

Image in Medicine

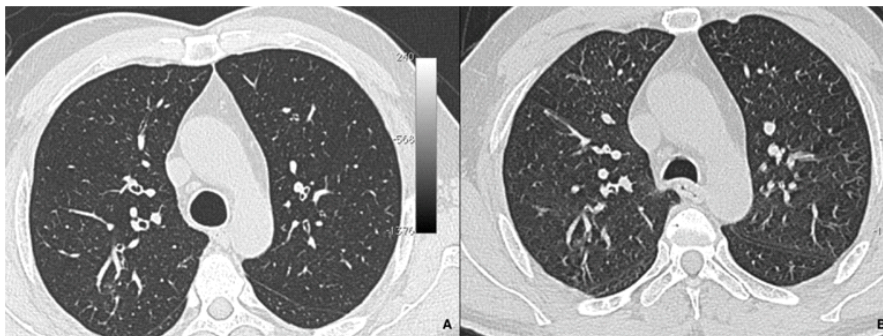
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Quiz 1

CT scan images of the chest in inspiration and expiration.

Questions :

- (1) How to identify expiratory images?
- (2) What is the purpose of an expiratory scan?
- (3) What are the common indications of an expiratory scan?



Answers :

(1) The trachea is usually taken as a reference to assess the technique. The trachea appears round / elliptical in shape on inspiration (a) and crescent shape with bowing of its posterior membranaceous wall on expiration (b). Diffuse increase in lung attenuation is also seen in expiration.

(2) Expiratory scans are performed to highlight the areas of air trapping since during expiration, rest of the normal lung parenchyma will show increase in attenuation.

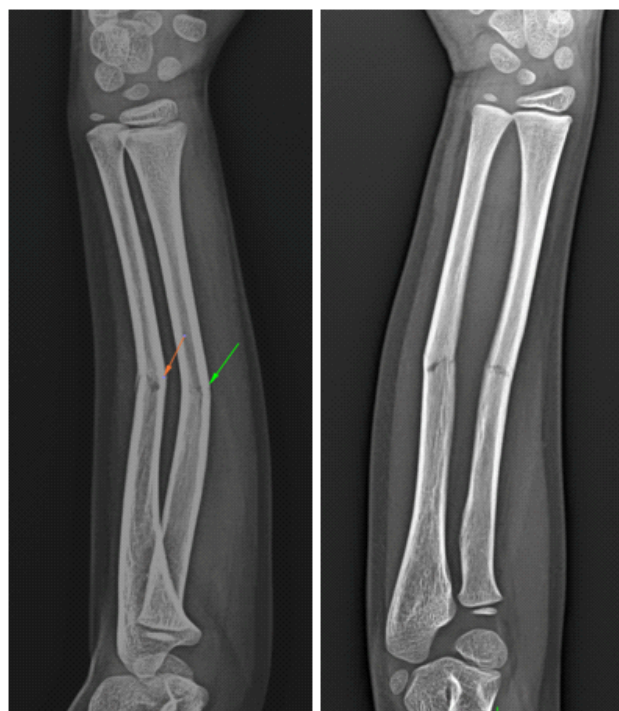
(3) Expiratory scan should be performed in all airways disease and interstitial lung disease. It is also useful in assessment of tracheobronchomalacia.

Quiz 2

X-ray forearm (AP and lateral view) of a 6 year old girl who presented with history of fall on an outstretched hand.

Questions :

- (1) Name the fracture?
- (2) What are the mechanism of this fracture?
- (3) How to differentiate greenstick fracture from torus fractures?



Answers :

(1) Incomplete fracture with cortical breach of only one side of the bone in mid-diaphysis of radius and ulna is seen associated with mild angulation -suggestive of greenstick fractures.

(2) Greenstick fractures occur when the force applied to a bone results in bending of the bone such that the structural integrity of the convex surface is overcome resulting in fracture of the convex surface. The bending force applied does not break the bone completely and the concave surface of the bent bone remains intact. These are usually seen in young children, less than 10 years of age.

(3) Greenstick fracture is different from torus fracture which results in buckling of the cortex on the concave side of the bend and an intact convex surface.

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