

Non-traumatic Acute Lung Emergencies

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TRAUMA & EMERGENCY RADIOLOGY



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Disclosures - None

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Objectives

- Become familiar with frequently encountered non-traumatic pulmonary emergencies
- Recognize common causes of non-traumatic lung injury and their imaging pattern

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Frequently Encountered Lung Injuries

Acute Smoke Inhalation
Aspiration
EVALI
Infection - COVID
Near Drowning
Pulmonary Hemorrhage

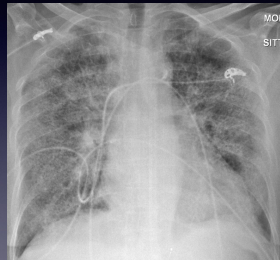
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Acute Smoke Inhalation

Type of acute lung injury (ALI)

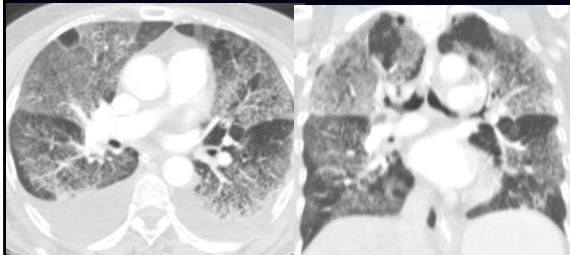
- occurs as a result of a severe pulmonary injury that causes alveolar damage (ARDS)
- histological features seen in acute interstitial pneumonitis (AIP), showing extensive diffuse alveolar damage (DAD)



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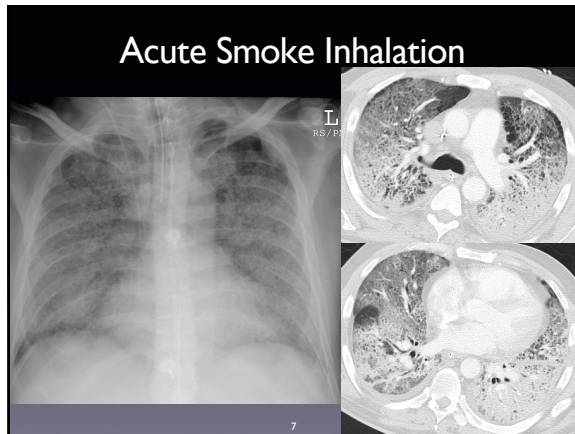
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Acute Smoke Inhalation

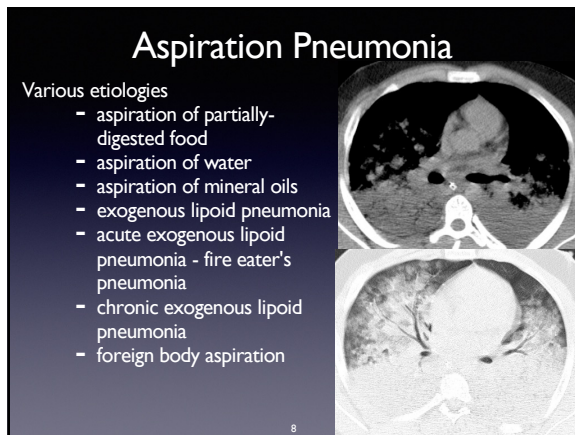


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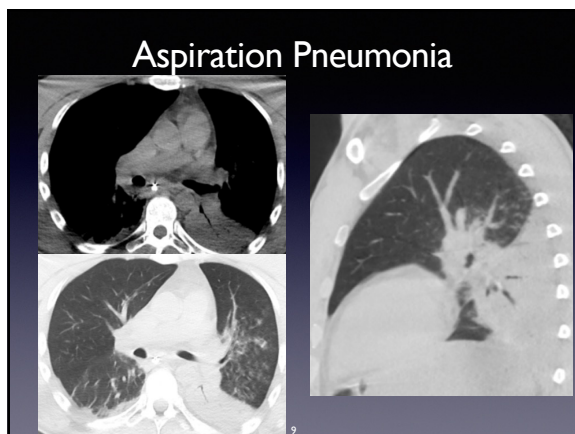
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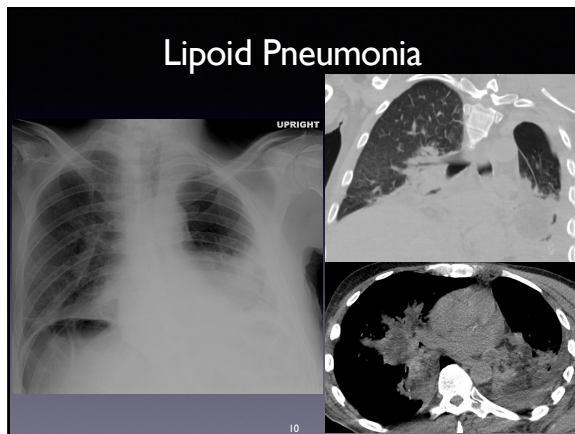
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EVALI

E-cigarette or vaping product use-associated lung injury

- e-cigarettes, e-vaporizers, e-hookahs, vapes, vape pens
- most cases involved use of both nicotine and cannabinoid (THC) products

The image shows two medical scans. On the left is a frontal chest X-ray showing bilateral, peripheral, and subpleural opacities. On the right are two axial CT scan slices showing extensive, bilateral ground-glass opacities and consolidation, particularly in the peripheral lung fields. The number '11' is visible in the bottom right corner of the X-ray image.

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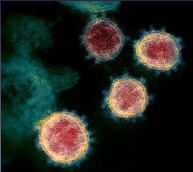
EVALI - THC

The image displays two medical scans. On the left is a frontal chest X-ray showing bilateral, peripheral, and subpleural opacities. On the right are two axial CT scan slices showing extensive, bilateral ground-glass opacities and consolidation, particularly in the peripheral lung fields. The number '12' is visible in the bottom right corner of the X-ray image.

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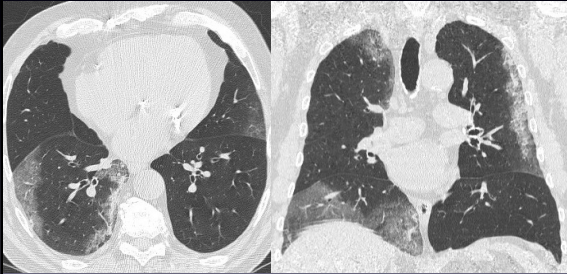
COVID-19 Pneumonia

- Strain of coronavirus
- Presents with systemic (multiple organ dysfunction, MODS-SARS-CoV-2) and/or respiratory manifestations
 - fever (85-90%), cough (65-70%), anosmia and other taste and/or smell disturbances (40-50%)
- Complications
 - acute respiratory distress syndrome (ARDS): ~22.5%
 - acute PE
 - acute cardiac injury
 - long COVID



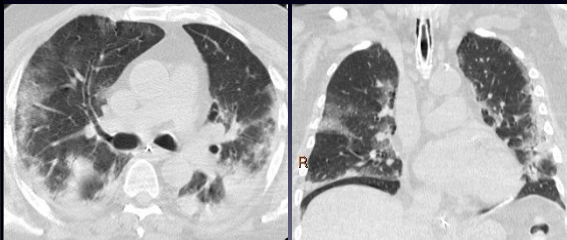
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COVID-19 - Acute



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COVID-19 ARDS



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Near Drowning

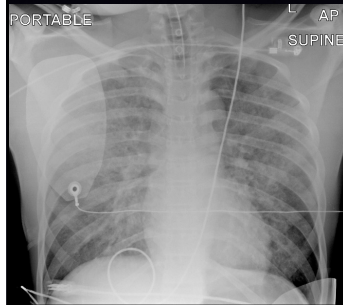
- considered an etiological subtype of non-cardiogenic pulmonary edema
 - pattern nearly identical to CHF
- salt water and fresh water



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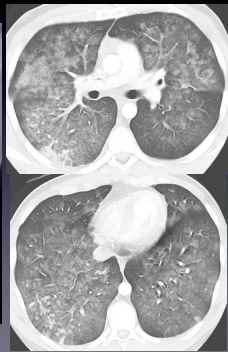
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Near Drowning

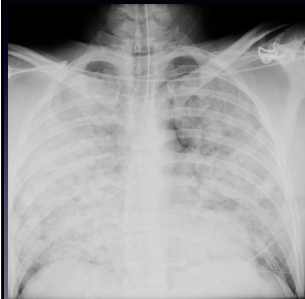


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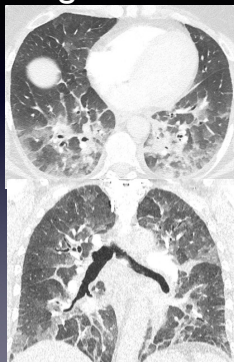


Near Drowning



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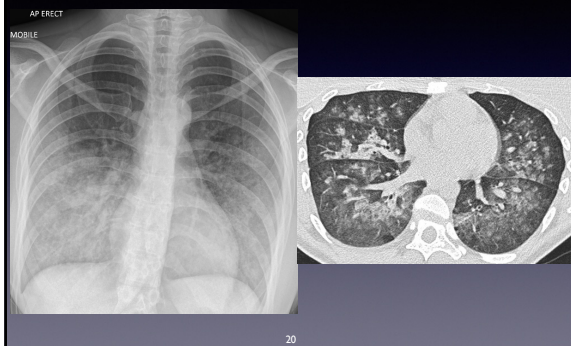
Pulmonary Hemorrhage

- Any form of bleeding into the lung
- Diffuse vs localized
 - diffuse pulmonary hemorrhage (DPH)
 - diffuse alveolar hemorrhage (DAH)
 - localized pulmonary hemorrhage
- Etiologies:
 - pulmonary vasculitides (Churg-Strauss, GPA/Wegener's, Goodpasture's, etc.)
 - pulmonary hemosiderosis
 - widespread pulmonary metastasis

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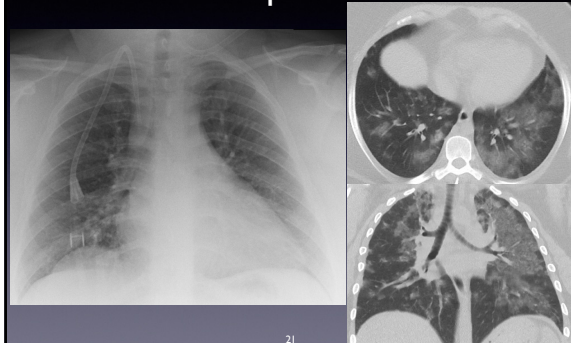
Diffuse Alveolar Hemorrhage - Hemosiderosis



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Diffuse Alveolar Hemorrhage - Goodpasture's



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THANK YOU & BEST WISHES!

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