

E-cigs damage DNA in lab study

Nicotine-free vapor also causes harm, researchers say

By **BRADLEY J. FIKES**
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San Diego — Heavy exposure to electronic cigarette vapor damages DNA in cell cultures, causing genetic instability that could lead to cancer, according to a study by VA San Diego Healthcare System and University of California-San Diego researchers.

Moreover, even nicotine-free vapor induces this damage, indicating that other substances in e-cigarettes can damage cells, the study stated.

The study won't come close to scientifically settling whether e-cigarettes represent a great new danger, a harmless diversion or something in between. It does provide more grounds for suspicion that e-cigarettes are not

Read about diacetyl

To read Raquel Rutledge's investigation into diacetyl, the buttery flavoring chemical that destroys lungs and has been found in e-cigarettes, go to jsonline.com/gaspingforaction.

entirely benign and carry health risks of an unknown magnitude.

Worldwide attention has been focused on e-cigarettes as a possible means of weaning smokers off tobacco, or alternatively as a new public health menace. But since e-cigarettes became popular scarcely a decade ago, there hasn't been time to collect long-term evidence, such as the population studies that linked smoking to lung cancer.

The study was published last week in the journal *Oral Oncology*. Weg M. Ongkeko was the senior author on the research team, and Vicky Yu was first author.

The new research doesn't

ABOUT E-CIGARETTES

E-cigarettes come in innumerable configurations, including single-use models and more expensive reusable kinds with rechargeable batteries and refillable reservoirs. They can be bought in liquor stores or specialty vape shops dedicated to a vast array of hardware used by aficionados. This hardware inspires a devotion not unlike hot rod or computer fans.

They all contain a reservoir for the flavored juices, an atomizer that vaporizes the liquid, a battery that powers the atomizer, and a mouthpiece for inhaling the vapors.

Source: The San Diego Union-Tribune

prove the damage takes place in people, because it was performed only in cell cultures, said Laura Crotty Alexander, one of the research team study authors. But it strongly suggests such an effect takes place.

Further work is needed to confirm this damage and at what levels of exposure to e-cigarette vapor the damage kicks in.

The question of whether e-cigarettes are as bad for one's health as regular cigarettes isn't answered in the study, Crotty Alexander said. Public health advocates are wrestling with the issue of how to deal with e-cigarettes.

"The problem is that we really cannot say that the e-cigarettes are safer in humans," Crotty Alexander said. "I feel uncomfortable saying that e-cigarettes are equally bad or worse than conventional combustible cigarettes, but that is some people's opinion."