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# MEDIA RELEASE

## **VAPING LUNG INJURY: UNREGULATED FLUIDS POSE DANGER**

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AUSTRALIAN physicians should ask every patient about possible e-cigarette use given little is known about the long-term effects of vaping, and severe lung diseases and deaths have occurred in connection with the use of unregulated solutions, according to the authors of a Perspective published online today by the *Medical Journal of Australia*.

Dr Eli Dabscheck, a respiratory and sleep physician at Alfred Health and Monash University, and colleagues described the outbreak of e-cigarette or vaping product use-associated lung injury (EVALI) which hospitalised over 2800 people and resulted in 68 deaths.

“Across the US, e-cigarette users began to be admitted to hospitals with acute respiratory failure. In August 2019, the first fatality was documented in Illinois, while 200 other cases across 22 states were under investigation by the Centers for Disease Control and Prevention,” Dabscheck and colleagues wrote.

“Patients with EVALI typically present with both respiratory (dyspnoea, cough, fever) and gastrointestinal (nausea, vomiting, diarrhoea, abdominal pain) symptoms. Usually, there is no prior history of respiratory disease. Diagnosis may be challenging, as EVALI can mimic infective pneumonia and gastrointestinal symptoms may sometimes precede respiratory symptoms. Respiratory failure may be severe enough to require invasive ventilation and intensive care support.

“Imaging findings include ground glass opacities on chest imaging, suggesting diffuse lung injury with bronchiolitis obliterans and cryptogenic organising pneumonia. Pathologically, limited lung biopsies have shown acute lung injury, acute fibrinous pneumonitis and diffuse alveolar damage. ‘Foamy’ or lipid-laden macrophages are often seen, suggestive of lipoid pneumonia,” they wrote.

Eighty percent of the hospitalised patients reported using vaping products containing tetrahydrocannabinol (THC) oil, or cannabinoids.

“Eighty-four percent of the reported THC products were acquired via informal channels and were probably manufactured outside of regulated facilities,” wrote Dabscheck and colleagues.

In contrast, only 13% of hospitalised patients with EVALI reported exclusive use of nicotine-containing products; however, traces of THC were found in samples.

“There may be unreliable self-reporting and it is possible that the nicotine e-cigarettes may have been contaminated by black-market THC additives,” wrote the authors.

“There is mounting evidence that a specific additive to vaping solutions — vitamin E acetate — played a major role in the 2019 EVALI outbreak.”

Samples from 51 patients diagnosed with EVALI from 16 US states yielded vitamin E acetate in 94% of samples.

“Australian clinicians should maintain vigilance and ask every patient about e-cigarette use,” Dabscheck and colleagues concluded.

“Adults using nicotine-containing e-cigarettes as an alternative to cigarette smoking should not revert to tobacco smoking. A reasonable and precautionary strategy is to advise patients that little is known about the long term effects of e-cigarettes, and also to inform users that severe lung disease and death have occurred mainly with unregulated solutions.”

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