

Table S1: CT findings of thoracic inlet pathologies and their corresponding chest radiographic findings

Pathologies	CT findings	Corresponding chest radiographic findings
Traumatic		
Mediastinal fat stranding	Fat haziness within mediastinum, usually surrounding vascular structures	Abnormal mediastinum
Mediastinal hemorrhage	Discrete slightly hyperattenuating collection within mediastinum, potentially surrounding vascular structures	Abnormal mediastinum
Pneumomediastinum	Extraluminal air within soft tissues of mediastinum	Same as CT
Pulmonary contusion	Fluffy, ill-defined airspace opacification in the lungs not respecting anatomical boundaries; may spare subpleural region	Patchy pulmonary opacification
Pulmonary laceration	Pulmonary cavity filled with blood, air or both and surrounded by pulmonary contusion	Usually not seen
Pneumothorax	Extraluminal air collection inside pleural cavity, often in curvilinear shape	Same as CT
Pleural fluid	Fluid of variable attenuation within pleural cavity, usually in dependent portion	Apical cap
Extrapleural hematoma	High-attenuating collection, often biconvex shape and at site of rib fracture, displacing extrapleural fat inwardly to the lung	Apical cap
Rib fracture	Cortical break – without or with displacement – of ribs	Same as CT
Clavicle fracture	Cortical break – without or with displacement – of clavicle	Same as CT

Acromioclavicular dislocation	Loss of normal articulation between acromion and distal clavicle	Same as CT
Scapular fracture	Cortical break – without or with displacement – of scapula	Same as CT
Significant nontraumatic		
Mediastinal vascular dilation	Dilation of artery (≥ 1.5 times of expected normal caliber) – often a branch of aortic arch – within superior mediastinum	Abnormal mediastinum
Pulmonary nodule(s)	Rounded or oval-shaped discrete noncalcific solid abnormality inside the lung parenchyma	Same as CT
Pulmonary micronodules	<p>Tiny pulmonary nodules of less than 4 mm; having various shapes and arrangements including</p> <ul style="list-style-type: none"> - Tree-in-bud (V- or Y-shaped micronodules in lung periphery) - Centrilobular (micronodules in centrilobular distribution; not touching pleurae/fissures) - Other appearances 	Usually not seen
Groundglass opacity	Increased lung opacity without obscuration of lung markings	Usually not seen
Groundglass nodule(s)	Similar to pulmonary nodule(s) but attenuation is lower (not obscure lung markings)	Usually not seen
Cavity	Air-filled collection with soft-tissue rims within lung parenchyma	Same as CT
Atelectasis	Airspace parenchymal opacification with loss of volume	Same as CT

Septal thickening	Thickened interlobular septa of lung parenchyma	Usually not seen
Active tuberculosis	Cavity, tree-in-bud and centrilobular pulmonary micronodules, pulmonary nodule(s), groundglass opacity in uni- or bilateral lung apices	Same as CT
Pulmonary malignancy	Irregular-shaped pulmonary nodule(s) or mass(es) with or without spiculated border	Same as CT
Foreign body	Abnormal structure of various attenuation and shape usually within esophagus or trachea	Same as CT
Malignant bone lesions	Lucent or sclerotic lesions associated with soft tissue masses	Same as CT
Non-significant		
Parenchymal scars	Linear or curvilinear pulmonary opacities associated with distortion of pulmonary architecture	Usually not seen
Calcifications	High attenuation foci or nodule(s)	Same as CT
Bronchiectasis	Dilation of bronchi greater than their accompanying pulmonary artery branches	Usually not seen
Emphysema	Increased lucency of pulmonary parenchyma without definable walls; without or with stretched lung markings	Same as CT
Blebs/bulla	Focal lucency within pulmonary parenchyma with thin walls	Usually not seen
Benign bone lesions	Bone islands; lucent lesions with complete and smooth sclerotic rims	Same as CT

Table S2: Performance of portable trauma chest radiography in identification of thoracic inlet abnormalities* using cervical spine CT as a reference standard

	True positive	False positive	False negative	True negative	Sensitivity (95% CI)	Specificity (95% CI)
Overall performance	90	7	159	129	36.14 (30.17-42.45)	94.85 (89.68-97.91)
All traumatic findings	52	51	40	242	56.52 (45.78-67.83)	82.59 (77.76-86.76)
Abnormal mediastinum	0	4	11	370	0.00 (0-28.49)	98.93 (97.28-99.71)
Pulmonary contusion	17	24	23	321	42.50 (27.04-59.11)	93.04 (89.83-95.49)
Pneumothorax	9	0	40	336	18.37 (8.76-32.02)	100 (98.91-100)
Extrapleural hematoma	1	48	1	335	50.00 (1.26-98.74)	87.47 (83.73-90.61)
Rib fracture	12	10	12	351	50.00 (29.12-70.88)	97.23 (94.96-98.66)
Clavicle fracture	7	16	1	361	87.50 (47.35-99.68)	95.76 (93.20-97.56)
Scapular fracture	0	3	1	381	0 (0-97.50)	99.22 (97.73-99.84)
All significant nontraumatic findings	8	8	82	287	8.89 (3.92-16.77)	97.29 (94.73-98.82)
Pulmonary nodule(s)	4	5	27	349	12.90 (3.63-29.83)	98.59 (96.73-99.54)
Active tuberculosis	3	5	10	367	23.08 (5.04-53.81)	98.66 (96.89-99.56)

Destructive bone lesions	1	0	0	384	100 (2.50-100.00)	100 (99.04-100.00)
Nonsignificant findings	13	12	211	149	5.80 (3.13-9.72)	92.55 (87.34-96.09)
Parenchymal scars	20	3	54	308	27.03 (17.35-38.61)	99.04 (97.21-99.80)
Calcifications	4	0	11	370	26.67 (7.79-55.10)	100 (99.01-100)
Bronchiectasis	0	1	24	360	0 (0.00-14.25)	99.72 (98.47-99.99)
Emphysema/blebs	1	0	92	292	1.08 (0.03-5.85)	100 (98.74-100)

*Listed entities include those deemed potentially visible on chest radiography and were present in our study cohort



Figure S1: Pneumothorax and subpleural bleb/bulla. Axial and coronal-reformatted CT images in lung window of two different patients show minimal right pneumothorax (long arrows). A few small subpleural blebs/bullae (short arrows) in the left lung are convex toward the lung parenchyma. Perception of minimal pneumothorax may be improved with coronal reformation. Black arrow = esophagogastric tube coiled within the thoracic esophagus.

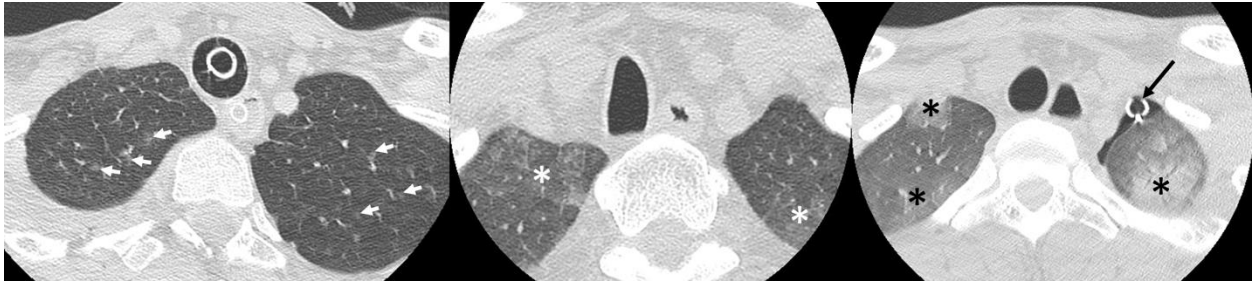


Figure S2: Pulmonary contusion. Axial CT images in lung window of three different patients show different features and extent of pulmonary contusion, which include small ill-defined centrilobular groundglass opacities (short arrows), ill-defined groundglass opacities superimposed with interlobular septal thickening (crazy paving pattern; white stars), and “fluffy” groundglass opacities with consolidations (black stars). Black arrow = intercostal drainage tube with left pneumothorax.

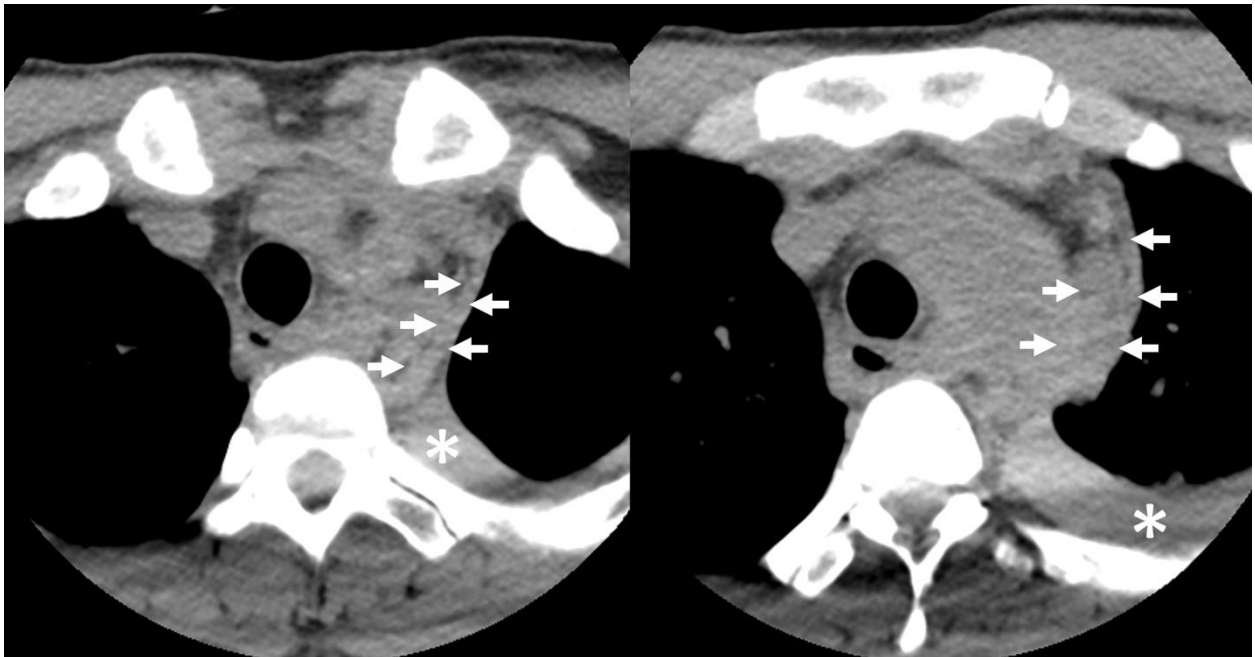


Figure S3: Mediastinal hemorrhage. Axial CT images in soft-tissue window show ill-defined isoattenuating bands or streaks (arrows) interspersed within superior mediastinal fat, abutting aortic arch and its branches. There is a small amount of isoattenuating left pleural fluid (stars), representing hemothorax.

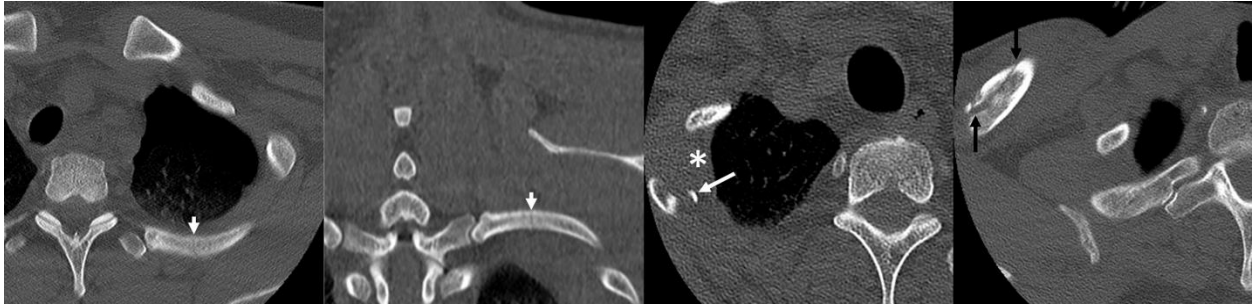


Figure S4: Rib and clavicle fractures. Axial and coronal-reformatted CT images in bone window/algorithm of three different patients show a nondisplaced fracture of the left posterior rib (short white arrows), a displaced rib fracture fragment (long white arrow) associated with an extrapleural hematoma (star), and a nondisplaced comminuted right clavicle fracture (black arrows). These can be easily overlooked on a cervical spine CT due to their subtlety and location at the edge of image series.

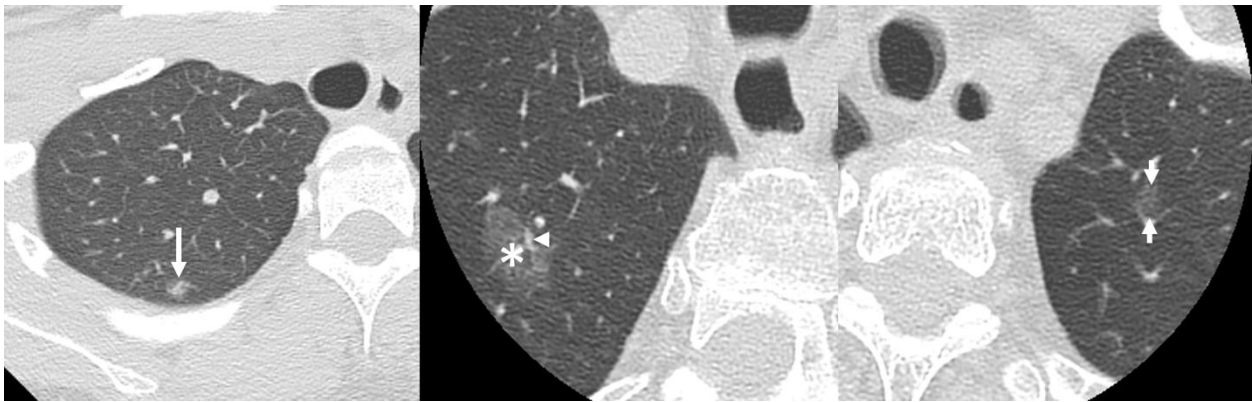


Figure S5: Subsolid pulmonary nodules. Axial CT images in lung window of three different patients reveal three subsolid pulmonary nodules. Two are part-solid groundglass nodules (long arrow and star), in which an arrowhead indicates a solid portion of the larger nodule. Short arrows point at a pure groundglass nodule.

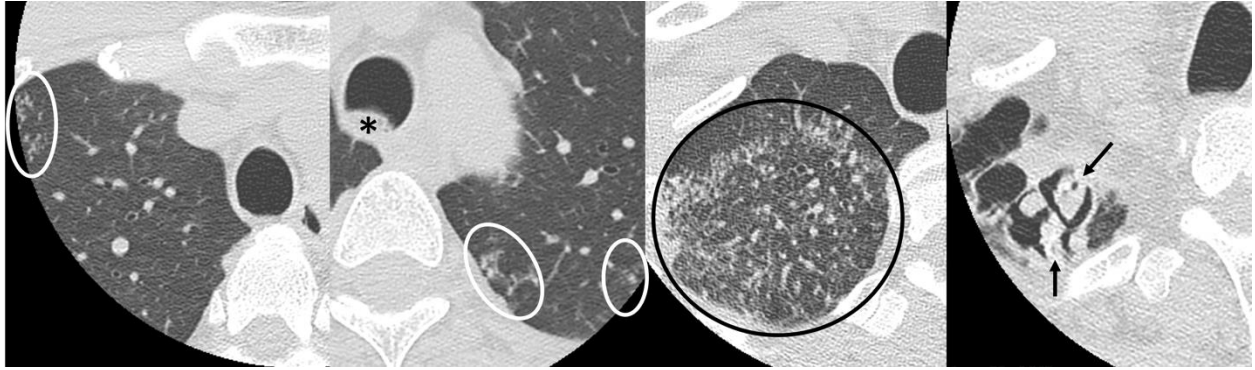


Figure S6: Pulmonary micronodules and cavities. Axial CT images in lung window of four different patients demonstrate small clusters of tree-in-bud opacification and centrilobular nodules (white oval), a larger area of the same abnormality (black oval), and a few air-filled cavities containing rounded contents (arrows). The black star represents fluid in the distal trachea.