associated with E-cigarettes and vaping simply cannot be overstated."

Vaping has been proven to cause increased blood pressure, endothelial dysfunction, and the risk of myocardial infarction and stroke. Heating elements in commercially available eC are usually made of stainless steel, nickel-chromium or nichrome, Kanthal nickel, or titanium.

A condition, which was dubbed "E-cigarette or vaping product use-associated lung injury" (EVALI) was recognized in the United States in June 2019 and peaked in September 2019. In March 2020, there were 2,800 US cases of EVALI and 68 deaths reported. Patients were typically found to be young males and users of E-cigarettes or vaping products whose CT scans revealed lung inflammation and injury. Of note, EVALI can mimic many of the features of COVID-19 pneumonia.


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