Ground Glass Pattern

- Infectious pneumonia
- Pulmonary hemorrhage
- OP
- Pulmonary alveolar proteinosis
- Adenocarcinoma-in-situ
- DIP/NSIP
- EDEMA!

Ground Glass Opacity

Acute

Pulmonary edema
- Heart failure
- ARDS

Pulmonary hemorrhage

Pneumonia
- PCP
- Mycoplasma
- Viral

Acute Eosinoph pneumonia
Acute Hypersensitivity

Chronic

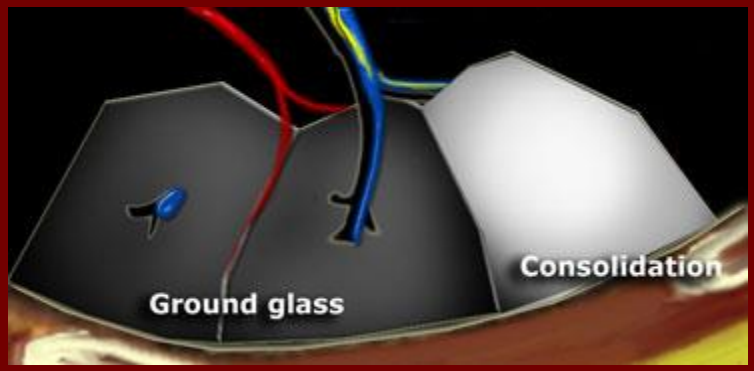
Hypersensitivity pneumonitis
Organizing pneumonia
Chron Eosinoph. pneumonia
Alveolar proteinosis

Lung fibrosis
- UIP
- NSIP

Bronchoalveolar carcinoma

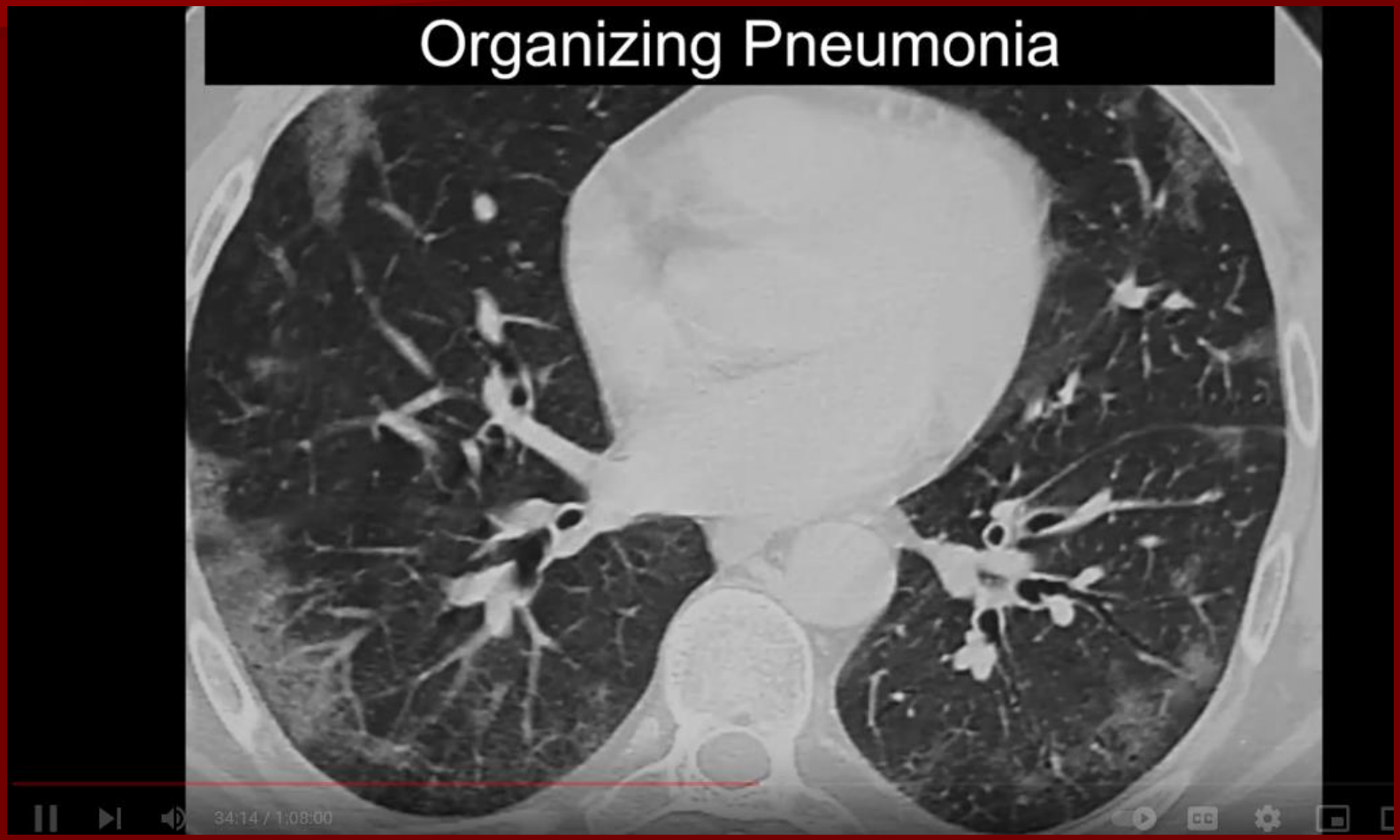
Ground Glass

- Increased lung attenuation is called ground-glass-opacity (GGO)
- If there is a hazy increase in lung opacity without obscuration of underlying vessels and is called consolidation if the increase in lung opacity obscures the vessels.
- In both ground glass and consolidation the increase in lung density is the result of replacement of air in the alveoli by fluid, cells or fibrosis.

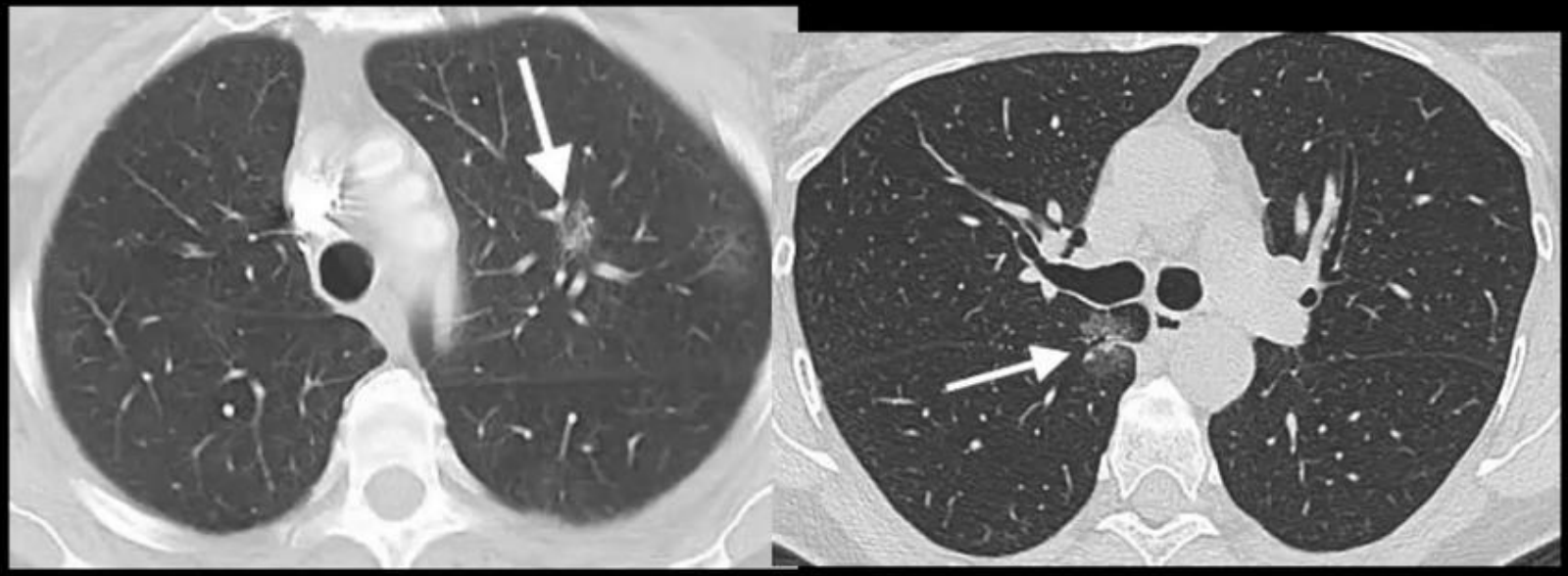


- In GGO the density of the intrabronchial air appears darker as the air in the surrounding alveoli.
  This is called the *dark bronchussign*
- In consolidation, there is exclusively air left in the bronchi.
  This is called the *air bronchogram*.

Covid can look like this
Covid is an organizing pneumonia



Adenocarcinoma-in-situ



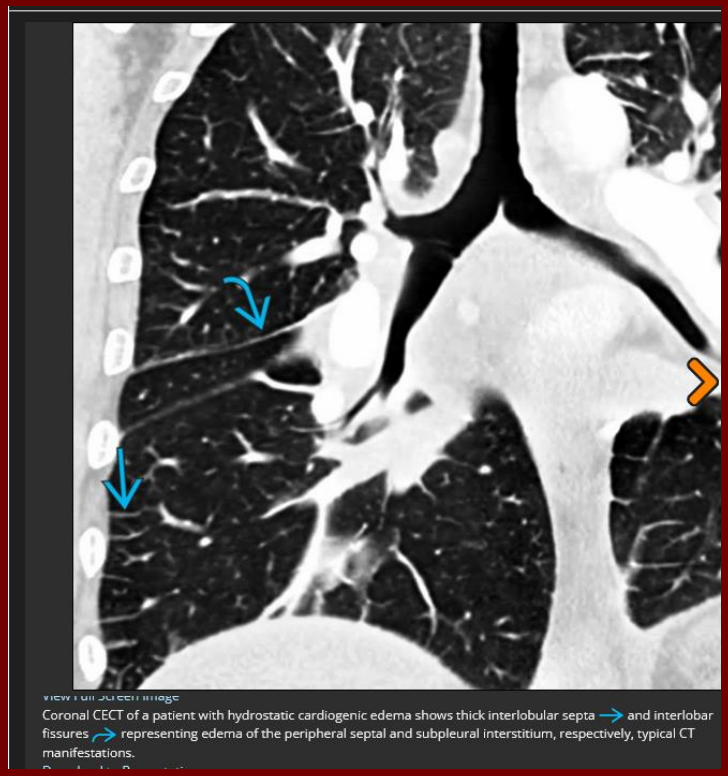
Pulmonary Edema

- Diffuse ground-glass opacity, with mosaic pattern.
- Peribronchial cuffing (white arrow) due to edema can be easily confused with bronchial inflammation.
- Presence of ground-glass opacity, septal thickening (black arrows), and pleural effusions (not shown) makes pulmonary edema the most likely diagnosis.

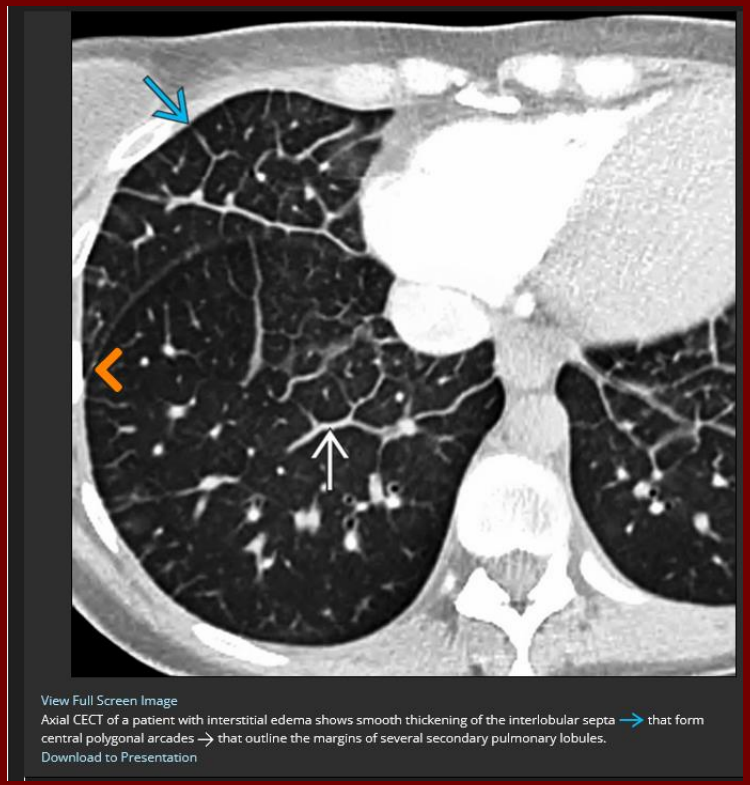
Edema

- Interstitial edema
  - Interlobular septal thickening
    - Smooth; nodularity not typical but may occur
    - Outlines boundaries of secondary pulmonary lobule
    - Crazy-paving: Interstitial + alveolar edema
  - Subpleural edema: Thickened interlobar fissures
  - Peribronchovascular bronchial wall thickening
- Alveolar edema
  - Ground-glass opacities, diffuse or patchy
  - Centrilobular ground-glass nodules
  - Lobular and acinar ground-glass opacities
  - Consolidation
    - Diffuse or patchy
    - Dependent (gravitational)
    - Central and perihilar in batwing edema
- Associated abnormalities
  - Cardiomegaly, pleural effusion, lymphadenopathy, increased attenuation of mediastinal fat

Edema



Coronal CECT of a patient with hydrostatic cardiogenic edema shows thick interlobular septa → and interlobar fissures ↷ representing edema of the peripheral septal and subpleural interstitium, respectively, typical CT manifestations.



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Axial CECT of a patient with interstitial edema shows smooth thickening of the interlobular septa → that form central polygonal arcades → that outline the margins of several secondary pulmonary lobules.

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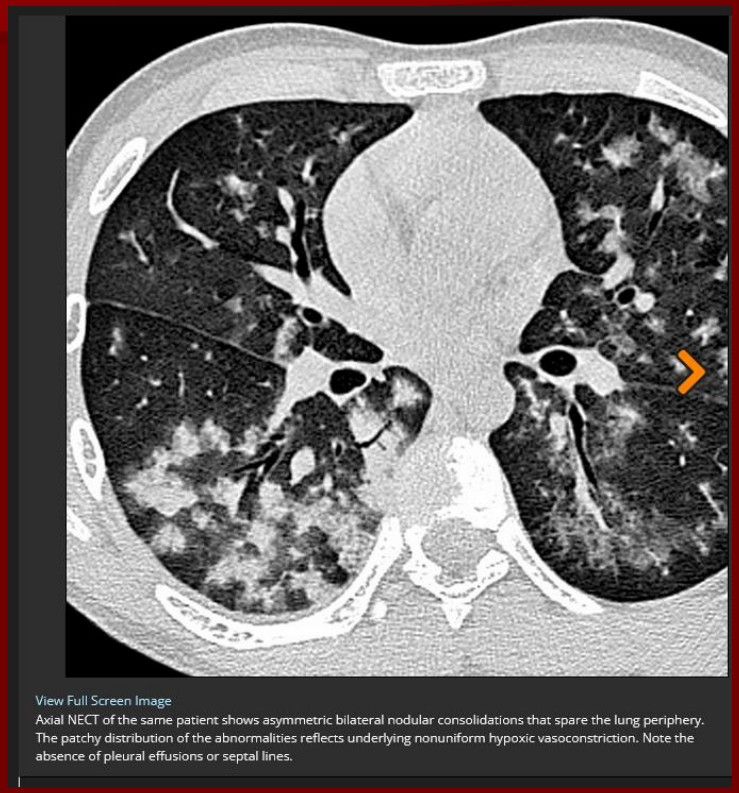
Edema



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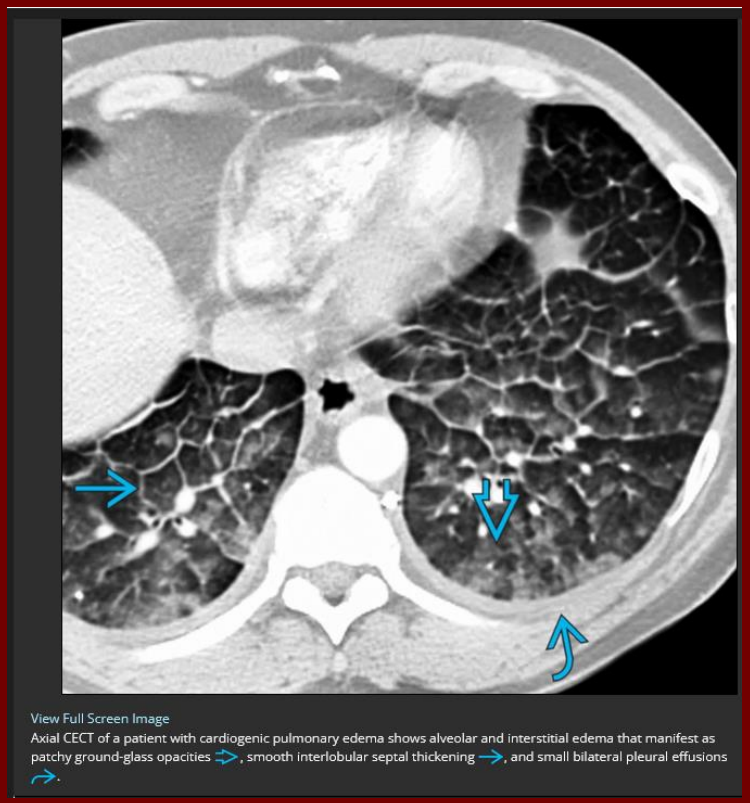
Axial NECT of the same patient shows asymmetric bilateral nodular consolidations that spare the lung periphery. The patchy distribution of the abnormalities reflects underlying nonuniform hypoxic vasoconstriction. Note the absence of pleural effusions or septal lines.



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Axial CECT of a patient with cardiogenic pulmonary edema shows alveolar and interstitial edema that manifest as patchy ground-glass opacities ⇨, smooth interlobular septal thickening →, and small bilateral pleural effusions ↷.