TEEN VAPING AND LUNG DISEASE: WHAT'S THE PROBLEM?

WHAT WE KNOW SO FAR:

- **As of December 4th, 2019, all 50 states, the District of Columbia, and 2 U.S territories have reported 2,466 cases of E-cigarette or Vaping product use Associated Lung Injury (EVALI).**
- 48 deaths has been confirmed in 25 states and the District of Columbia.
- While 95% of cases were hospitalized, 5% were not hospitalizes
- The CDC has received complete sex and age data on 2,016 cases: **68% of cases are male; median age of cases is 24 years** and ranges from 13 to 78 years. 77% of patients are under 35 years old, making this a teen and young adult problem.
- More cases are expected as CDC and FDA advisories are encouraging the medical community to report suspected cases.

WHAT DO ALL THESE CASES HAVE IN COMMON?

- **All EVALI patients have reported a history of using e-cigarette, or vaping, products.**
- **Vitamin E acetate has been identified as a chemical of concern among people with EVALI.**
- **THC is present in most of the samples tested by FDA to date,** and most patients report a history of using THC-containing e-cigarette, or vaping, products.
- Among 1,184 patients with information on substances used in e-cigarette, or vaping, products in the 3 months prior to symptom onset:
  - About 83% reported using THC-containing products; 35% reported exclusive use of THC-containing products
  - About 61% reported using nicotine-containing products; 13% reported exclusive use of nicotine-containing products
  - 48% reported both THC-and nicotine-containing product use, while 4% reported no THC- or nicotine-containing product use
- While it appears that vitamin E acetate is associated with EVALI, evidence is not yet sufficient to rule out contribution of other chemicals of concern to EVALI. Many different substances and product sources are still under investigation, and it may be that there is more than one cause of this outbreak.

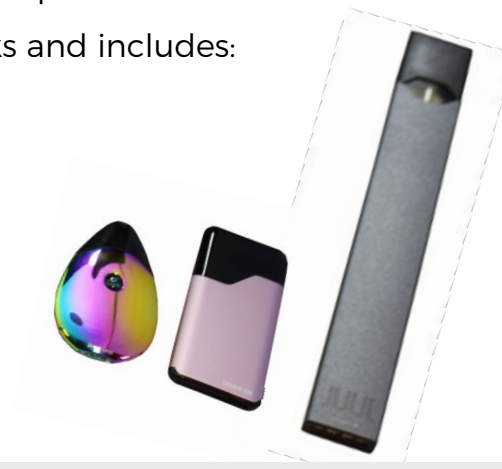
CLINICAL FEATURES:

Among the EVALI cases, three major groups of symptoms have been reported with this outbreak:

1. **Chest symptoms** appear to occur over several days to several weeks and includes:
   - Cough
   - Chest pain
   - Shortness of breath

2. **Abdominal symptoms** preceding chest symptoms and includes:
   - Nausea
   - Vomiting
   - Diarrhea

3. Other **symptoms** include:
   - Increased heart rate (tachycardia)
   - Fever and/or chills
   - Fatigue



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E-CIGARETTE OR VAPING ASSOCIATED LUNG INJURY (EVALI)

E-cigarette, or vaping, product use associated lung injury (EVALI) is the term currently used to describe lung abnormalities associated with this outbreak. Recent CDC laboratory testing of bronchoalveolar lavage (BAL) fluid samples (fluid samples collected from the lungs) from 29 patients with EVALI submitted to CDC from 10 states found vitamin E acetate in all of the samples. Vitamin E acetate might be used as an additive, most notably as a thickening agent in THC-containing e-cigarette, or vaping, products. Other chemicals such as plant oils, mineral oil, MCT oil, and terpenes were not detected in tested fluid samples.

WHAT CAN PARENTS AND YOUTH DO:

- STOP/DO NOT USE E-CIGARETTE/ JUUL PRODUCTS OR PRODUCTS THAT CONTAIN THC!
- It is important to communicate to your children about the dangers of EVALI. Visit these websites for tips on starting the conversation.
    - o How to talk with your kids about vaping
    - o Surgeon General: Parent tip sheet on e-cigarettes
- If you use e-cigarette products, or your child vapes, and you experience or notice any of the symptoms described above, seek medical care immediately.
- Regardless of the ongoing investigation:
    - o Youth and young adults **should not** use e-cigarette products; visit catchmybreath.org to learn about a free 5th-12th grade CATCH My Breath E-cigarette prevention program.
    - o Women who are pregnant **should not** use e-cigarette products.
    - o If you do use e-cigarette products, you should not buy/use street products (for example, e-cigarette products with THC or other cannabinoids) or products from informal sources like friends or family.
    - o You should not modify e-cigarette products or **add any substances to these products** that are not intended by the manufacturer.
    - o Adult smokers who are attempting to quit tobacco products should use evidence-based treatments, including counseling and FDA-approved medications; see CDC: Ways to Quit Smoking. If you need help quitting tobacco products, including e-cigarettes, contact your doctor or another medical provider.

Updated Sources:

- CDC: Outbreak of Lung Injury Associated with the Use of E-Cigarettes.
- FDA: Lung Illness Associated with Use of Vaping Products.
- MMWR: Severe Pulmonary Disease Associated with Electronic-Cigarette–Product Use — Interim Guidance
- MMWR: Notes from the Field: Outbreak of Electronic-Cigarette Associated Acute Lipoid Pneumonia—North Carolina, July–August, 2019
- What's the Bottom Line on the Risks of E-cigarettes for Kids, Teens, and Young Adults?
- New England Journal of Medicine: Christiani, D. C. (2019). Vaping-Induced Lung Injury.
- New England Journal of Medicine: Henry TS et al (2019). Imaging of vaping-associated lung disease.
- FDA's Information on Vaporizers, E-cigarettes, and other Electronic Nicotine Delivery Systemsexternal iconexternal icon
- Michael & Susan Dell Center for Healthy Living : JUUL fact sheet, vaping become epidemic among students.

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