



MARYLAND Department of Health

Larry Hogan, Governor · Boyd K. Rutherford, Lt. Governor · Robert R. Neall, Secretary

October 2nd, 2019

Dear Colleague:

Thank you for the work you have been doing to identify, report, and manage cases of severe respiratory illness in patients with a history of vaping. **We are writing to update you on the status of our investigation and provide new guidance on preventing and managing lung illness due to vaping.**

Key New Points

1. **Prevention.** Clinicians are strongly encouraged to treat all patients who vape or smoke nicotine or cannabis products with evidence-based interventions, including FDA-approved quit-aids.
2. **Identification and Management.** We have new guidance on the signs, symptoms, and risk factors that can be used to identify vaping-associated lung illness.
3. **Supporting Public Health Investigation.** Once a case of vaping-associated lung illness is suspected, there are important steps clinicians should take to aid our investigation: report the case, obtain and store any available vaping products, and retain clinical specimens for laboratory testing.
4. **Resources.** Additional resources are provided through [Maryland Department of Health webpage](#) and through a [CDC webpage](#), updated weekly on Wednesdays and Thursdays respectively.

Prevention

The best way to prevent vaping-associated illness is to provide evidence-based treatment to **all** patients using tobacco or e-cigarettes, and behavioral health treatment to **all** patients with cannabis-use disorder.

Patients who vape nicotine should be encouraged and supported to quit. Physicians are rightly concerned that patients attempting to quit vaping may start smoking. For this reason, all patients using any tobacco product, including vaping nicotine, should be treated with evidence-based interventions. Resources for clinicians can be found at [MDQuit.org](#). In particular:

- Brief interventions are effective. All patients should be asked about tobacco and nicotine use and, when identified, encouraged to quit.
- Both counseling and FDA-approved pharmacologic quit-aids are effective. They are most effective when used together. Both should be offered to all patients willing to make a quit attempt, including adolescents and patients being discharged from the hospital.
- Telephone counseling is effective. Patients can be referred to the Quitline at 1-800-QUIT-NOW for 24/7 telephone counseling.

Behavioral and mental health conditions are a major risk factor for use of both nicotine and cannabis product use, and referral to behavioral health services may be appropriate. For patients already engaged in behavioral health treatment, nicotine and cannabis use may be appropriate treatment targets.

Finally, as we enter influenza season, it is important that all patients, especially those who may be at elevated risk for respiratory illness because of smoking or vaping, be offered a flu shot.

Identification and Management

Vaping-associated lung illness is a diagnosis of exclusion based on A) vaping history; B) clinical, radiographic, and possibly bronchoscopy findings; and C) absence of any infectious or other cause.

A) History of Vaping. Inquire about vaping, “Juuling,” e-cigarette use, smoking, and other substance use in the past 90 days. It is also important to ask which substances were vaped – nicotine, tetrahydrocannabinol (THC), cannabidiol (CBD), or some other substance – vaping pre-filled cartridges of THC oil is the strongest known risk factor for vaping-associated lung illness.

B) Examination Findings.

- **Symptoms.** Respiratory symptoms include: shortness of breath, chest pain, pain on breathing, wheezing, and cough. Other symptoms include: fever, nausea, vomiting, diarrhea, or abdominal pain. Patients’ primary complaint is often fever or gastro-intestinal illness, not respiratory illness. Symptoms typically worsen over a period of days or weeks.
- **Imaging.** Radiographs show diffuse pulmonary infiltrates, almost always bilateral, and often in the lower lobes. CT imaging often shows diffuse ground-glass opacities, sometimes with subpleural sparing.
- **Pathology.** Some patients have been diagnosed with lipoid pneumonia after identification of lipids within alveolar macrophages from BAL specimens stained with oil red O. However, findings are mixed – absence of lipid-laden macrophages does not exclude vaping-associated lung-illness.

C) Excluding Infectious or Other Causes. It is important to consider all possible causes of illness in patients presenting with these symptoms. A respiratory viral panel and/or with influenza testing should be found negative before diagnosing vaping-associated lung illness. All other clinically indicated infectious disease testing – e.g., urine antigen for *Streptococcus pneumoniae* and *Legionella*, sputum culture, bronchoalveolar lavage (BAL) culture, blood culture, and HIV-related opportunistic respiratory infection testing – should also be negative. There should be no indication of neoplastic or rheumatologic causes.

Supporting Public Health Investigation

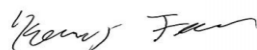
Reporting. All patients with a history of vaping whose clinically-indicated chest radiograph shows pulmonary infiltrates should be reported to the local health department immediately.

Product Samples. If case patients or their families can provide samples of recently used vaping products, collect those samples and store them in a secure location in your hospital. When you report a case to your local health Department, we will follow up to arrange sample collection and testing.

Specimen Collection. We encourage specimens collected in the course of clinical practice – for example serum, urine, BAL fluid, or transbronchial biopsy tissue – to be stored for future testing in accordance with [CDC guidance](#). However, do **not** submit specimens the state lab without prior health department approval; if you report a case, we will follow up with you to arrange for sample collection and testing.

Thank you again for your efforts to prevent vaping-associated respiratory illness.

Sincerely,



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