



STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. BOX 3378
HONOLULU, HI 96801-3378

In reply, please refer to:
File:

November 13, 2019

**MEDICAL ADVISORY: ADDITIONAL CASES OF VAPING
ASSOCIATED LUNG INJURY AND DIAGNOSTIC ALGORITHM**

Dear Healthcare Provider:

While our investigations are ongoing, the Hawaii Department of Health (HDOH) has confirmed additional cases of e-cigarette, or vaping, product use associated lung injury (EVALI), thereby bringing our case count to four, one from each County. Two are adults, and two are adolescents. All presented with shortness of breath, cough, nonspecific gastrointestinal symptoms, and complaint of weakness. Three reported fever, and at least two reported chest pain. All four were hospitalized, with one requiring mechanical ventilation, and have subsequently recovered.

As of November 5, 2019 the Centers for Disease Control and Prevention (CDC) has received reports of 2,051 cases, including 39 deaths.¹ Results of CDC testing of bronchoalveolar lavage (BAL) fluid from 29 patients has revealed the presence of vitamin E acetate in all.² These findings provide direct evidence of vitamin E acetate within the lungs at the primary site of injury. However, they do not exclude other possible compounds or ingredients that may be contributing to these lung injuries.

HDOH continues to receive new reports of suspected EVALI cases.

- To assist your evaluation and management of patients suspected having EVALI, we have adapted a clinical algorithm from other states and provide it as an appendix to this advisory as well as on the clinician EVALI website.³
- To facilitate identification of suspected patients, a patient vaping exposure history questionnaire⁴ (to be completed by your patient) and preliminary clinician case report form⁵ are also available on the clinician EVALI website.
- Please remain vigilant for potential cases and ask about vaping history in patients with otherwise unexplained severe respiratory illness.
- All suspected patients should be reported immediately to the Disease Outbreak Control Division. (Refer to phone numbers below.)

¹ https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html

² https://www.cdc.gov/mmwr/volumes/68/wr/mm6845e2.htm?s_cid=mm6845e2_w

³ <http://health.hawaii.gov/docd/vaping-resources-for-clinicians/>

⁴ https://health.hawaii.gov/docd/files/2019/11/HDOH_vaping_patient_history_survey_v03.pdf

⁵ https://health.hawaii.gov/docd/files/2019/09/Preliminary-VAPING-case-report-form-10.24.19_CLINICIAN.pdf

**** This message contains privileged communication between the Department of Health and clinicians and should not be shared with or forwarded to those not included among the original recipients. ****

MEDICAL ADVISORY: EVALI Cases in HI and Diagnostic Algorithm

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If you have any questions or need to report a suspect case of vaping associated severe respiratory illness, please contact the Department of Health.

Oahu (Disease Reporting Line)..... (808) 586-4586
Maui District Health Office..... (808) 984-8213
Kauai District Health Office..... (808) 241-3563
Big Island District Health Office (Hilo)..... (808) 933-0912
Big Island District Health Office (Kona)..... (808) 322-4877
After hours on Oahu..... (808) 600-3625
After hours on neighbor islands.....(800) 360-2575 (toll free)

Thank you for your continued efforts to help protect our community.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Sarah Y. Park'.

Sarah Y. Park, MD, FAAP
State Epidemiologist

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Severe Lung Injury Associated with Vaping Algorithm

Hawaii Department of Health



PATIENT SYMPTOMS

- Cough, dyspnea, pleuritic chest pain
- Nausea, vomiting, diarrhea
- Headache, fatigue, weight loss

PHYSICAL EXAM FINDINGS

- Hypoxemia, fever, tachypnea

EXPOSURE HISTORY

- E-cigarette ("vaping") or "dabbing" (inhaling concentrated liquid) in past 3 months
- DOH patient vaping history questionnaire may be helpful in eliciting history https://health.hawaii.gov/docd/files/2019/11/HDOH_vaping_patient_history_survey_v03.pdf
- Advise patient to retain all vaping products and devices for possible collection and testing

1 PERFORM IMAGING

- Chest X-ray: Diffuse bilateral patchy infiltrates
- Chest CT: Nonspecific bilateral ground glass opacities
- If patient has any of the abnormal radiographic findings listed, then proceed to #2

2 REPORT TO HDOH

- For patients with exposure history, relevant symptoms/signs, and abnormal radiographic findings, call HDOH (numbers listed below) to report and complete Provider Preliminary Vaping Case Report Form <https://health.hawaii.gov/docd/files/2019/09/Preliminary-VAPING-case-report-form-v1.3.pdf>
- If clinical specimens collected, retain earliest blood and urine as well as any bronchoscopy/biopsy specimens
- If history, physical and/or radiographic findings not suggestive, consider alternative diagnoses
- If atypical presentation, repeat imaging as indicated and provide close follow-up

3 RULE OUT INFECTIOUS DISEASE

- Influenza test (PCR if available)
- Respiratory virus panel (as clinically indicated)
- *Streptococcus pneumoniae* urine antigen
- Legionella urine antigen
- Mycoplasma PCR (as clinically indicated)
- Blood culture (if febrile)
- HIV testing
- CBC with differential and platelets
- CRP/ESR
- Comprehensive Metabolic Panel (CMP)
- Urinalysis
- If bronchoscopy/biopsy performed
 - Bacterial and fungal stains/cultures
 - Acid-fast bacilli smear and mycobacterial cultures
 - Pneumocystis PCR or pneumocystis specific stain (as clinically indicated)
 - Lipid Oil Red stain
 - Other tests as clinically indicated

4 OTHER TESTING

- Urine drug testing, especially for THC
- Consider rheumatologic, cardiac, neoplastic, as clinically indicated

5 CONSIDER CORTICOSTEROIDS IF APPEARS TO BE VAPING LUNG INJURY

- Advise consulting pulmonologist, infectious disease physicians, and other clinically relevant physicians

Adapted with permission from Minnesota Department of Health

Reporting Phone Numbers

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