

## Emerging Pulmonary Risks of Vaping: Influenza-Associated MRSA Necrotizing Pneumonia Complicated by Bronchopleural Fistula and Empyema in a Young Adult (poster)

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Abstract

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### Abstract

Introduction:

Bronchopleural fistula is an abnormal communication between the bronchial tree and pleural space that can result in life-threatening complications including pneumothorax, empyema, and respiratory failure. It is most commonly described in elderly patients as a postoperative complication due to impaired tissue healing and underlying pulmonary degeneration. However, increasing e-cigarette and cannabis vaping use among young adults may represent an emerging risk factor for severe pulmonary injury.

Case Description:

We present a 21-year-old previously healthy male with a five-year history of cannabis and e-cigarette use who presented in January 2026 to the Emergency Department with worsening productive cough, dyspnea, and right-sided pleuritic chest pain. Two weeks prior, he had been diagnosed with Influenza A complicated by community-acquired pneumonia and was treated with amoxicillin/clavulanate as an outpatient. Despite treatment, his symptoms progressed and he subsequently developed a bronchopleural fistula with empyema requiring surgical intervention. Pleural cultures revealed an uncommon polymicrobial infection including methicillin-resistant *Staphylococcus aureus* and *Veillonella parvula*.

Conclusion:

This case highlights a rare and severe post-influenza complication in a young, otherwise healthy adult. The extent of pulmonary destruction raises concern for vaping-associated susceptibility to necrotizing infections and underscores the need for further investigation into the long-term pulmonary consequences of e-cigarette use.