E-Cigarette, or Vaping, Product Use Associated Lung Injury (EVALI)
Interim Diagnostic and Therapeutic Guidance

**EVALI Clinical Management:**

If EVALI is suspected, clinical management should proceed immediately and be further guided by individual laboratory results:

- Early pulmonology and toxicology consultation, including screening for urine THC
- Oxygen and respiratory/ventilatory support as required
- Empiric antibiotic coverage for at least 48 hours if history is unclear, if patient is intubated, or patient has severe hypoxemia despite supplemental oxygen
- During influenza season, antivirals should be considered until influenza is excluded
- Systemic steroids if no improvement with antibiotics and/or respiratory support
- Corticosteroid dosing and duration should be considered on a case by case basis
- Length of steroid taper should be made based on patient’s clinical course of recovery and close follow up
- Arrange for outpatient follow up with primary care team and/or pulmonary team
- Report to local Poison Control Center for case surveillance
- Collect vaping cartridges for state public health lab testing
- Advise patient against all vaping, refer for smoking cessation, as appropriate

**History and Physical**

- **Symptoms:** Cough, dyspnea, pleuritic chest pain
- Nausea, vomiting, diarrhea
- Headache, fatigue, weight loss
- **Physical Exam Findings:** Hypoxemia, fever, tachypnea

**Positive Screen for Vaping-specific History:**

- E-cigarette (“vaping”) or “dabbing” (inhaling concentrated liquid) within 30 days
- Most cases involve use in days to weeks preceding presentation. CDC case definition includes vaping use in prior 90 days

**Obtain Chest Imaging**

- **Chest X-ray:** Diffuse bilateral infiltrates/disease
- **Chest CT:** Nonspecific bilateral ground glass opacities +/- sub-pleural sparing
- Acute eosinophilic pneumonia, diffuse alveolar damage, organizing pneumonia, or lipoid pneumonia
- Diffuse lung nodules

**Obtain Lab Data to Screen for Alternate Diagnoses**

- **Cardiac, Rheumatologic, Neoplastic Testing (at clinical discretion):**
  - CBC with differential
  - ESR, CRP, LDH
  - CMP (i.e., BMP + LFTs)
  - Urinalysis
  - ECG

- **Infectious Testing:**
  - Blood cultures
  - Extended viral panel including influenza testing
  - Mycoplasma NAAT
  - Strep. Pneumo urinary Ag
  - Legionella Ag
  - HIV testing

**If history, physical, and/or chest imaging not suggestive consider alternative diagnoses**

**If atypical presentation:**
- Repeat imaging
- Close follow-up (within 48 hours)

**Consider alternative diagnoses**

**If bronchoscopy performed:**
- Lipid staining of samples
- Oil-red O stain
- Total cell count with differential
- Bacterial and fungal cultures
- Gram stains and smears
- Medical cytology
- Fungal stains
- Additional testing as clinically indicated

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