



Indications of Prone Imaging in the Chest

The standard method of imaging the lungs and chest is an end-inspiratory scan in the supine position. In patients with diffuse lung diseases, additional supine expiratory and prone inspiratory images are indicated.

Prone imaging is however useful in many situations.

- 1 Separating gravity dependent densities from disease (Fig. 1).
- 2 Identifying honeycombing, especially when subtle or not seen in the supine images (Fig. 2).
- 3 Evaluating subtle progression of fibrosis (Fig. 3).
- 4 Obtaining better breath-hold images in those who are unable to manage good end-inspiration in the supine position.
- 5 Confirming a fungal ball in a cavity (Fig. 4).
- 6 Confirming the vascular/venous nature of a lesion.

Images for points 4 and 6 as well as additional images and a video discussion are available at this site

(<https://www.ctchestreview.com/snippet19/>) or on clicking this **QR Code**

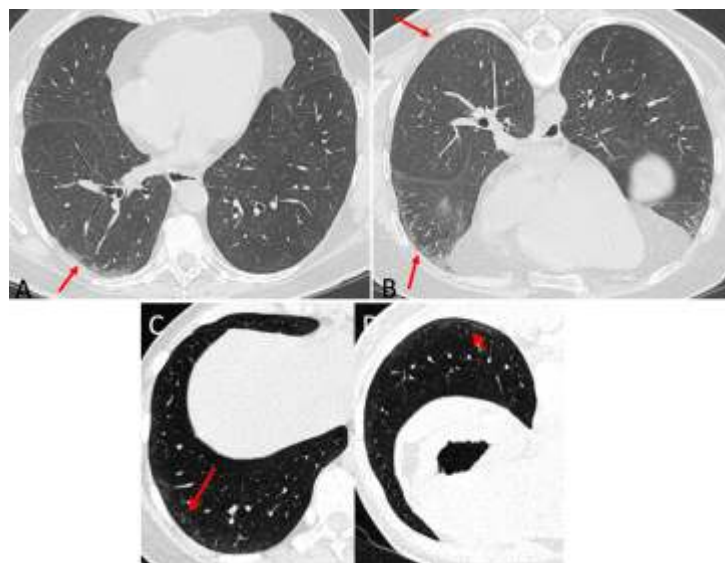


Fig.1(A-D): Gravity dependent versus true disease. Supine image (A) shows densities in the dependent portion of the lung that disappear on the prone image (B), confirming that these are just gravity-dependent densities. On the other hand, this supine image (C) shows densities in the dependent portion that are persistent in the prone image, suggesting that this is true early interstitial lung disease in this patient with scleroderma.

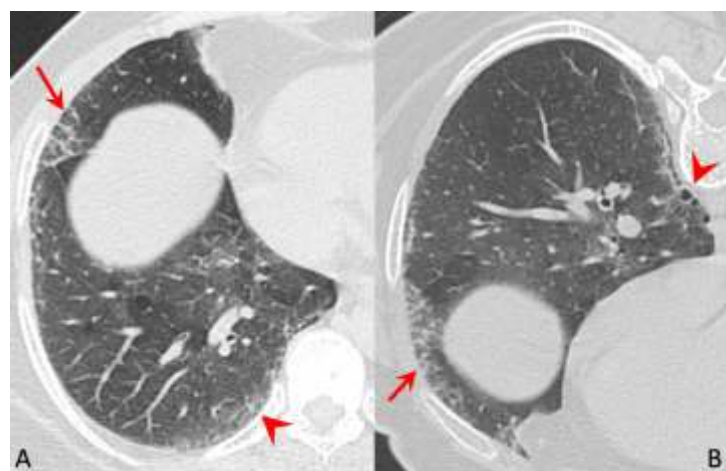


Fig. 2 (A,B): Early fibrosing ILD. Supine image (A) shows reticular opacities in the non-dependent (arrow) and dependent (arrowhead) portions. The prone image (B) shows no change in the anterior reticular opacities (arrow), which are now dependent, while the posterior reticular opacities now show associated honeycombing (arrowhead). This honeycombing was likely not appreciated due to gravity related compression of the dependent lung in the supine position.



At a glance

- ◆ Prone imaging in the chest has many indications and can help with better diagnosis
- ◆ Specifically in patients with interstitial lung diseases, prone images should be obtained, at least the first time the patient presents.

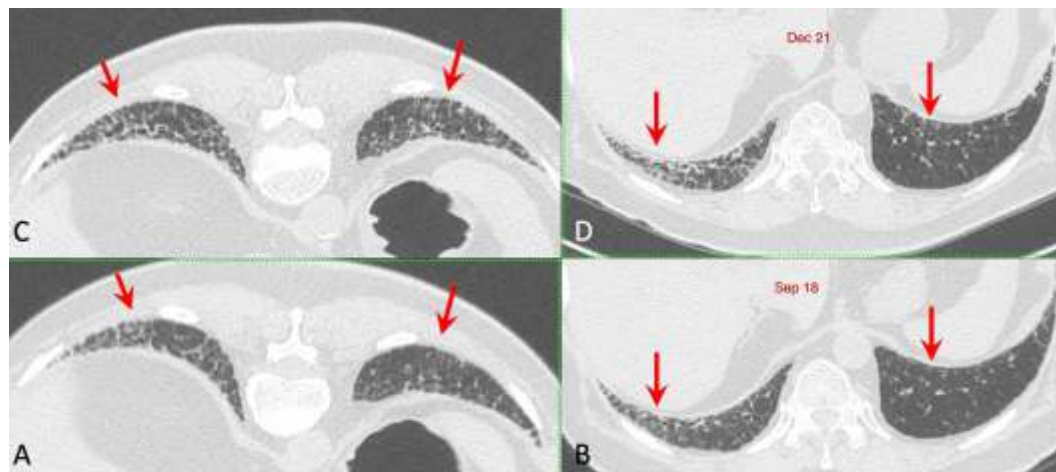


Fig. 3 (A-D): 73-years old man with idiopathic pulmonary fibrosis (IPF). Prone (A) and supine (B) images in Sep 2018 show reticular opacities and traction bronchiectasis (arrows) without honeycombing. This represents a probable usual interstitial pneumonia (probable UIP) pattern. Three years and three months later, there is subtle probable progression in the supine image (arrows in D), which is much better, unequivocally, appreciated in the prone image (arrow in C).



Fig. 4 (A,B): Fungal ball in a cavity. Supine image (A) shows a nodule in a cavity in the right upper lobe (arrow), which is mobile in the prone image (B), confirming a fungal ball.

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