



From: Ron Kirschner, MD, Medical Director  
To: ALL HEALTH CARE PROFESSIONALS  
Subject: Update to Vaping Pulmonary Illness  
Date: 9/16/19

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- **380 confirmed/probable cases of vaping pulmonary illness with 6 deaths have been reported in 36 states and 1 U.S. territory as of September 11, 2019 (Centers for Disease Control and Prevention).**
- **Most patients are young (average age ~ 20 years old) with male predominance.**
- **80% of patients report a history of vaping with tetrahydrocannabinol (THC).**
- **94% of patients reported vaping within a week of symptom onset.**
- **Products used may involve a number of substances, including THC, synthetic cannabinoids, nicotine or a combination. There may be an associated “cutting” agent such as Vitamin E acetate.**
- **Presenting symptoms have included dyspnea, chest pain, cough, hemoptysis, fever, fatigue, headache, nausea, vomiting, and diarrhea.**
- **Diagnostic Tests: Chest X-ray, sputum gram stains (if productive cough), CBC, CMP, ESR and CRP. For worsening symptoms consider CT of lungs, bronchoscopy.**
- **Treatment: Steroid treatment is essential for vaping related lung injury with acute eosinophilic or organizing pneumonia. The optimal corticosteroid treatment regimen and duration remains uncertain at this time, but initiation of intravenous methylprednisolone has resulted in clinical improvement in some cases. Patients who improved were also given an oral steroid dose pack for outpatient use.**
- **The acute respiratory illness brings an awareness of a potential association between the uses of marijuana oils or concentrates in e-cigarettes and lipoid pneumonia:**
  - **Symptoms of lipoid pneumonia are often nonspecific.**
  - **Lipoid pneumonia may be caused by aerosolized oils that deposit within distal airways and alveoli to incite a local inflammatory response that impairs vital gas exchange.**
- **If you encounter a patient with unexplained respiratory decompensation, please inquire about recent vaping, try to identify the specific product, and if available consider holding the product for possible analysis by the state health department. Please report all known or suspected cases to the Poison Center or your public health department.**

**References:**

1. **Centers for Disease Control and Prevention. (September 12, 2019). Outbreak of Lung Disease Associated with E-Cigarette Use, or Vaping. Retrieved from: [https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/severe-lung-disease.html](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html)**
2. **Davidson K et al. Outbreak of Electronic –Cigarette Associated Lipoid Pneumonia, North Carolina, July-August 2019, MMWR early release.**
3. **Layden JE et al. Pulmonary illness related to E-cigarette use in Illinois and Wisconsin – Preliminary report. NEJM, September 2019; E-publication ahead of print.**
4. **Maddock SD et al. Pulmonary Lipid-Laden Macrophages and Vaping, Correspondence-NEJM, September 2019.**

**Our nurse and pharmacist certified specialists in poison information and physician toxicologists are available 24 hours a day at 1-800-222-1222 to answer your questions.**