義大醫療財團法人
E-DA HEALTHCARE GROUP

115年影像判讀繼續教育課程(南區)

胸部X-ray影像判讀原則與常用徵象

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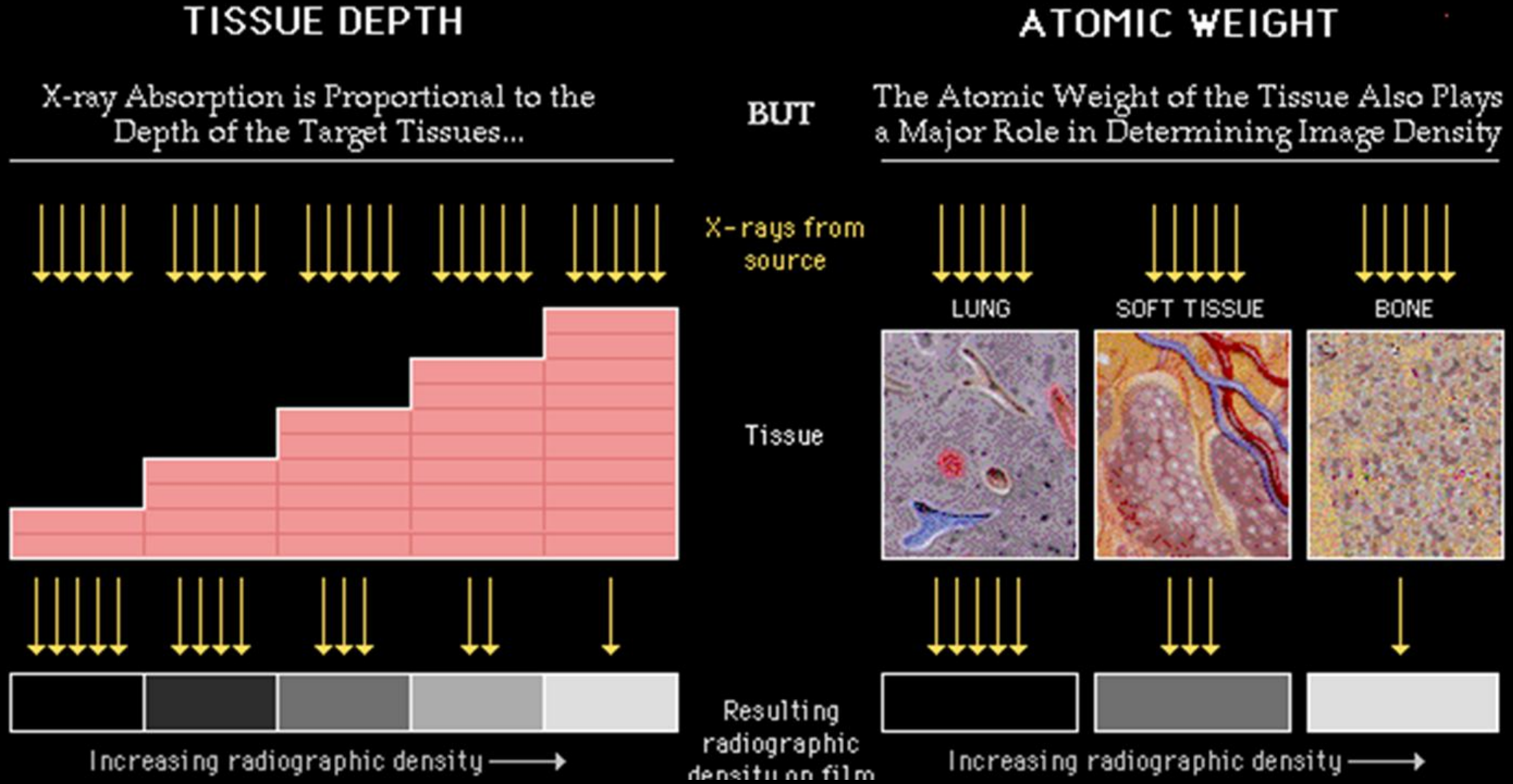
Aug. 01, 2026

實實在在關心您健康的好厝邊

準備開始

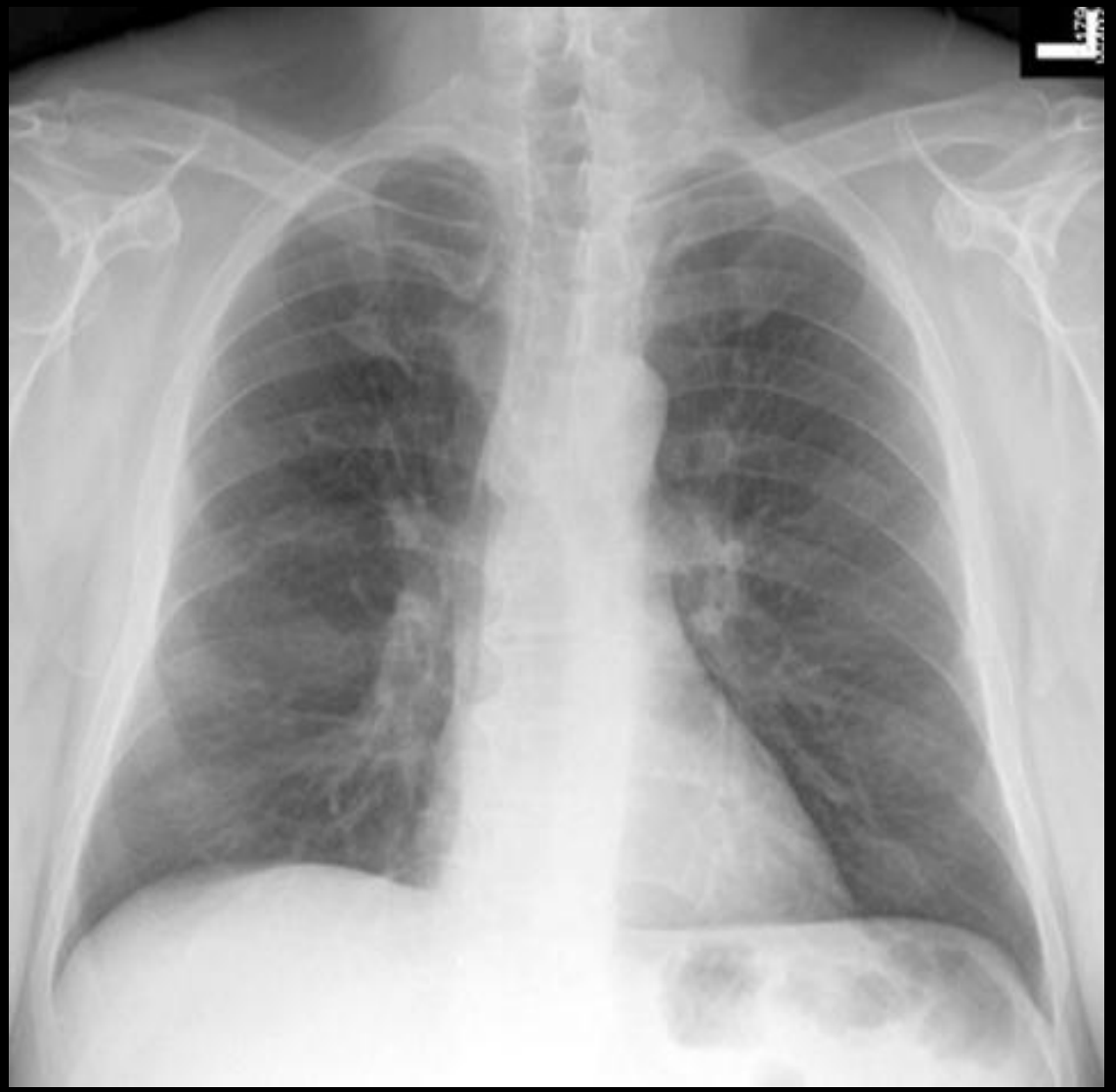
Radiographic Density



CXR有四種不同的Density

Air

Fat



Water
(soft tissue)

Metal
(bone)

PA or AP View

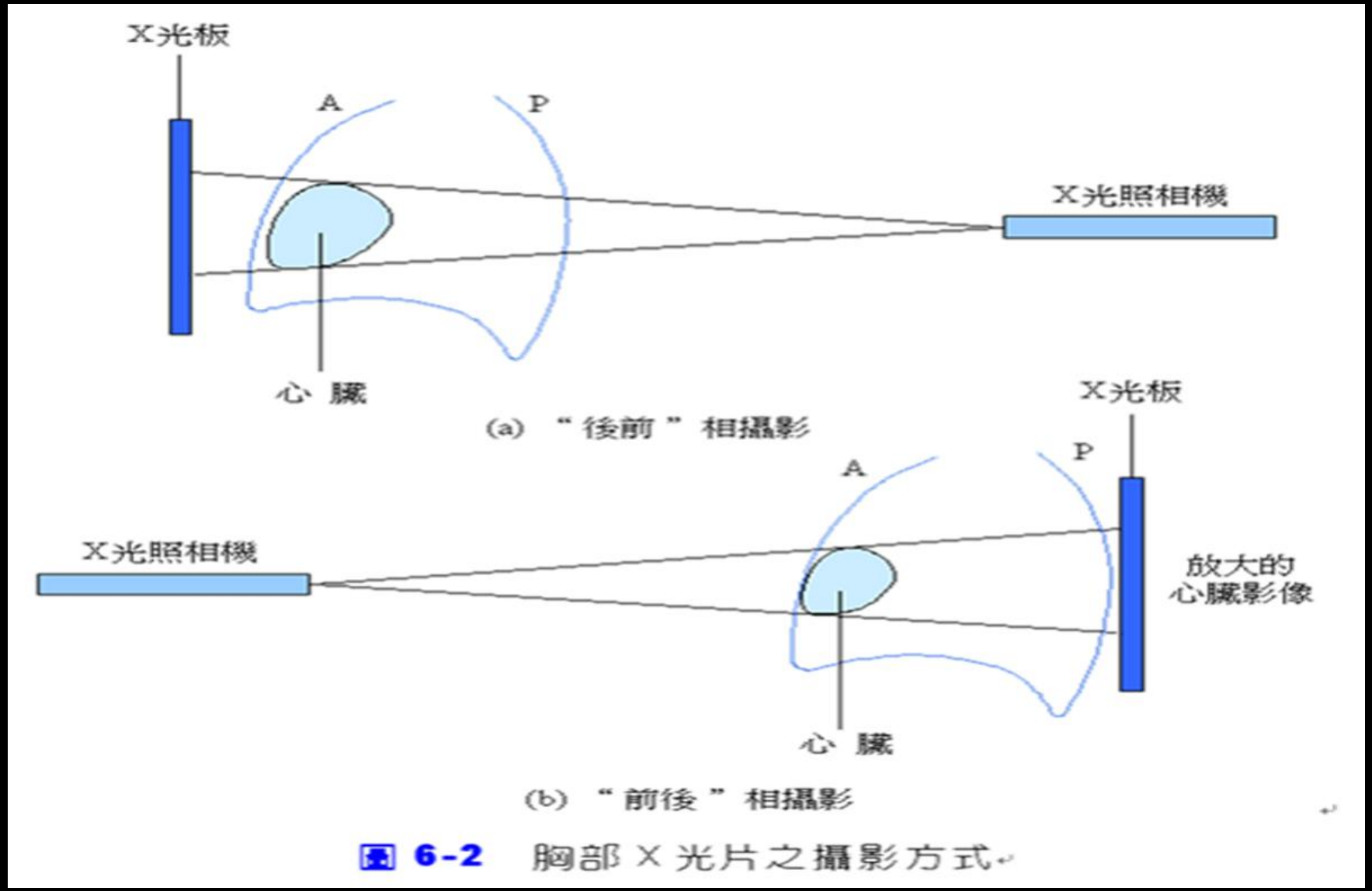


圖 6-2 胸部X光片之攝影方式

胸部X光片判讀要領

胸部X光片判讀要領

- 片子本身
  - 病人基本資訊
  - 照相品質
  - 照相姿勢
- 相關知識
  - 了解正常解剖學構造及影像
  - 以pattern作為鑑別診斷的依據
  - 了解疾病的典型及非典型之影像表現
- 判讀技巧
  - 固定且系統性的判讀順序，避免遺漏
  - 比較不同階段的影像，以病灶的時序變化作為鑑別診斷的依據
  - 利用不同照相姿勢
  - 搭配臨床資訊

感謝胸腔暨重症學會課程演講者投影片的傳承

常見CHEST IMAGE的照相方式

- Chest PA(standing) view
- Chest Lateral (left, right)
- Chest AP view
- Lordotic view
- Decubitus view (left, right)
- Chest echography (ultrasonography)
- Chest CT
- Chest MRI
- Chest PET

PA(posterior-anterior) view

- 距離射源180cm
- 胸部抵住置片箱
- 手背放在腰部
- 手肘盡可能向前壓把肩胛骨移開肺野區
- 吸飽氣，閉住氣

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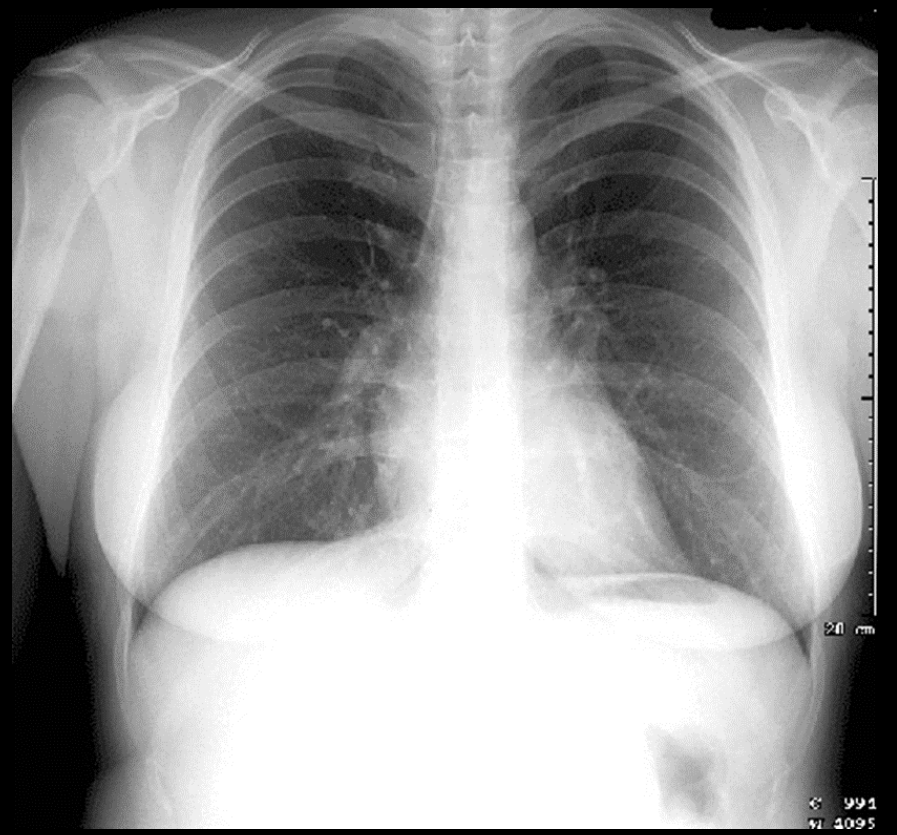
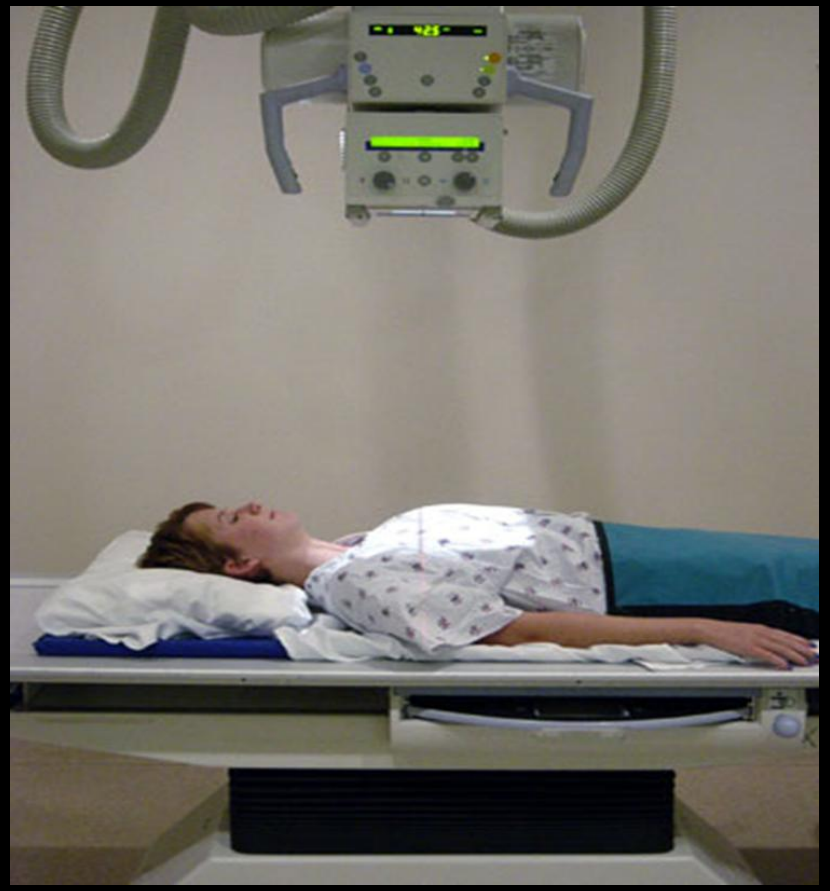
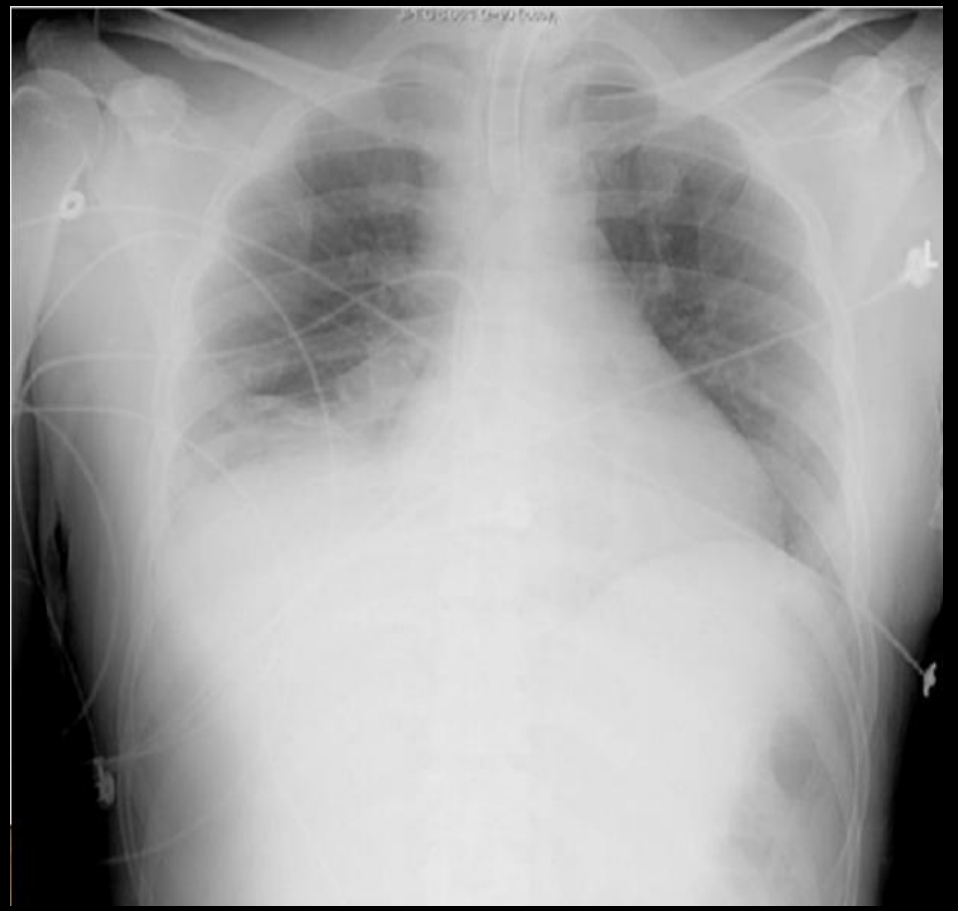


AP(anterior-posterior) view

- 距離射源
  100-120cm





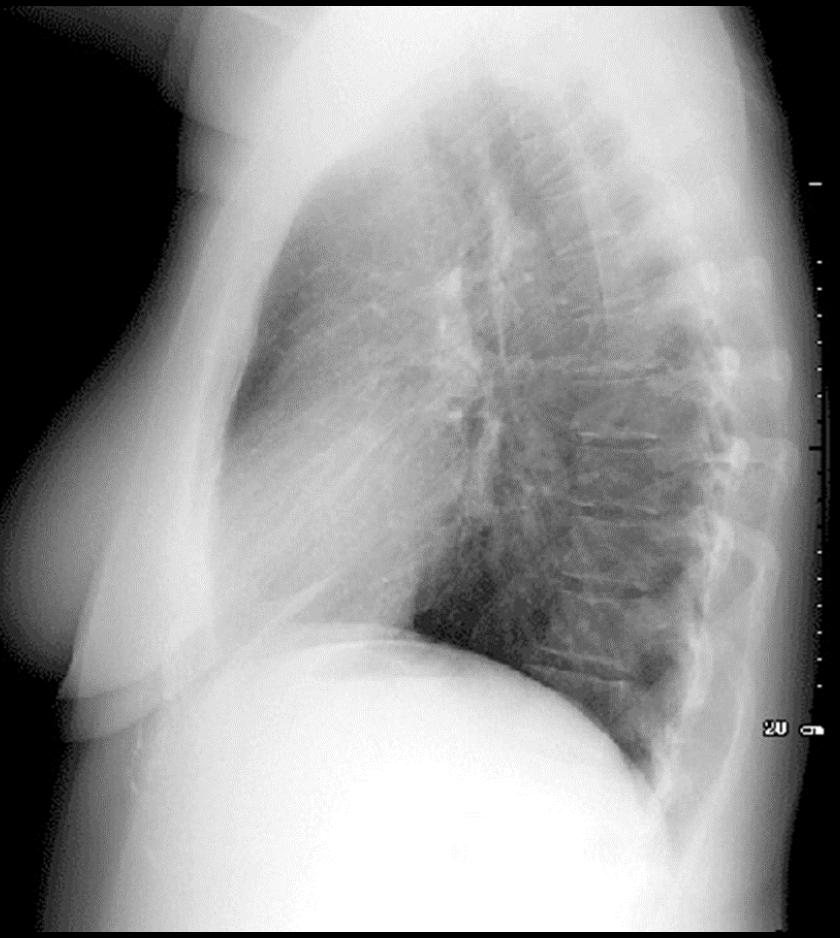
判斷PA or AP view

- **PA view特徵**
  - **Scapula打開**
  - **Clavicle 平放**
  - **Gastric bubble跟colon gas上飄**

- **AP view 特徵**
  - **Scapula未打開, Clavicle上揚, Gastric bubble看不見**
  - **如果病人身上一堆管路跟EKG lead => AP view的可能性高**
  - **通常CXR比較poor expansion (平躺不易吸飽氣, critical病人不易配合)**
  - **通常病人姿勢較不端正(配合不良, 身體攣縮)**

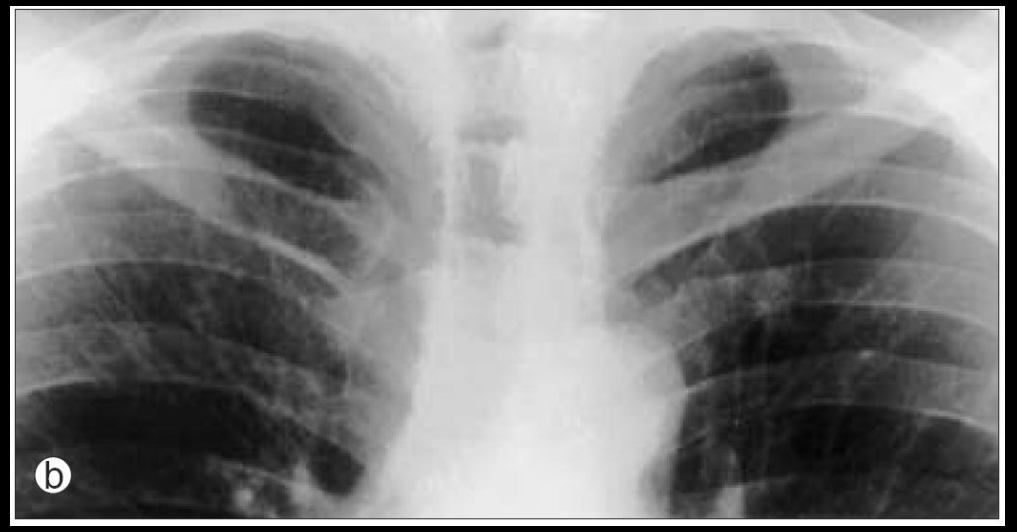
Lateral view

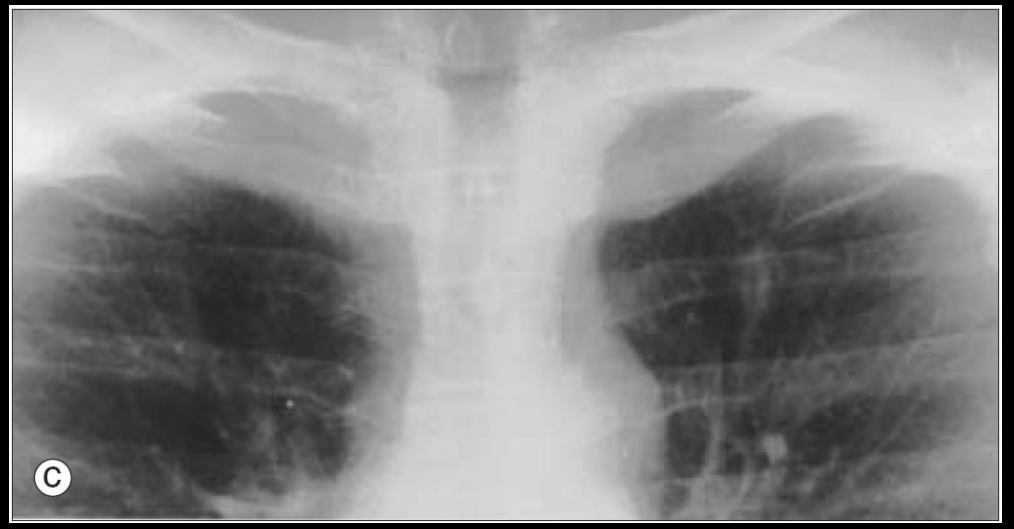
- 舉高雙臂
- 於深吸氣時攝影
- 看病灶位置選擇，如果lesion在左邊，則安排left lateral view



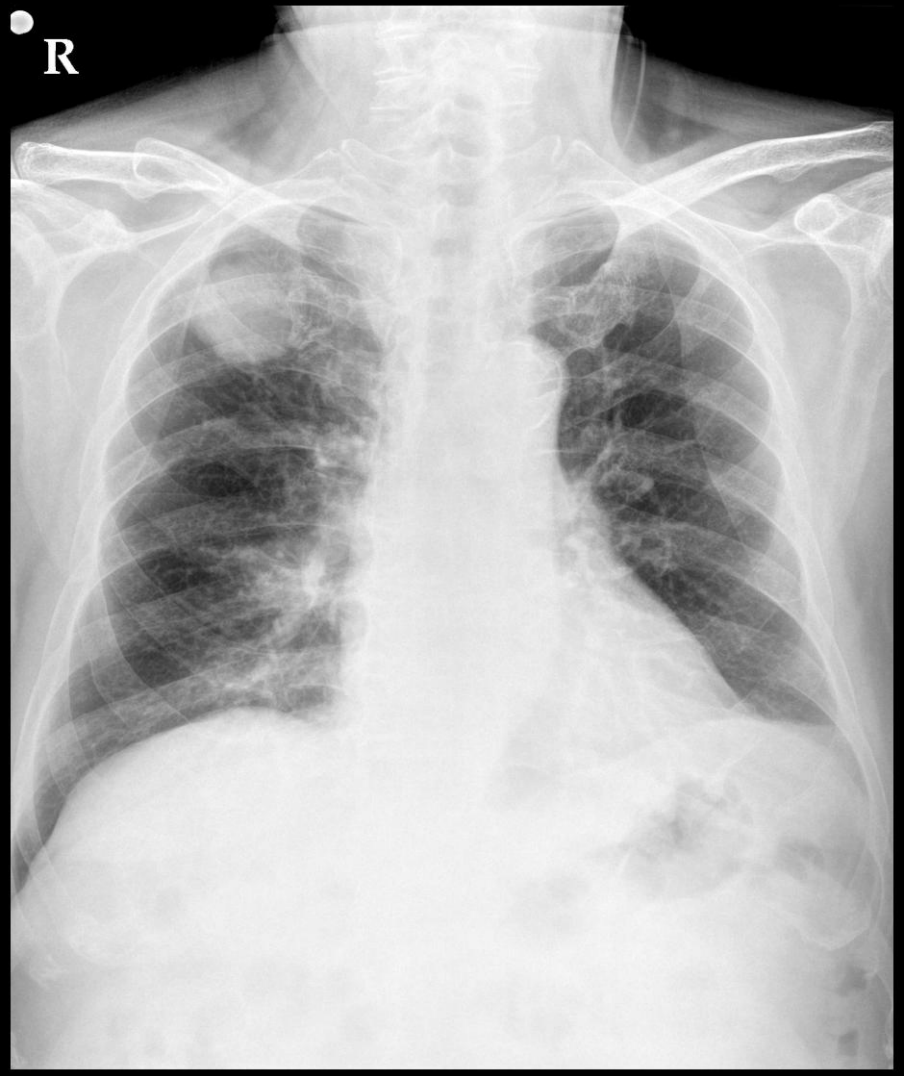
Lordotic view

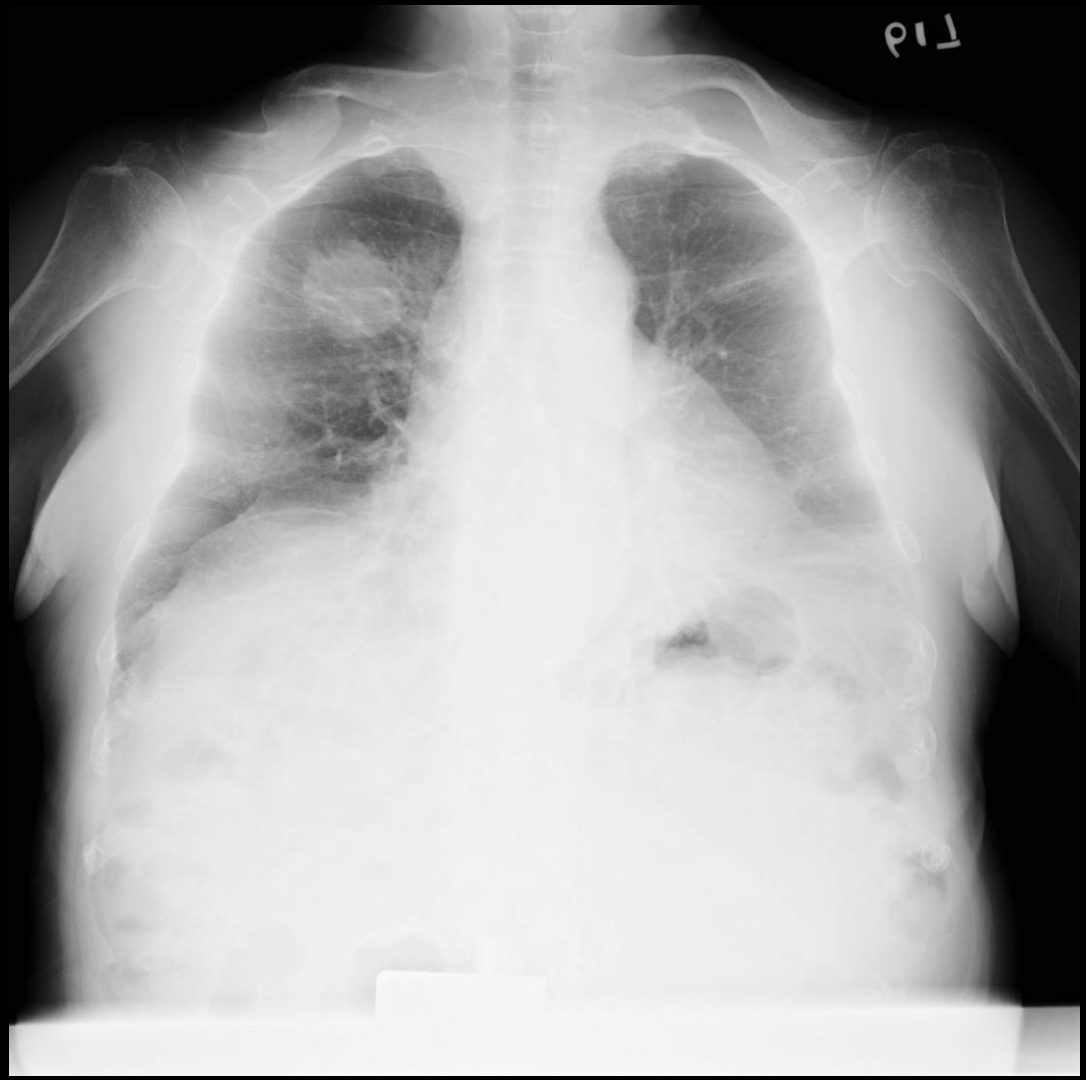
- 傾斜上半身約30度，使肩部靠近置片箱
- 用來確認在正面照容易被肋骨遮蔽區域的病灶
  - 肺尖
  - 右中葉
  - 左肺舌葉





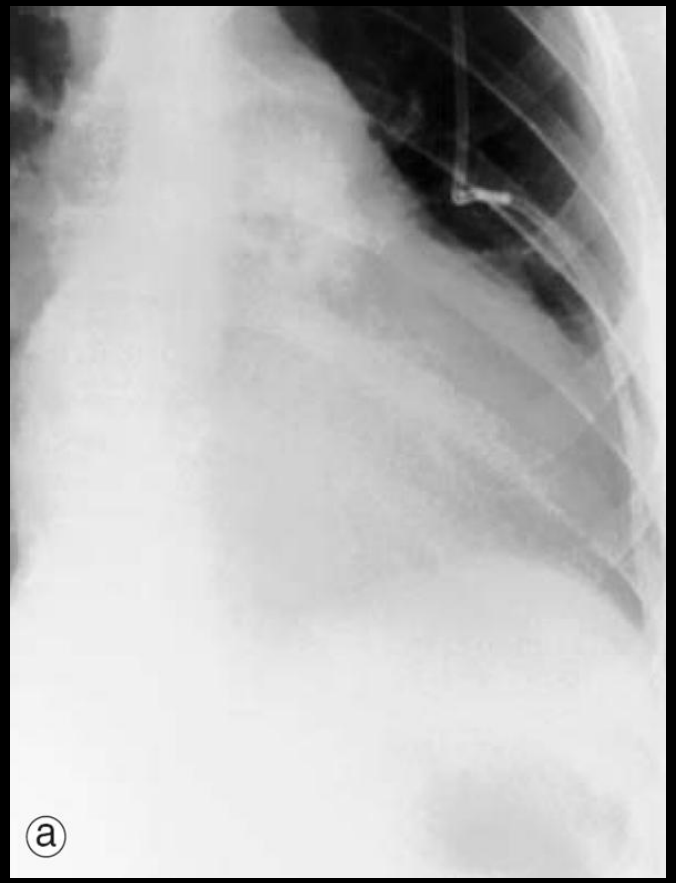
Lordotic view

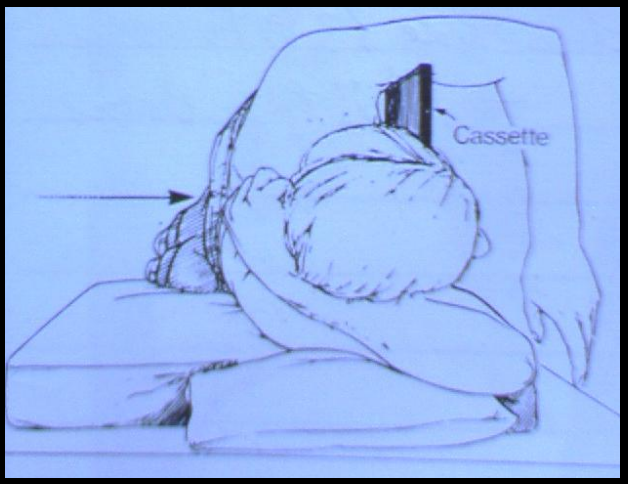


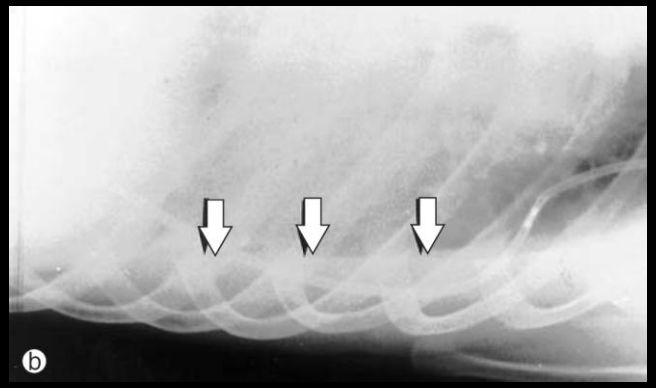


Decubitus View

- DDx for costophrenic (CP) angle blunting
  - Pleural effusion
  - Pleural thickening
- Detect pneumothorax
- Detect ball-in-hole sign
  - Mycetoma

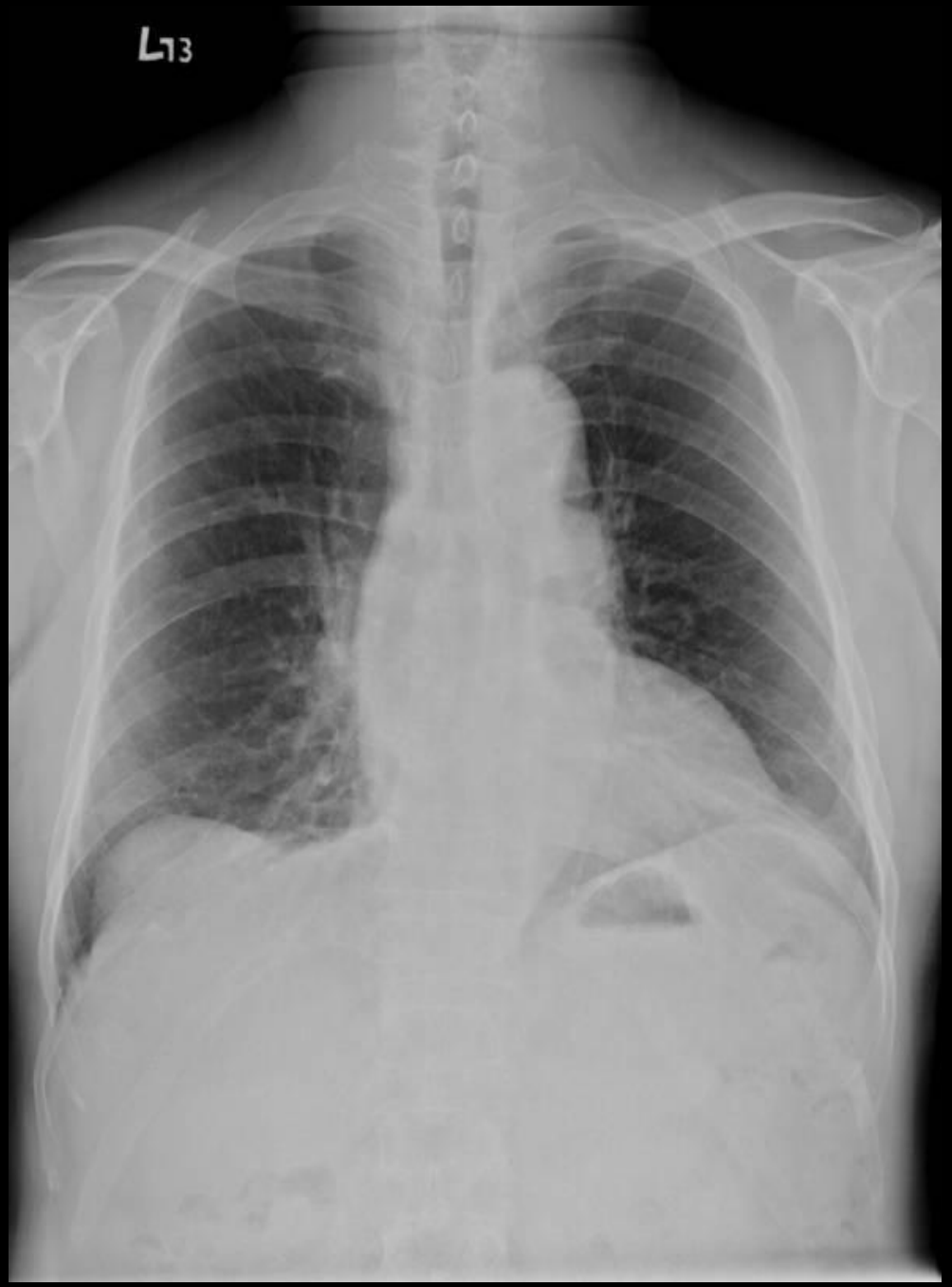


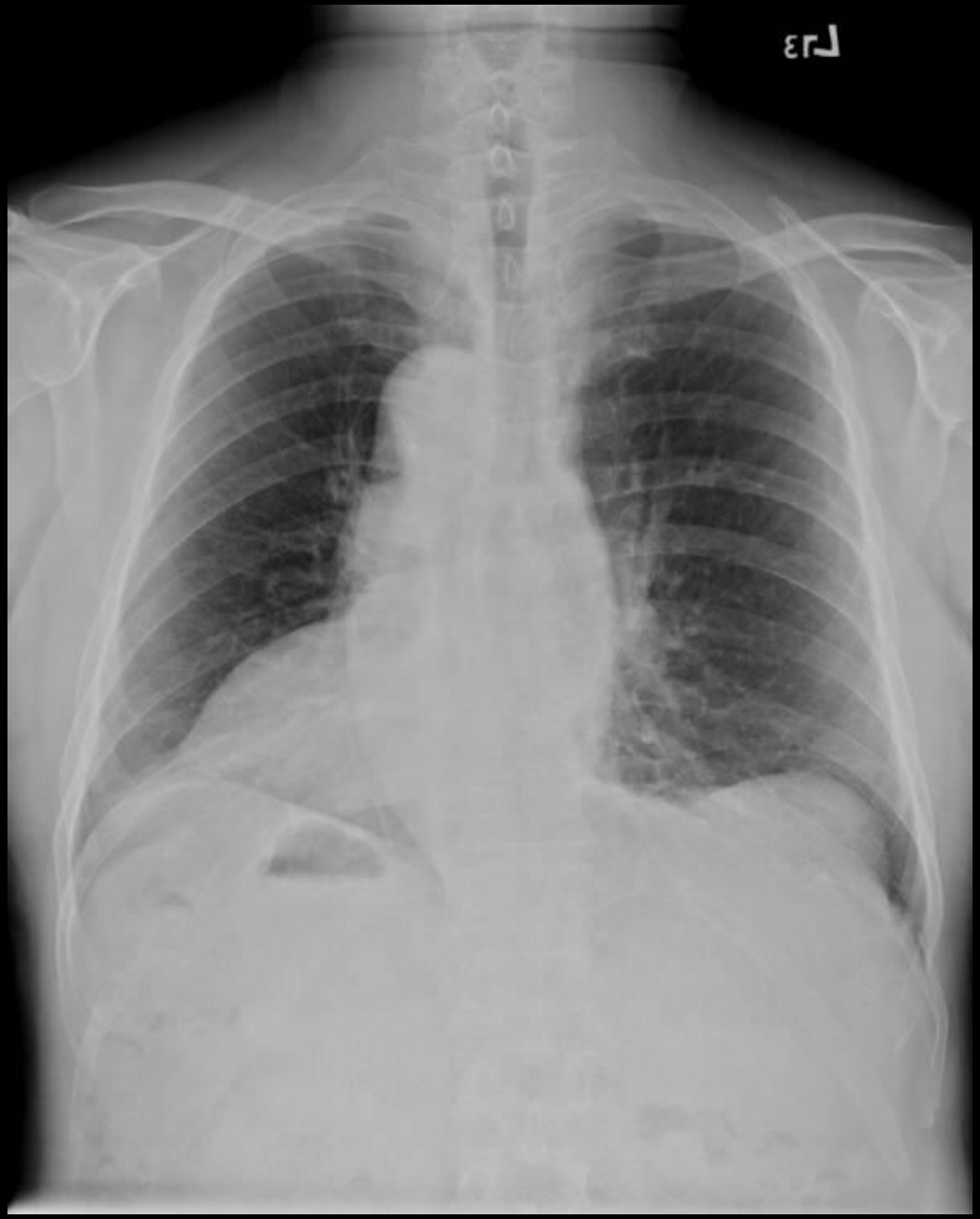


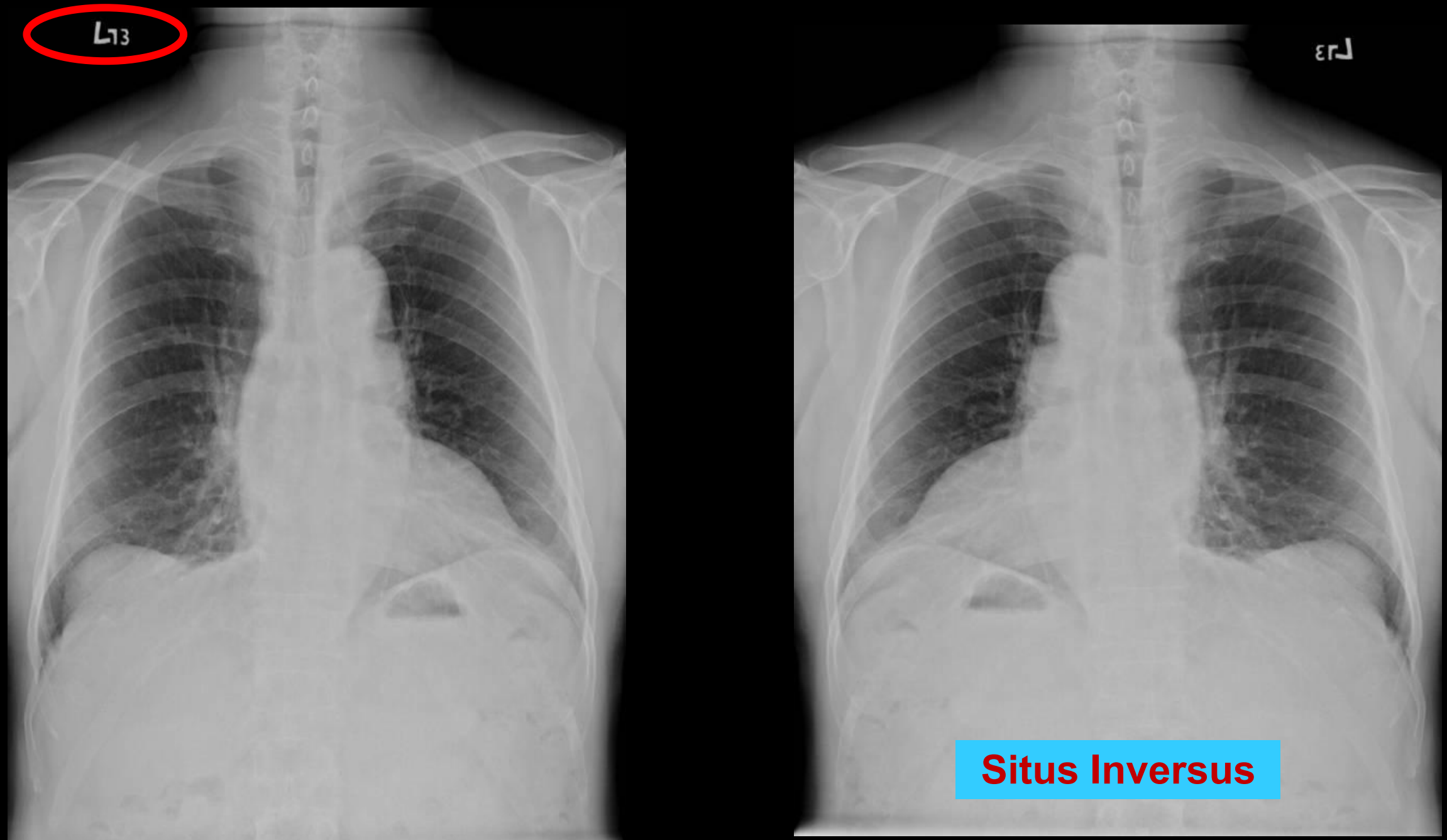


開始判讀前的基本資訊

- 確認病人的姓名、病歷號及申請單號碼
- 確認左或右的字牌
- 做全般性的觀察(general screening)


L13


ER

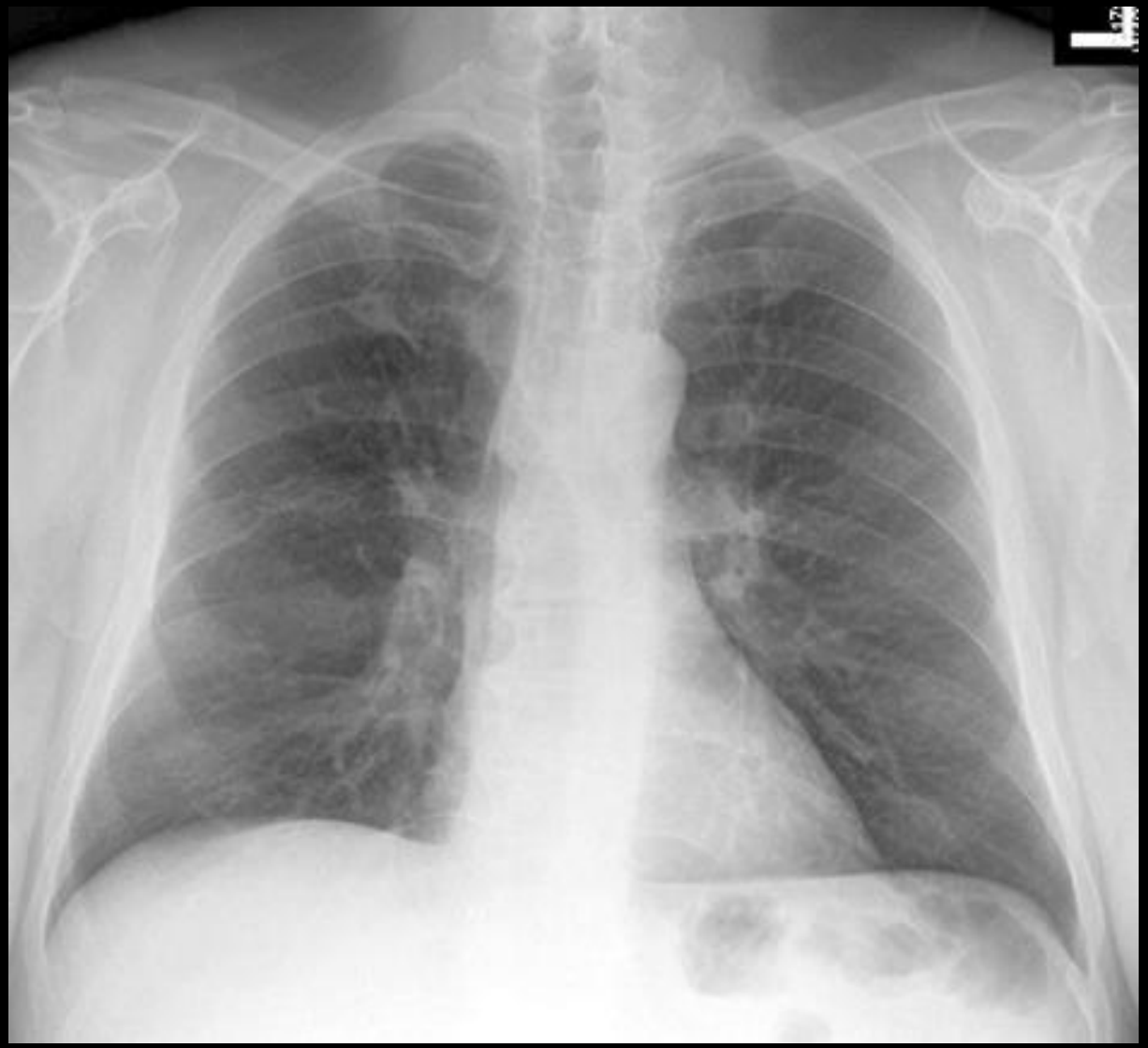

Situs Inversus

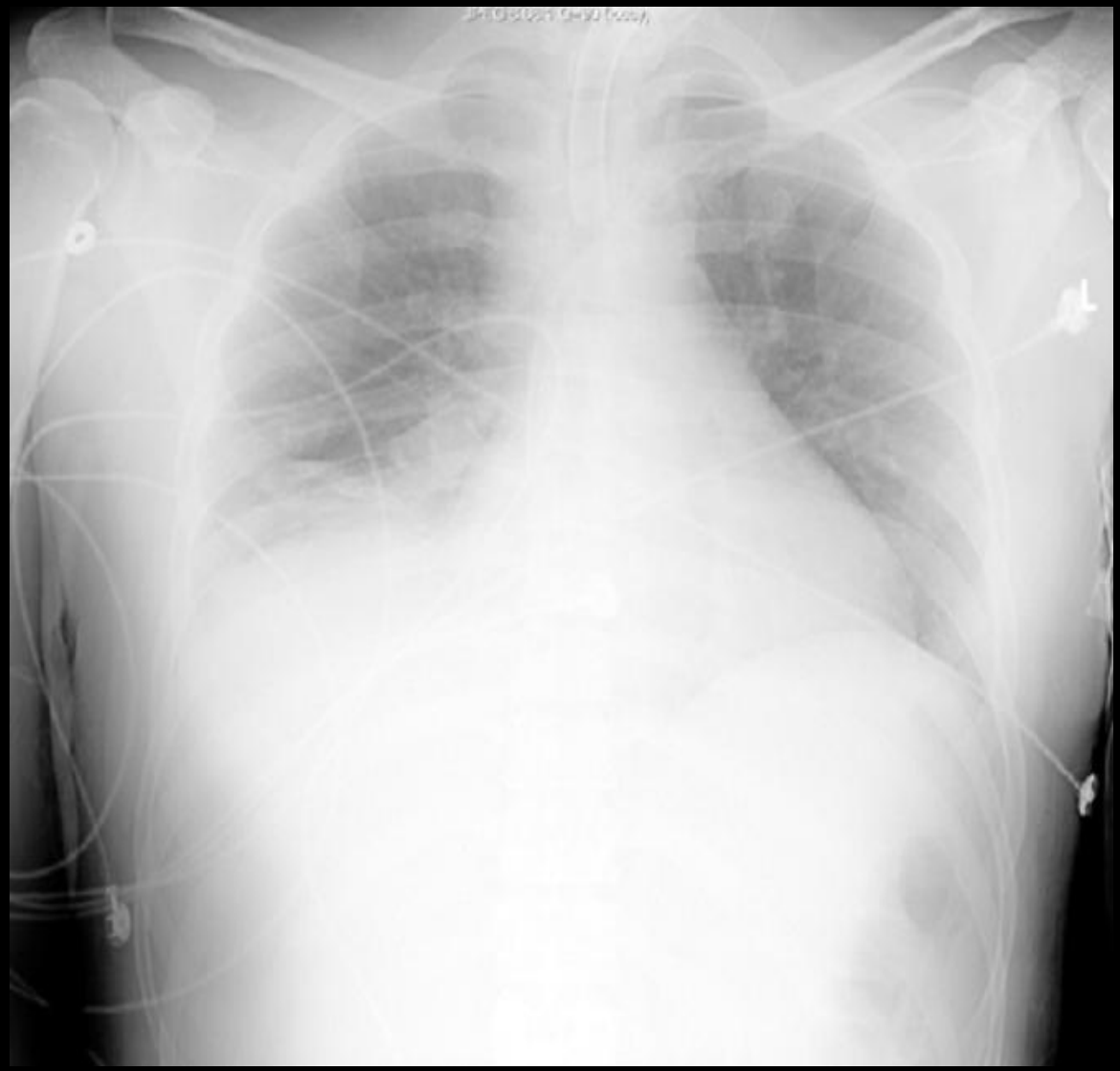
General Screening

- 照相的體位(PA or AP)
  - 觀察重點：
    - Scapula有沒有打開：看tip of scapula
    - Clavicle走向：站著照clavicle比較平，躺著照clavicle會變斜上揚
    - Gastric-bubble內是否有air-fluid level
  - 通常躺著照相，表示病情較為嚴重。

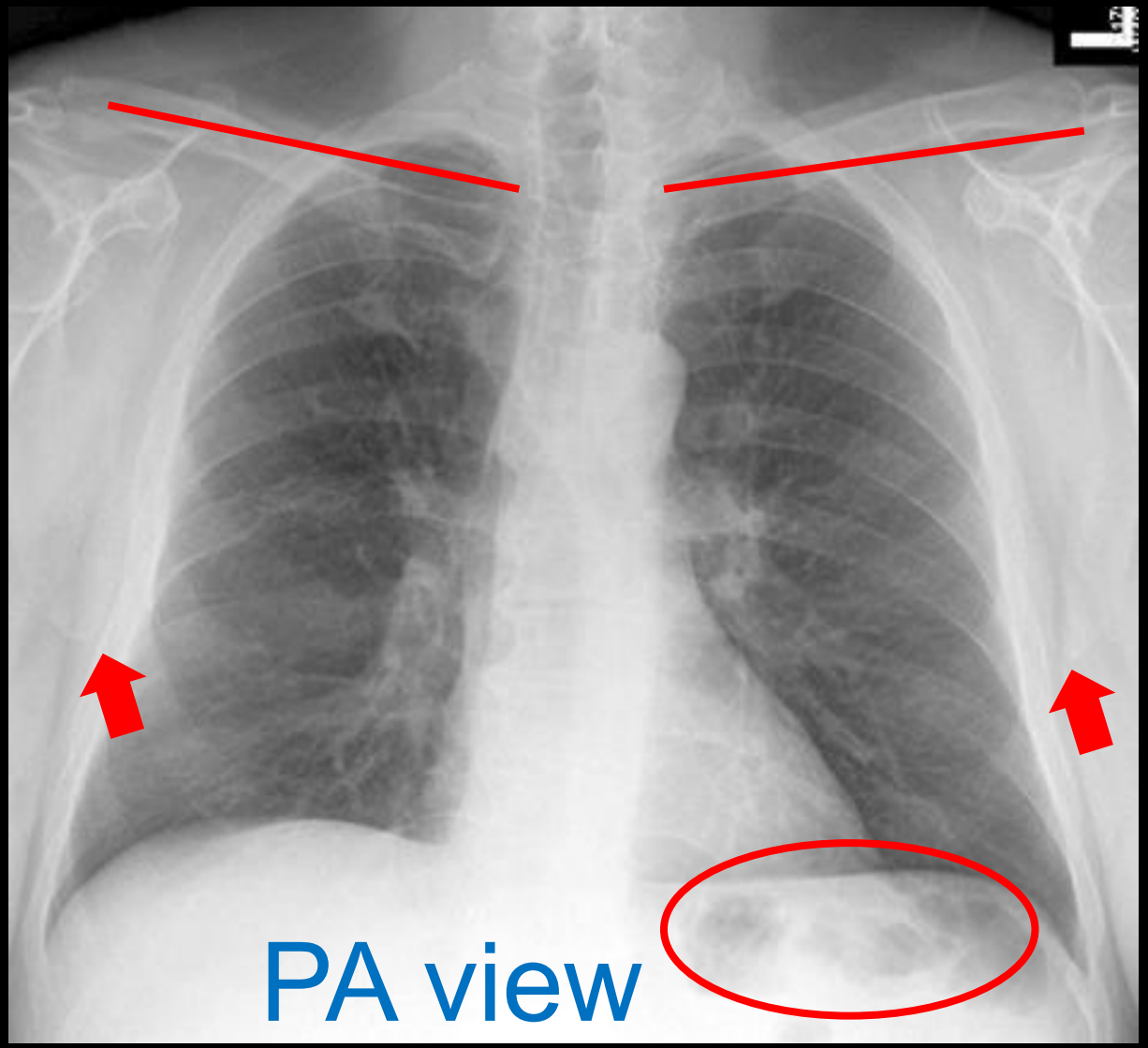
- 年齡
  - 第一根肋軟骨鈣化: 30-40 y/o
  - Tortuosity of aorta & calcification of aortic knob: 50-60 y/o

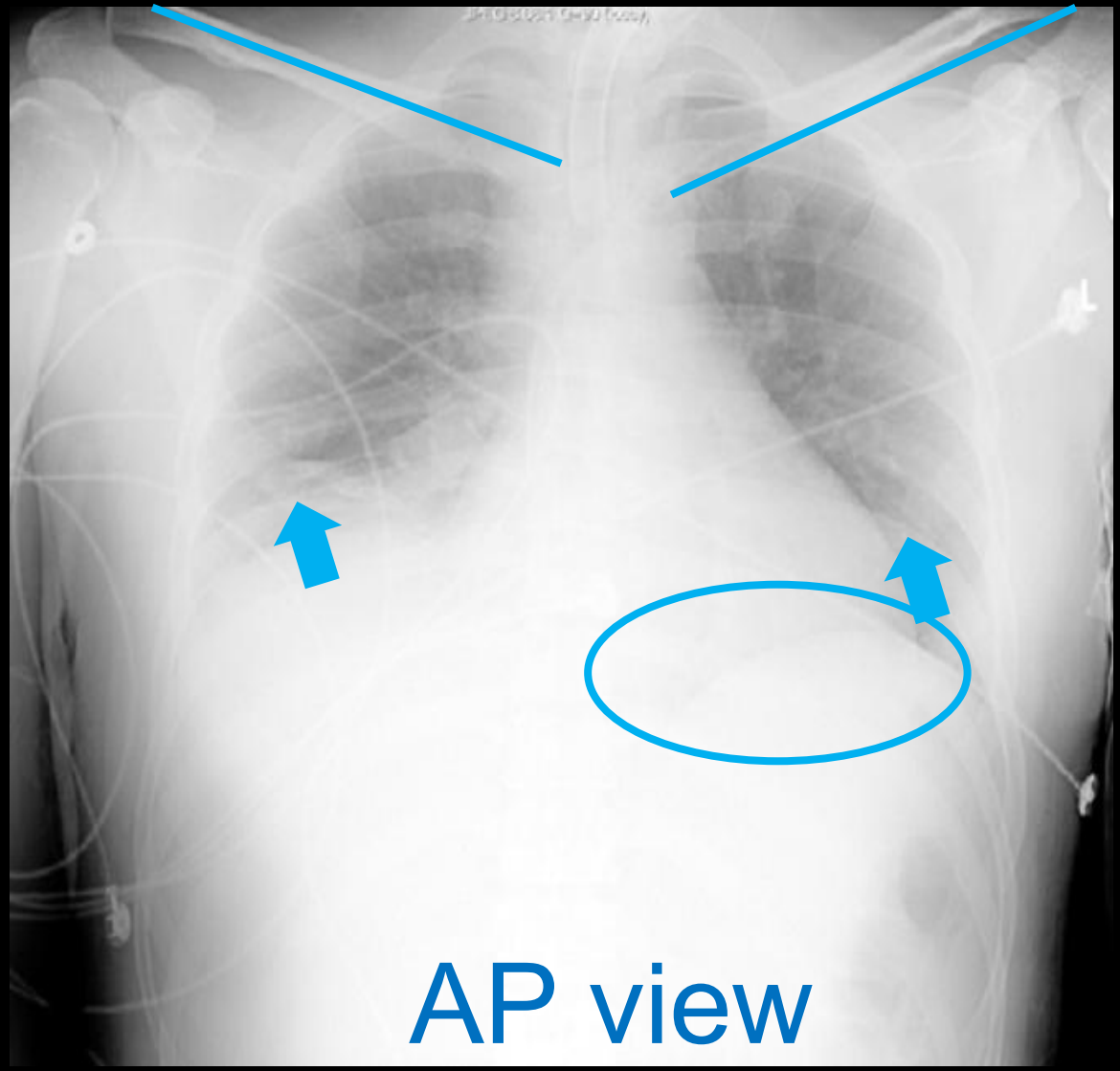
判斷PA or AP view





判斷PA or AP view

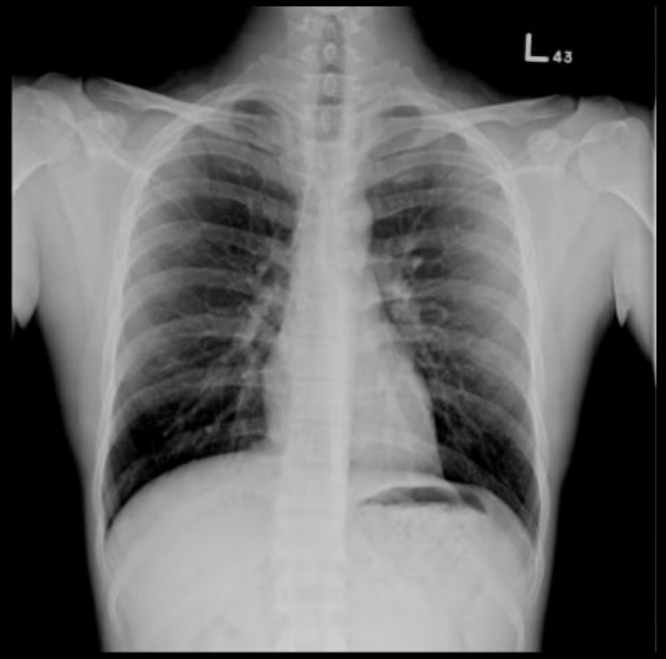




照相品質好不好

1.片子夠大:應該涵蓋

- **Neck**:以免loss trachea 病變
- **胸廓**:以免loss soft tissue/ bony lesions
- **Diaphragm**: sub-diaphragm lesions, 如liver, gastric bubble
- **Bil. CP angle**:以免loss少量P.E.

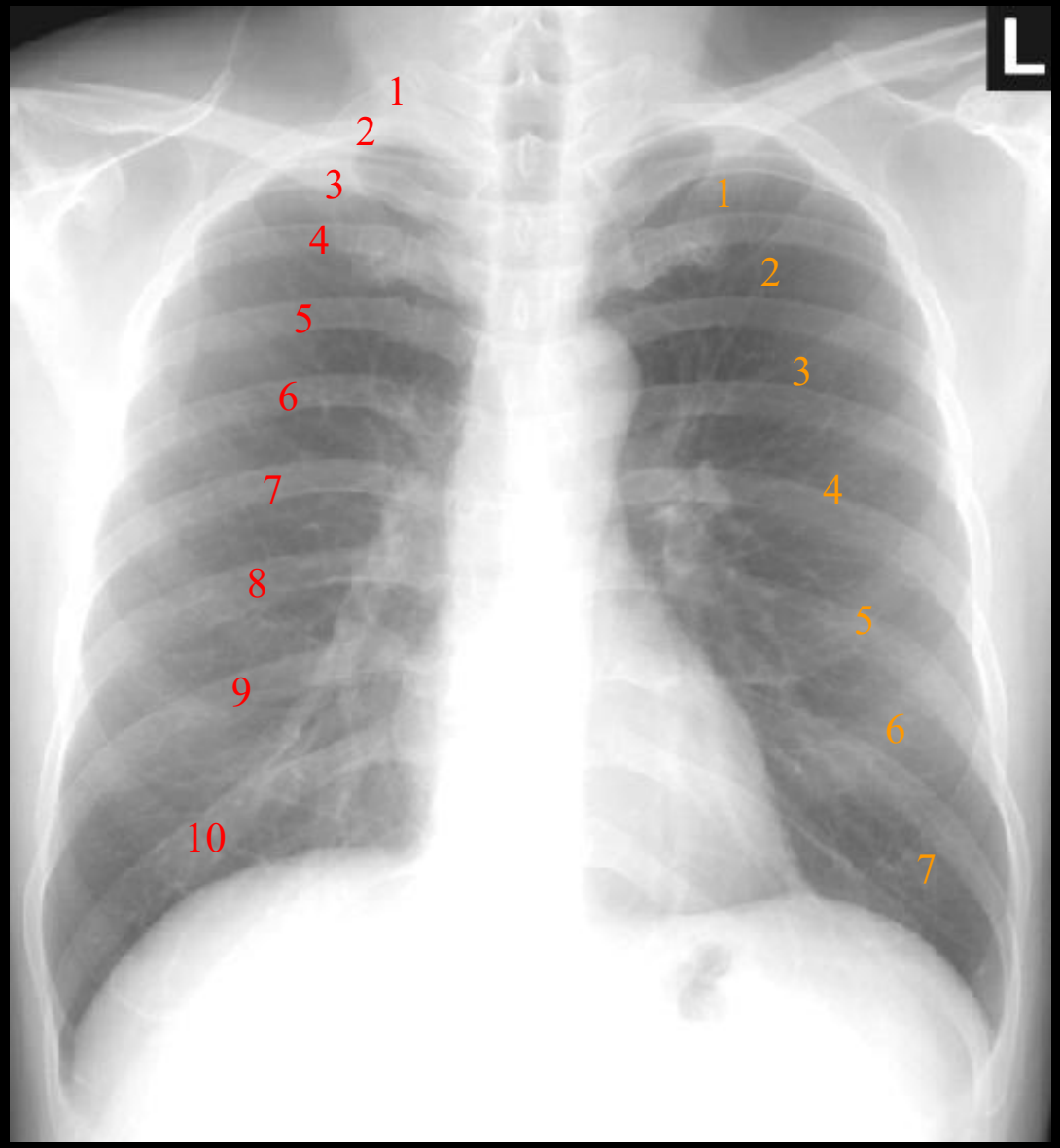


2.吸氣充足:

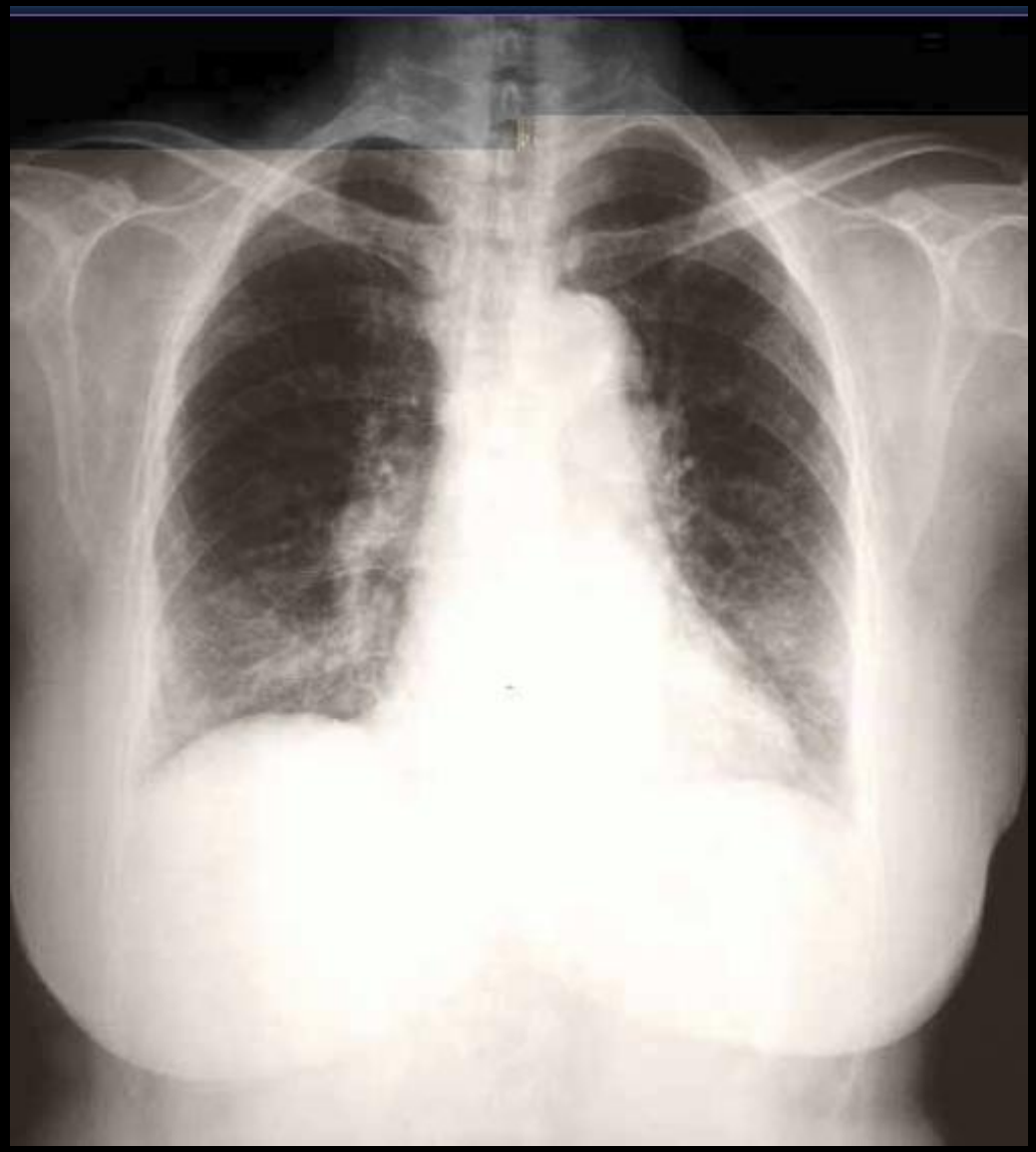
- 正常PA view : diaphragm中心
- 點與肋骨交會(**前6後10**)

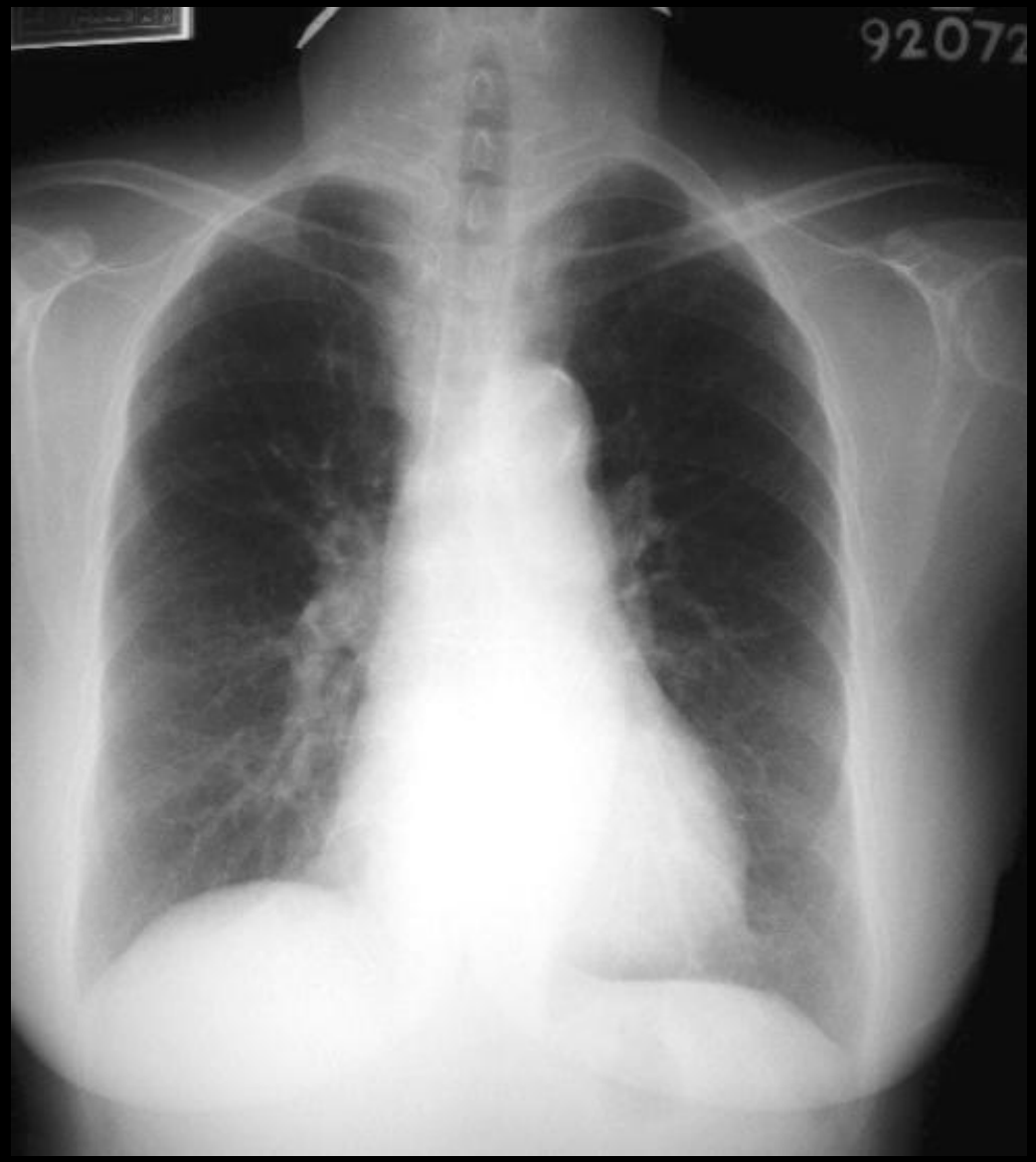
3.曝光適當

吸飽氣 – 肋骨前六後十



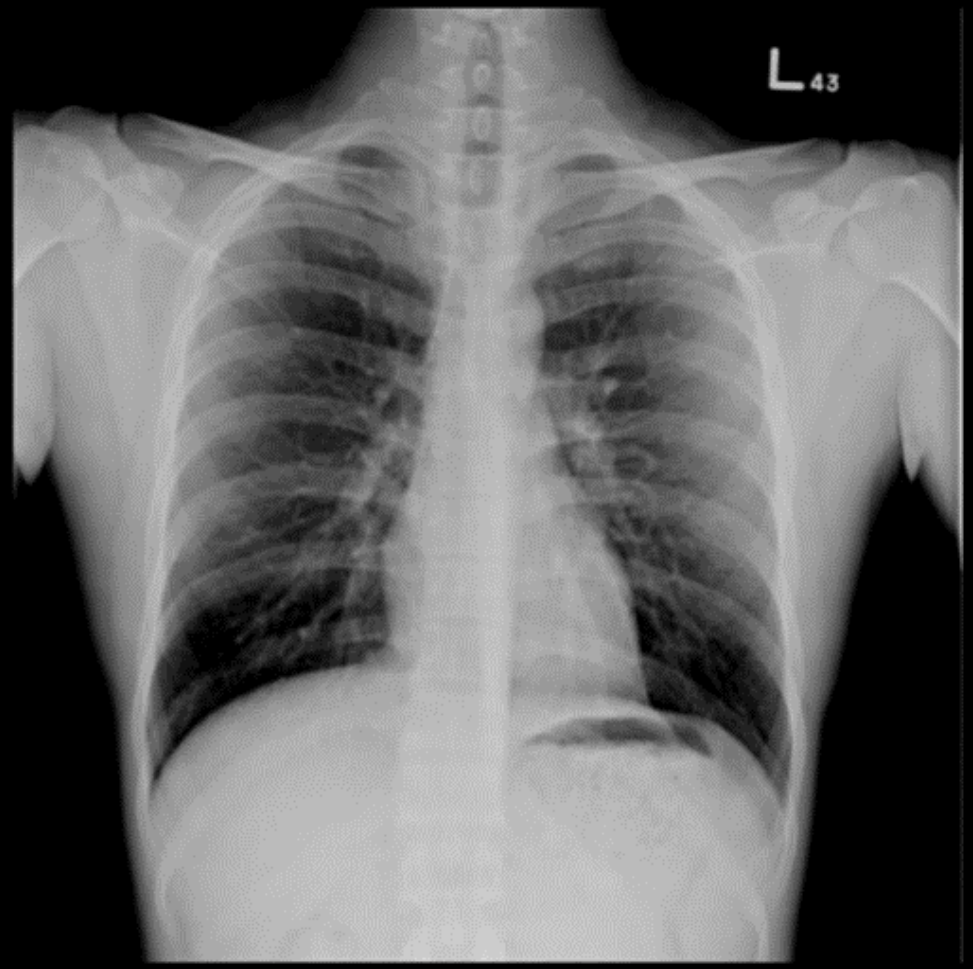
吐氣照 VS. 吸氣照



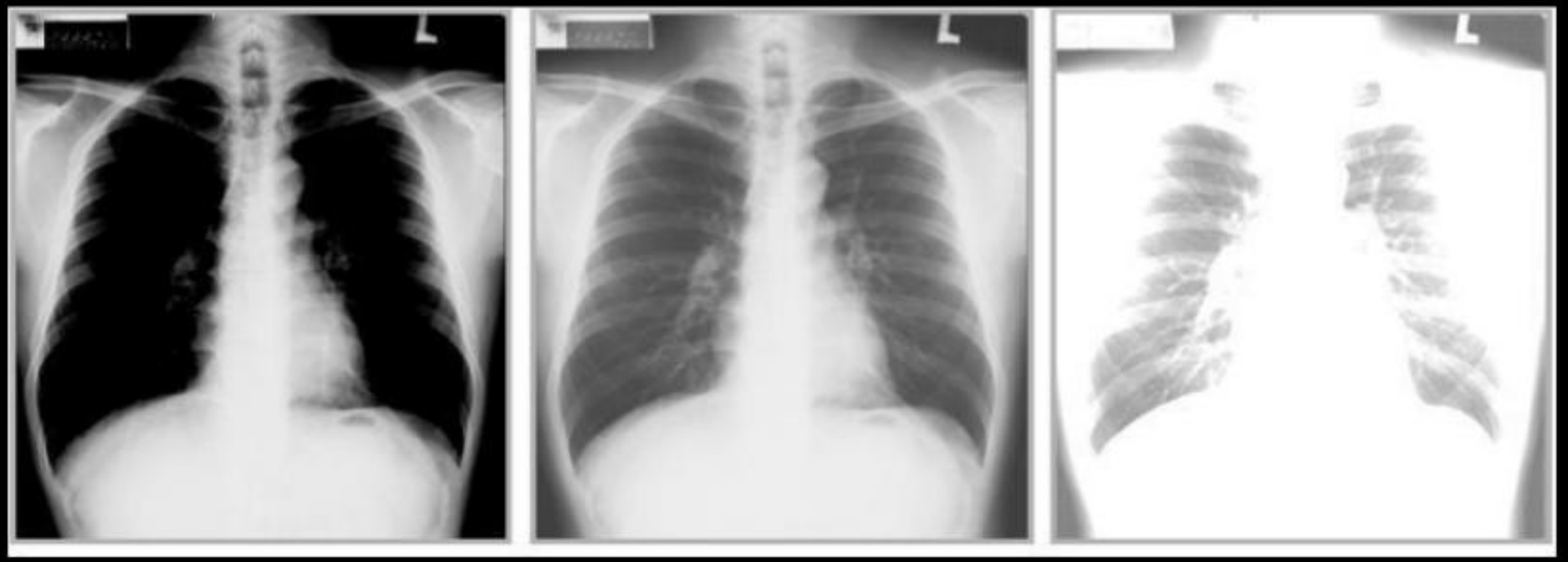


如何判斷曝光好不好?

- Trachea與carina隱約可見
- 下段vertebra清晰可見
- 脊柱間盤隱約可見
- 心臟後與橫膈下方的肺紋可識
- 兩側肺紋至外三分之一清晰可見



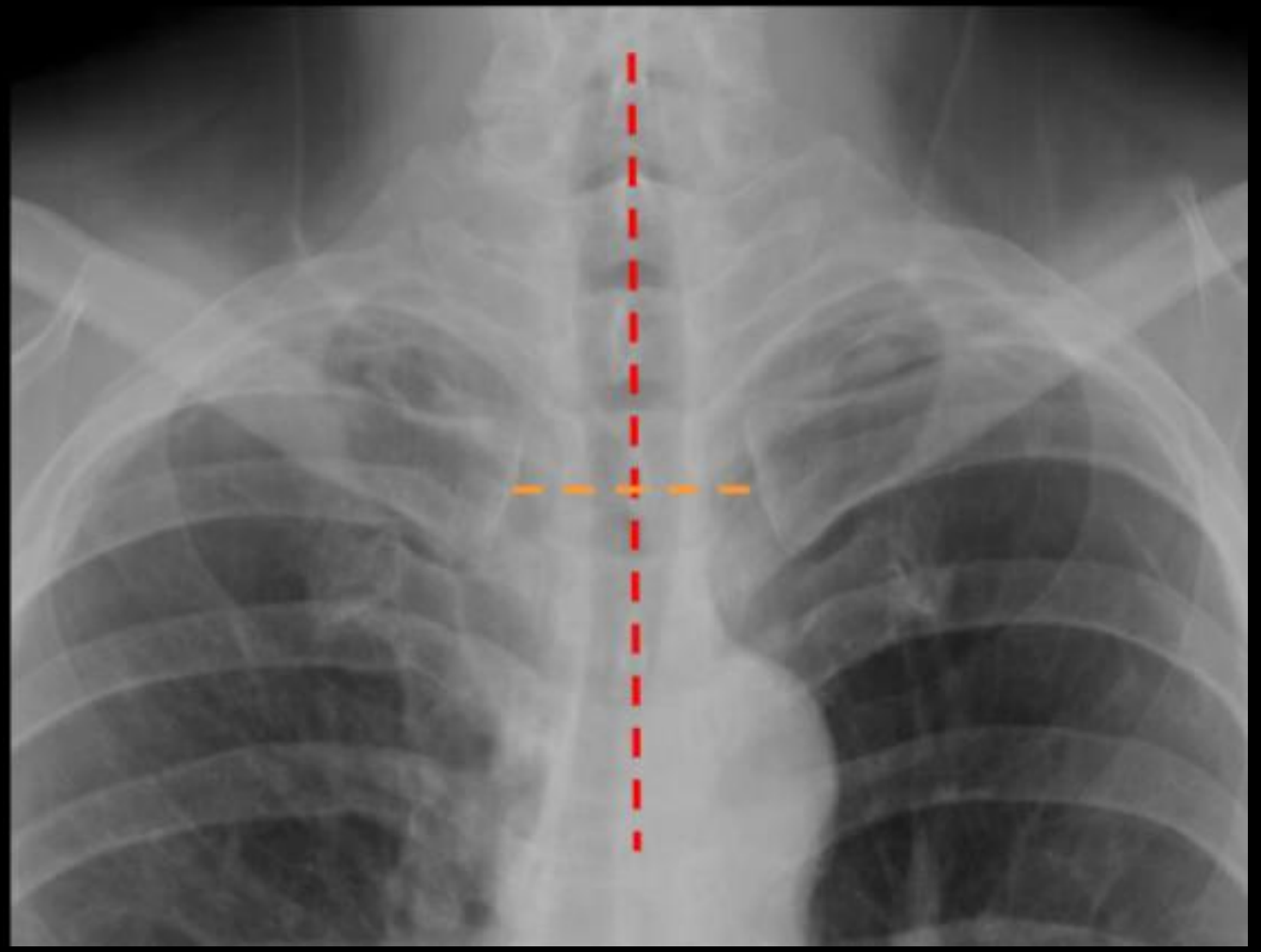
曝光良好的CXR



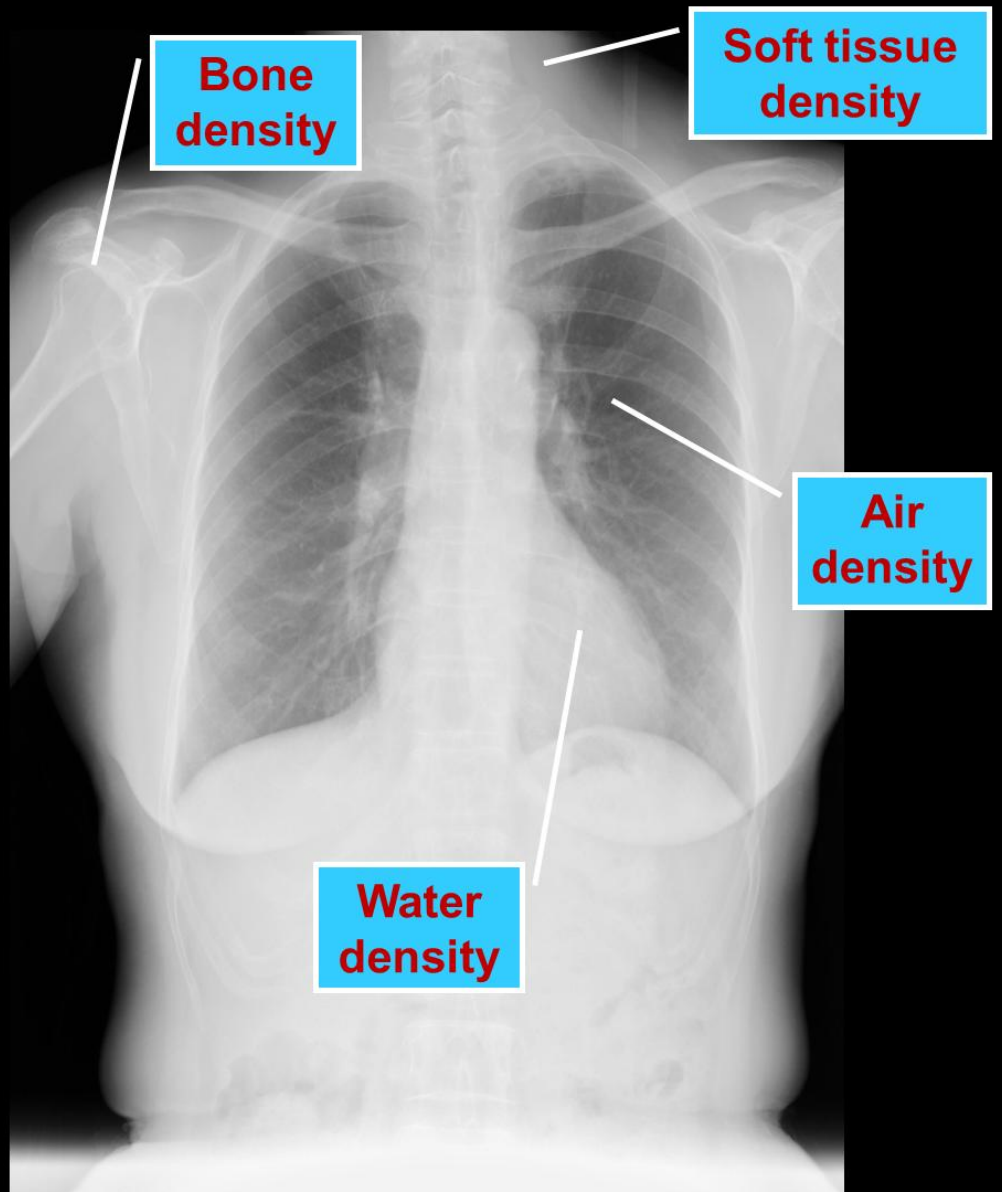
- 曝光太強:過黑，會miss tiny lesions
- 曝光適當
- 曝光太弱:過白，會miss 縱隔腔內、心臟後的病變

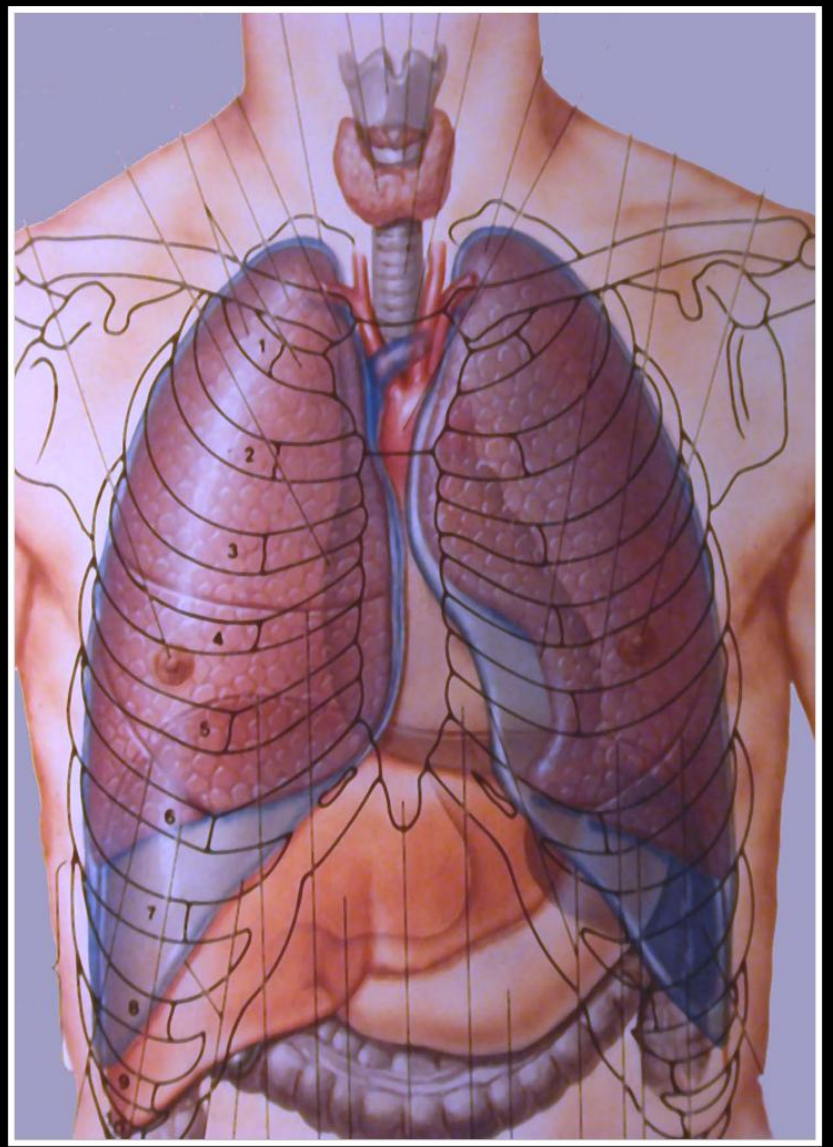
照像姿勢好不好(正不正)

- **Spinal process** 是否在兩鎖骨的中線
- **氣管是否居中**(較不一定,因氣管可能受 mediastinum 的影響)

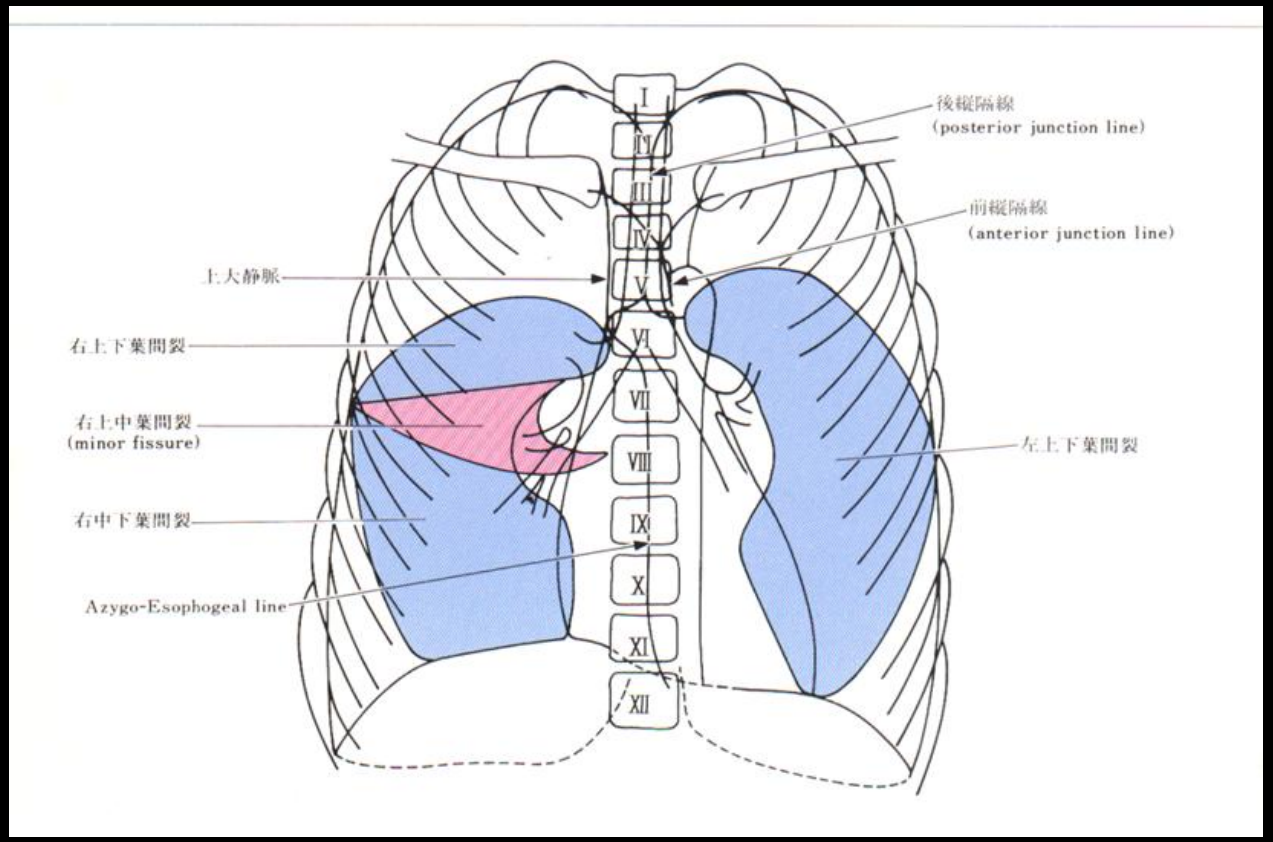


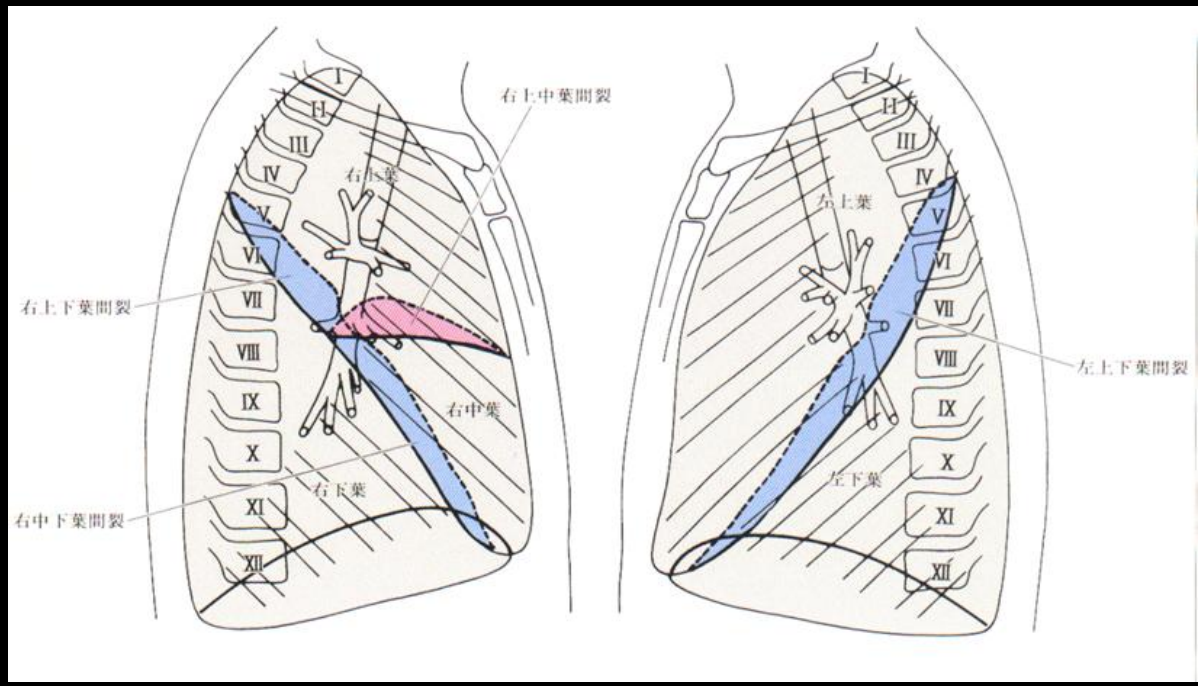
解剖構造


Bone density
Soft tissue density
Air density
Water density



解剖構造

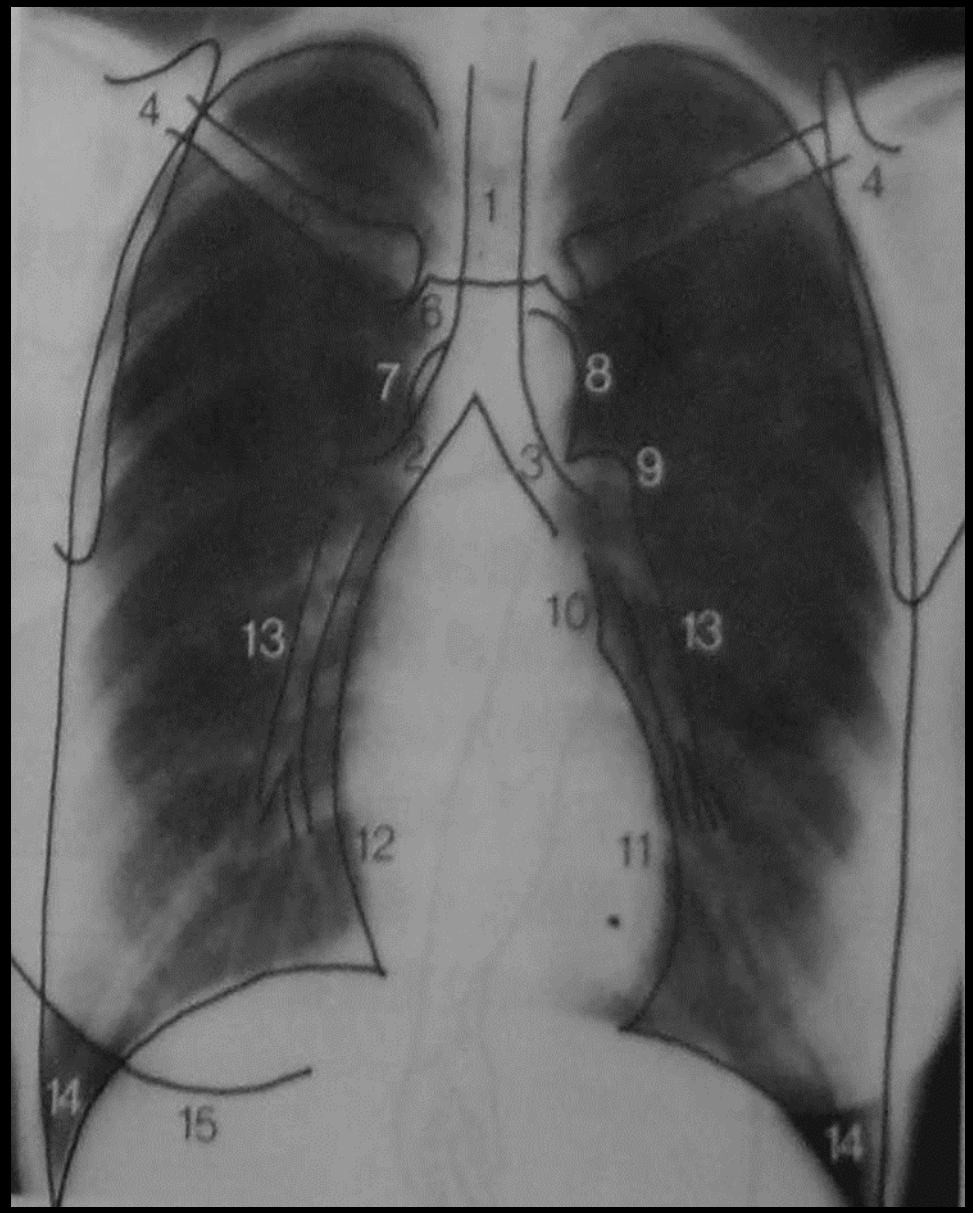

後縦隔線
(posterior junction line)
前縦隔線
(anterior junction line)
上大静脈
右上下葉間裂
右上中葉間裂
(minor fissure)
右中下葉間裂
Azygo-Esophogeal line
左上下葉間裂
I
II
III
IV
V
VI
VII
VIII
IX
X
XI
XII


右上中葉間裂
右上下葉間裂
右中下葉間裂
右中葉
右下葉
左上葉
左下葉
左上下葉間裂

肺葉與葉間裂

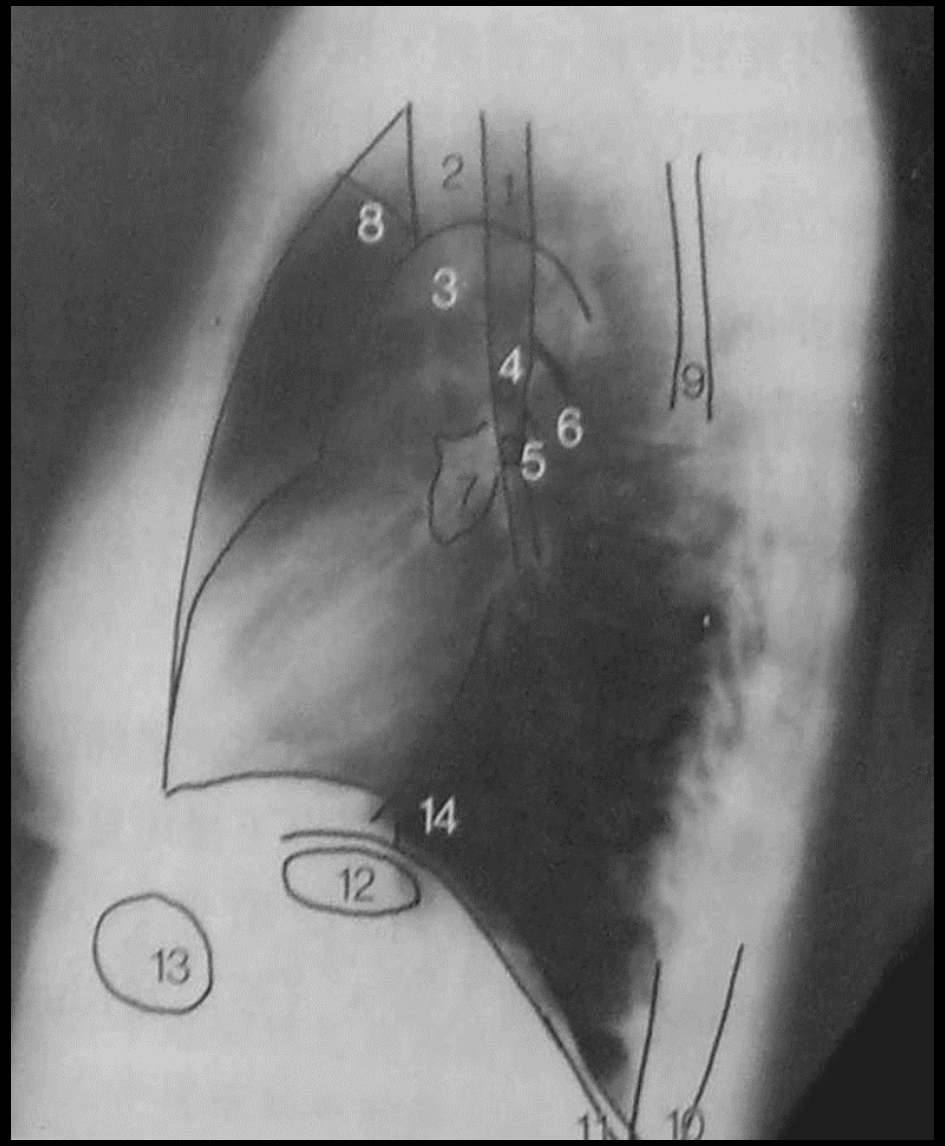
解剖構造 Frontal View

1. Trachea
2. Right main bronchus
3. Left main bronchus
4. Scapula
5. Clavicle
6. Manubrium Sterni
7. Azygous vein
8. Aortic arch
9. Left pulmonary artery
10. Left atrial appendage
11. Left heart border
12. Right heart border
13. Interlobar pulmonary artery
14. Costophrenic angle
15. Breast shadow



解剖構造 Lateral View

1. Trachea
2. Pretracheal vascular bundle
3. Aortic arch
4. Right upper lobe bronchus orifice
5. Left upper lobe bronchus orifice
6. Left pulmonary artery
7. Right pulmonary artery in pretracheal oval
8. Axilla
9. Scapula
12. Gastric bubble
13. Transverse colon
14. Inferior vena cava



閱片順序 Alphabetical approach

- Airway: tracheobronchial tree
- Bone: thoracic skeleton
- Cardiac: heart and mediastinum
- Diaphragm: diaphragm and costophrenic angle
- Extrapulmonary: soft tissue, neck, upper abdomen, etc
- Field: lung field
- Gastric: gastric bubble
- Hilum: hilum and pulmonary vessels

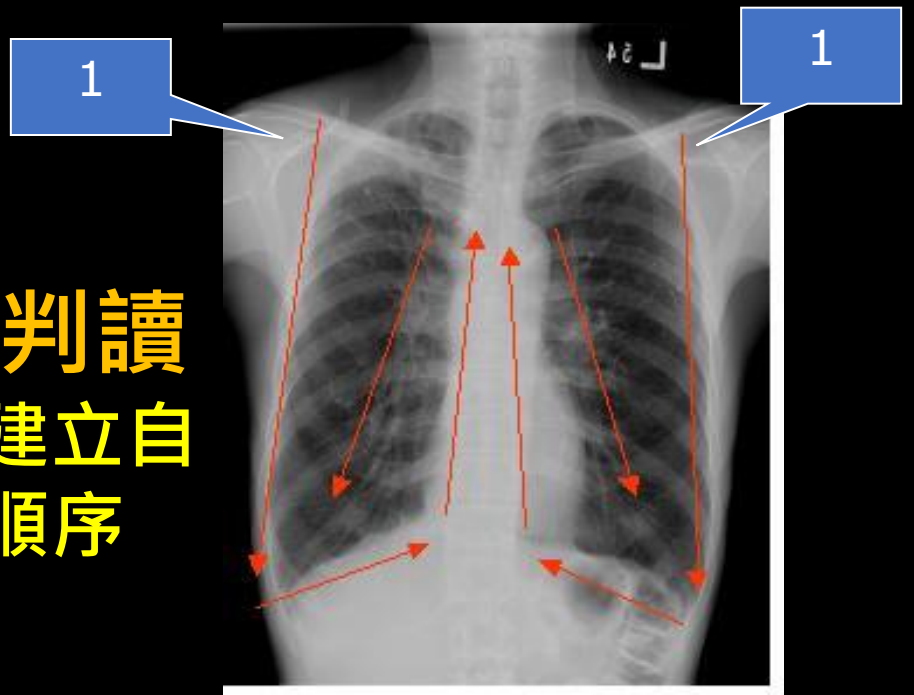
閱片順序 由外而內/由內而外

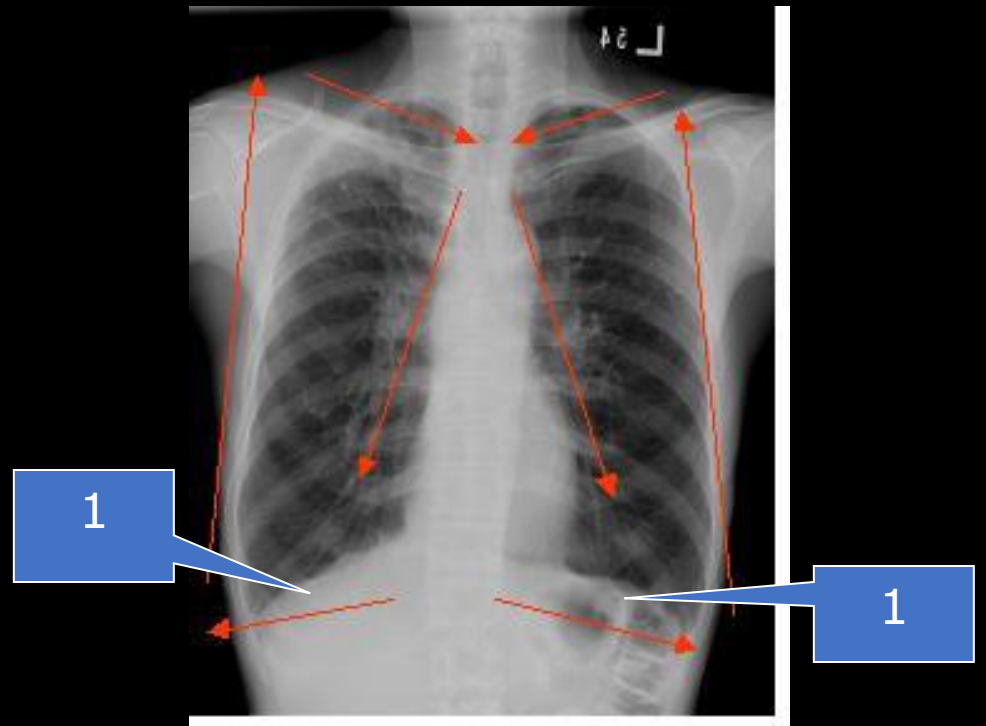
蕭主任游泳姿勢說

1. 胸廓 及其外軟組織
2. 橫膈 及其下軟組織
3. 縱膈
4. 大氣道
5. 肺門
6. 肺區 (肺裂、肺紋及支氣管分支)

Felson說

1. 橫膈 及其下軟組織
2. 胸廓 及其外軟組織
3. 縱膈
4. 大氣道
5. 肺門
6. 肺區(肺裂、肺紋及支氣管分支)





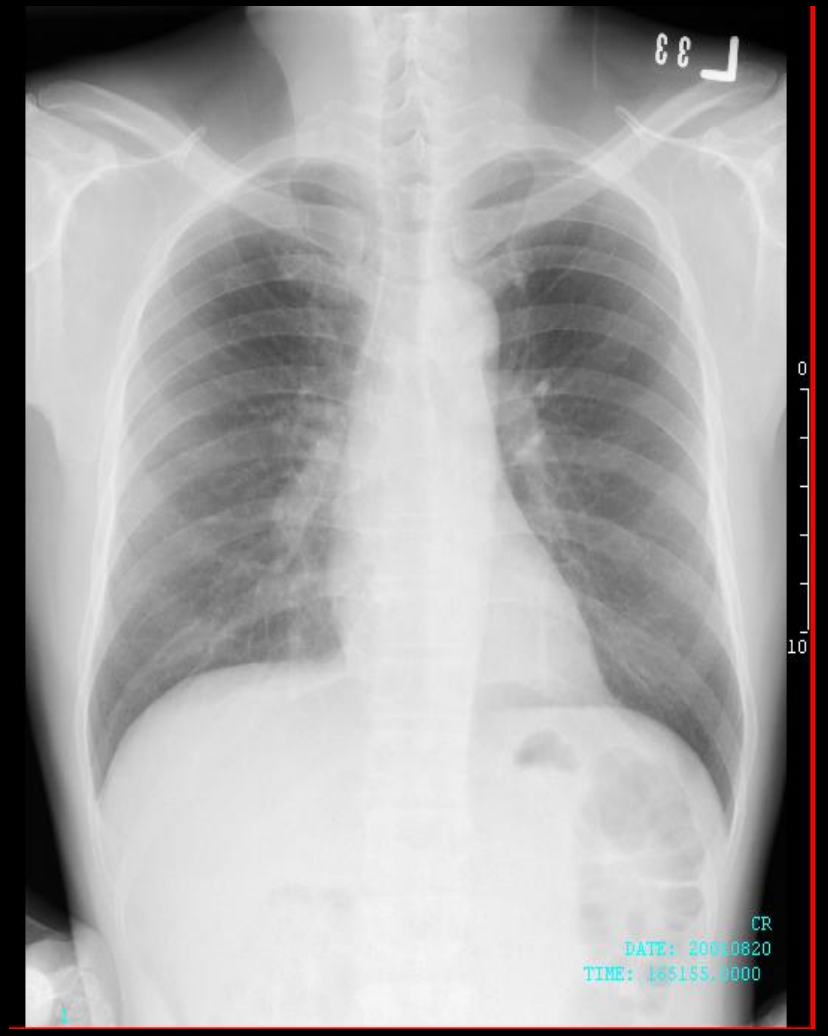
系統性的判讀

每個人可以建立自己的讀片順序

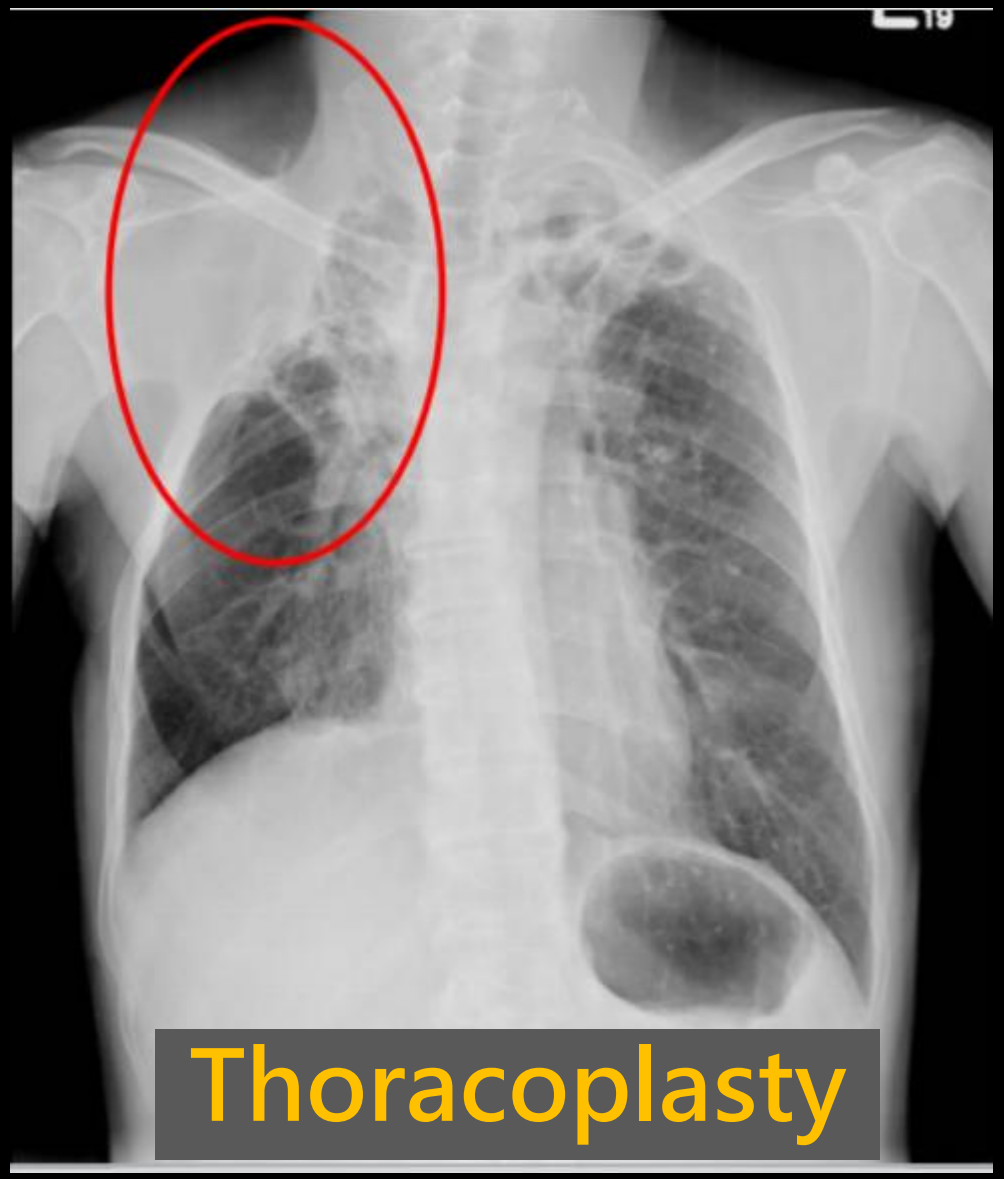
分區重點

分區重點：Bone (Frontal View)

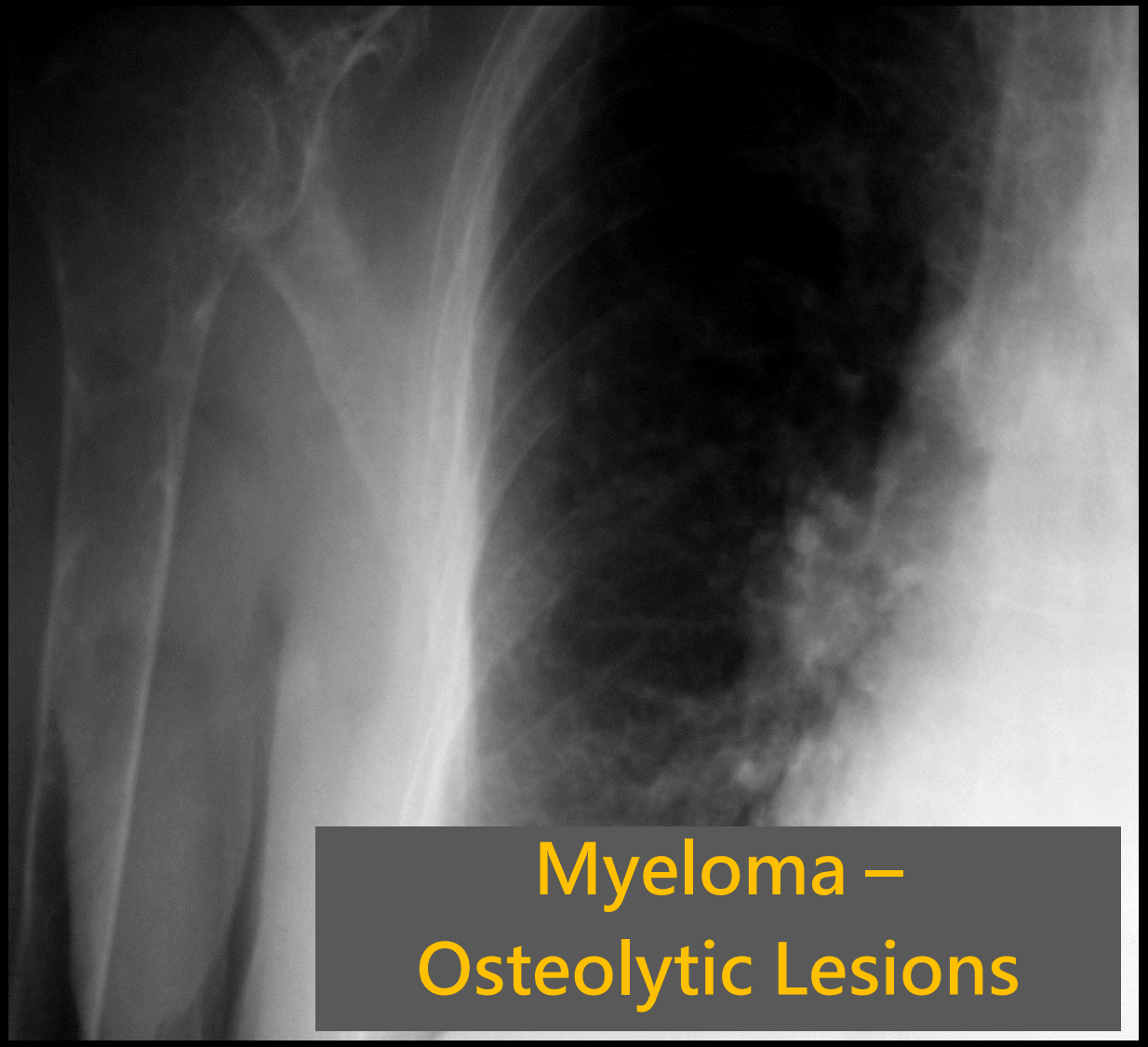
- **General appearance**
  - Scoliosis, kyphosis, kyphoscoliosis
- **Osteoblastic change**
  - Prostate ca.
  - Breast ca.
- **Osteolytic change**
  - Metastasis, multiple myeloma
  - Osteoporosis



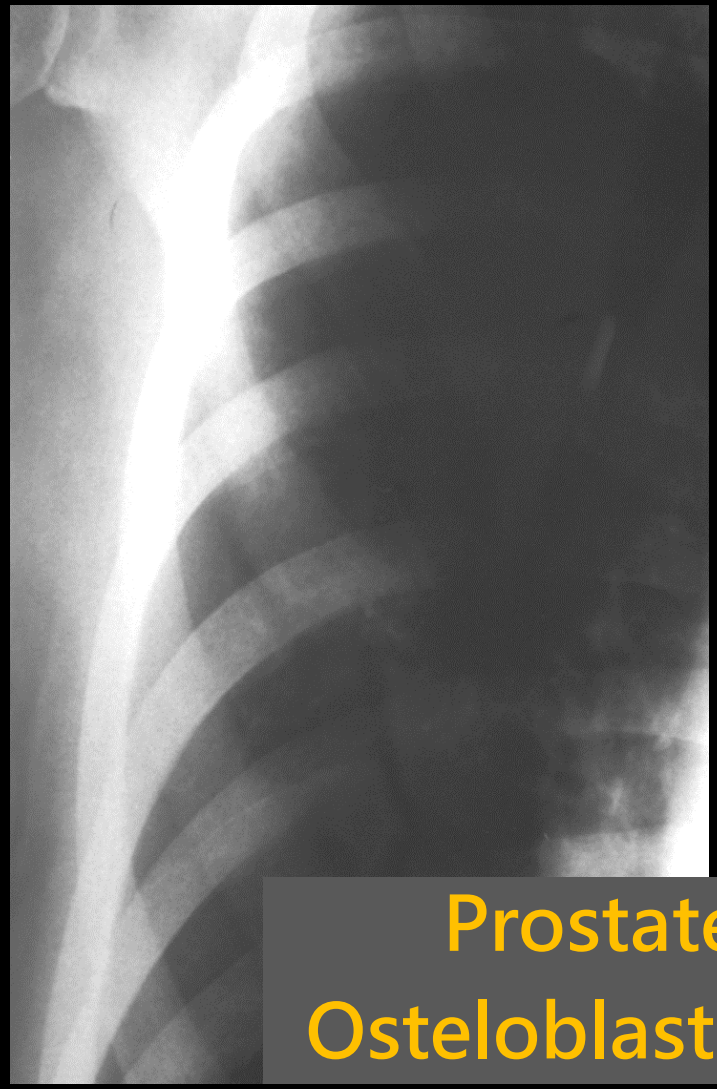
分區重點：Bone (Frontal View)



分區重點：Bone (Frontal View)



Myeloma –
Osteolytic Lesions



Prostate Ca -
Osteloblastic lesions

分區重點：Bone (Frontal View)

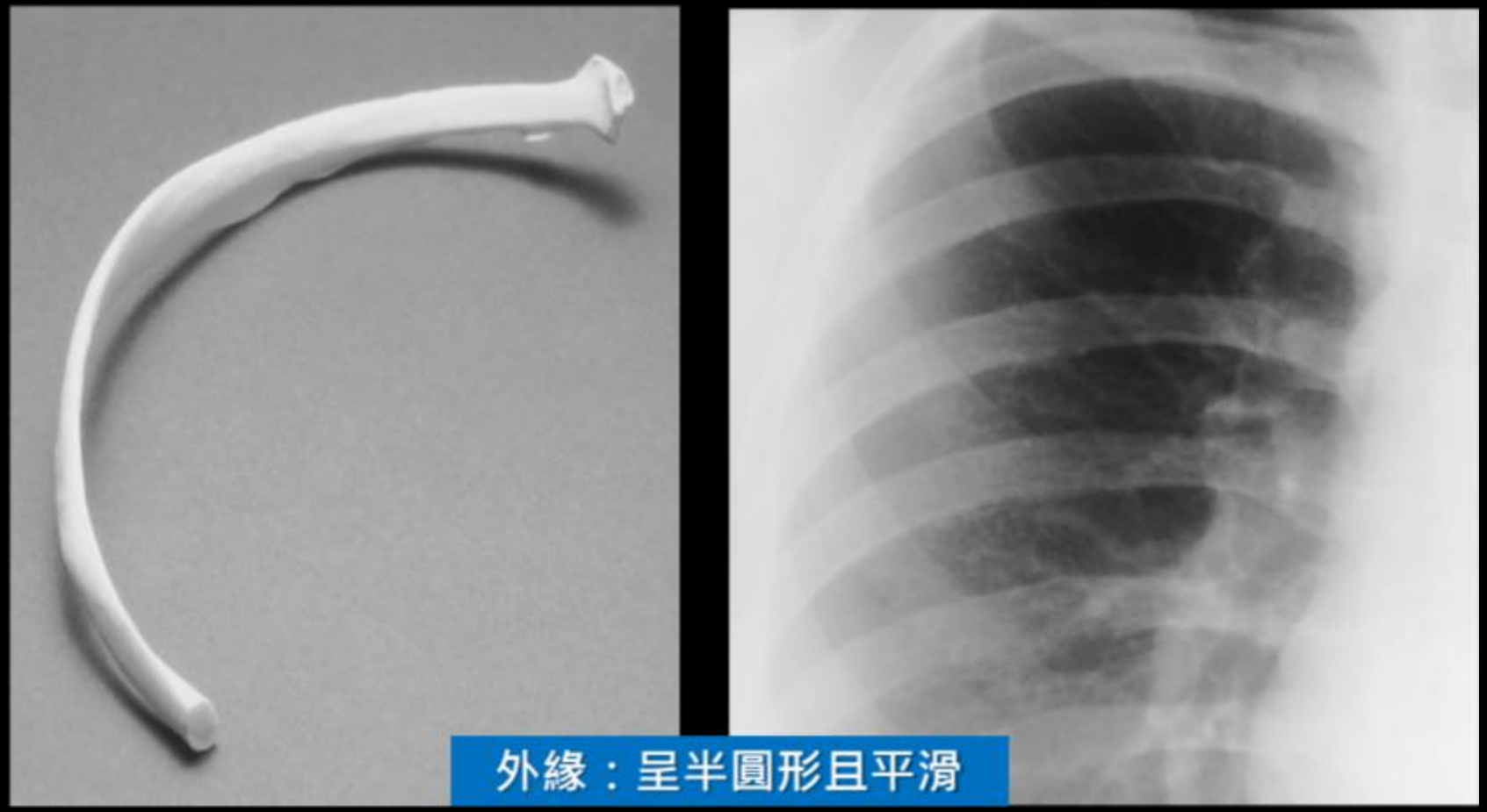
- **Rib**
  - 在lateral view中區別左右側的rib：
    - Big rib sign
    - Vertical displacement sign

遠離底片那一側的rib cage因為放大的效果
看起來會比靠近底片側的來得粗一些

  - **Extra** – Cervical rib
  - **Upper margin** – Metastasis
  - **Lower margin** – Notching: Coarctation of aorta
  - **Expansion** – Healing of fracture, tumor
  - **Diffuse enlargement** – Extramedullary hematopoiesis

分區重點：Bone (Frontal View)

Normal Ribs

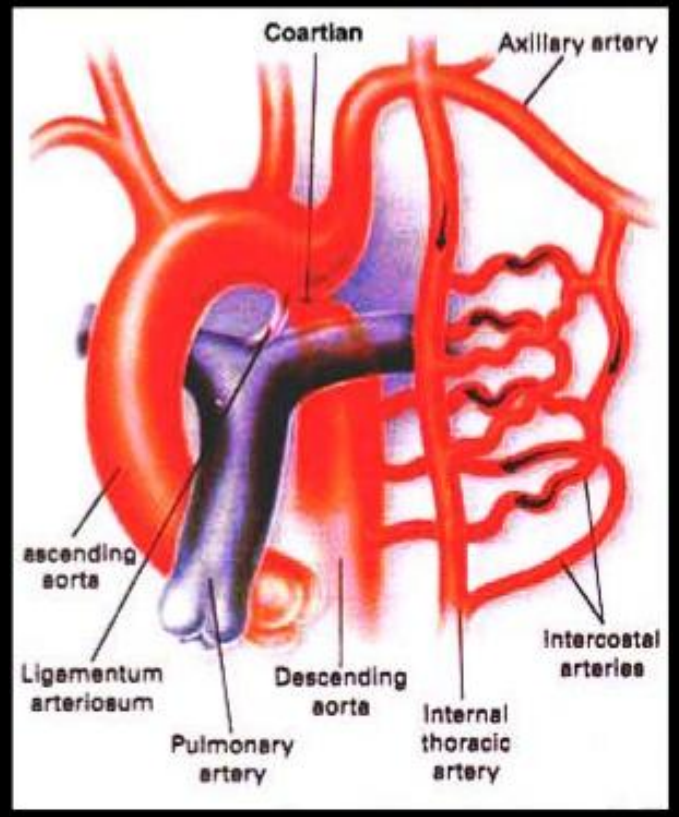


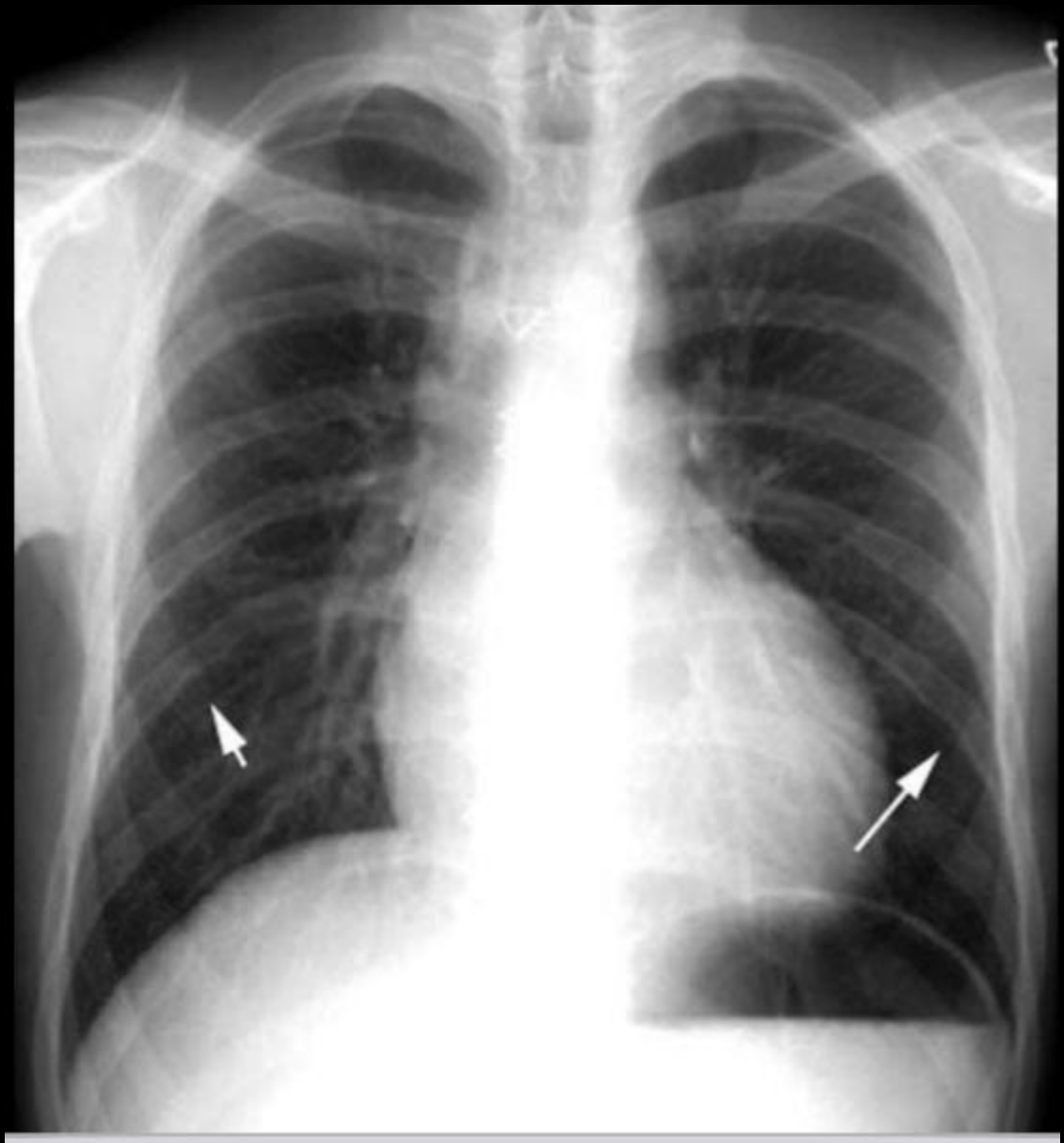
RadioGraphics 1999; 19:105–119

分區重點：Bone (Frontal View)

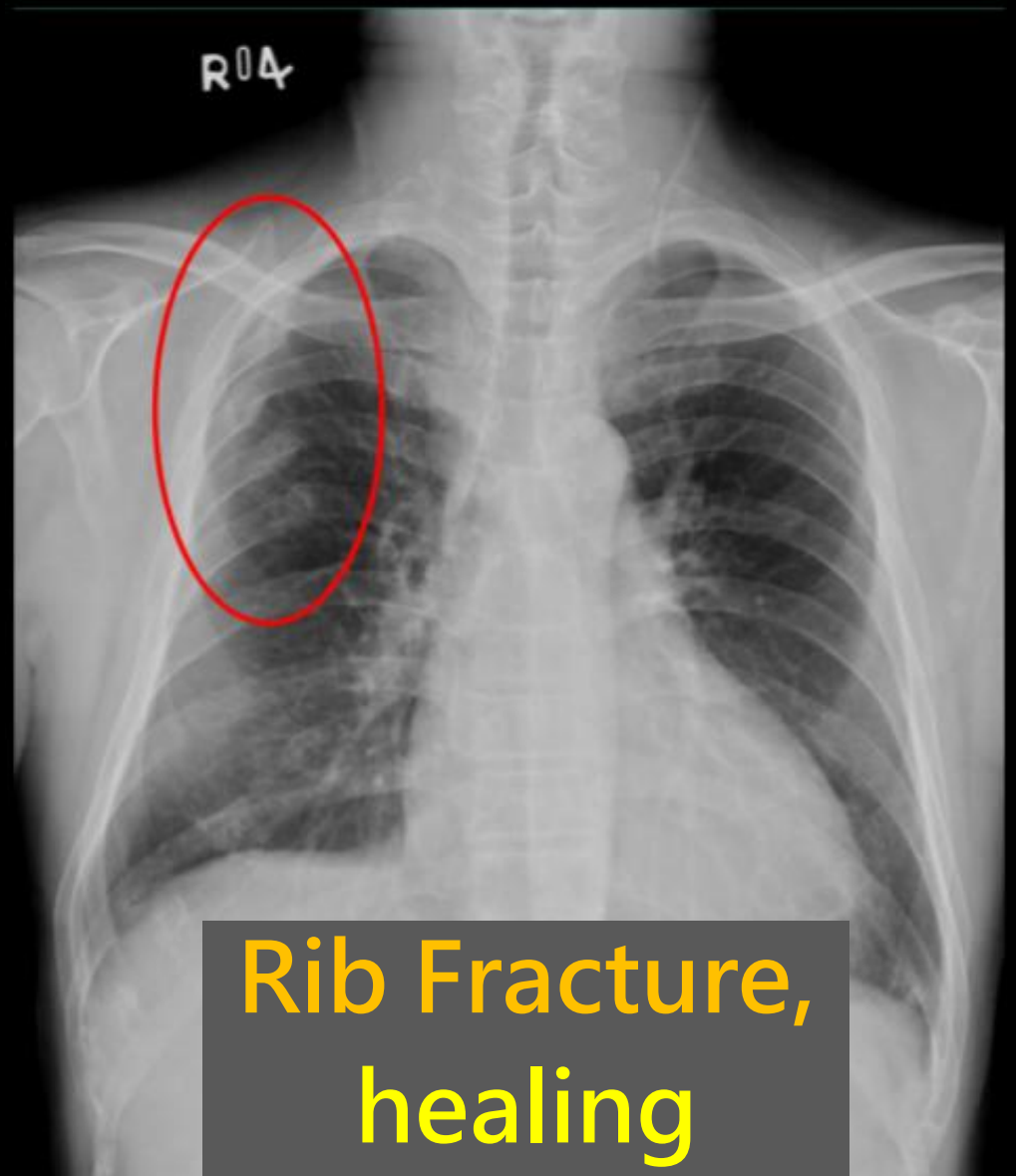
Rib notch

Coarctation of Aorta

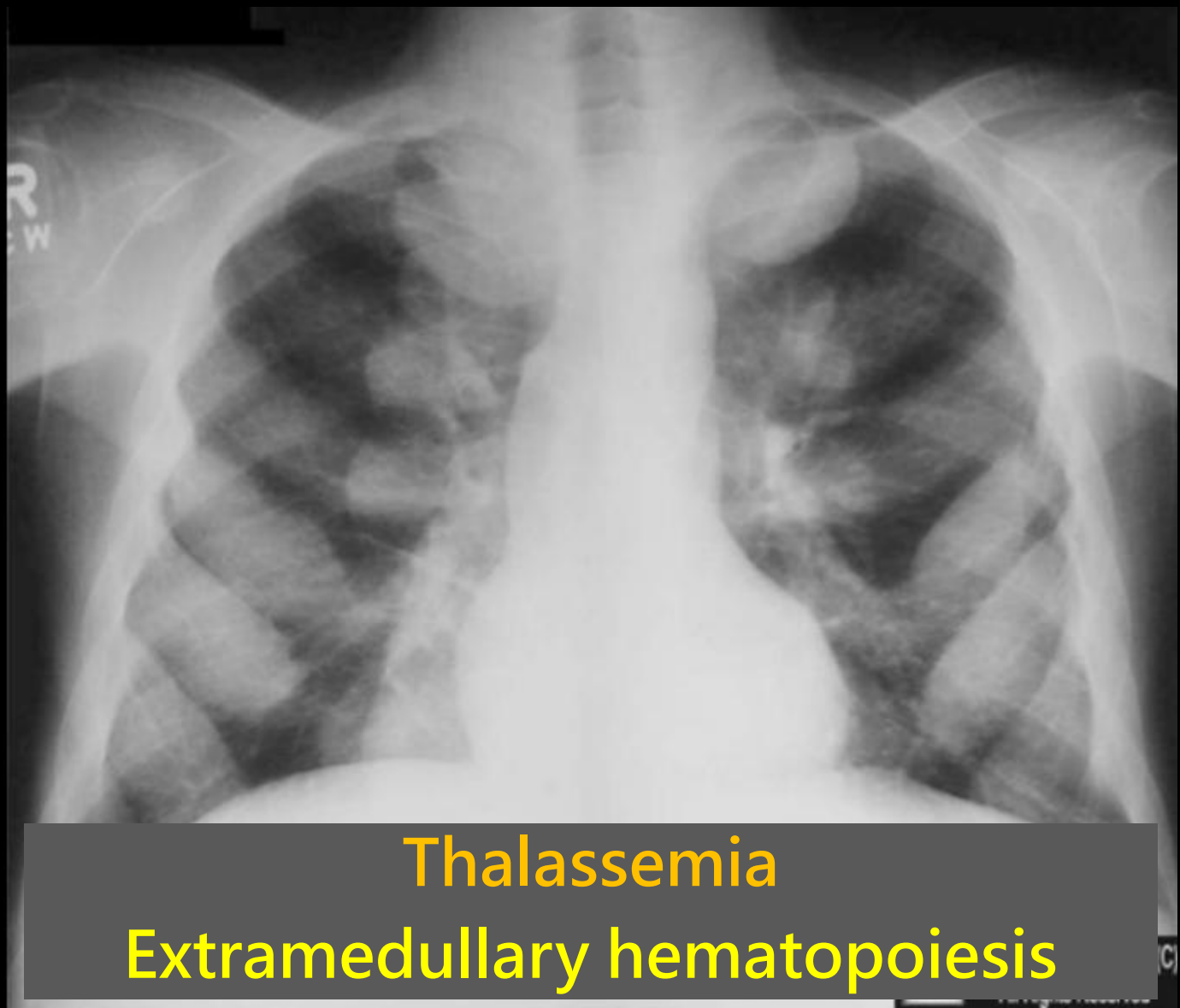




分區重點：Bone (Frontal View)



Rib Fracture, healing

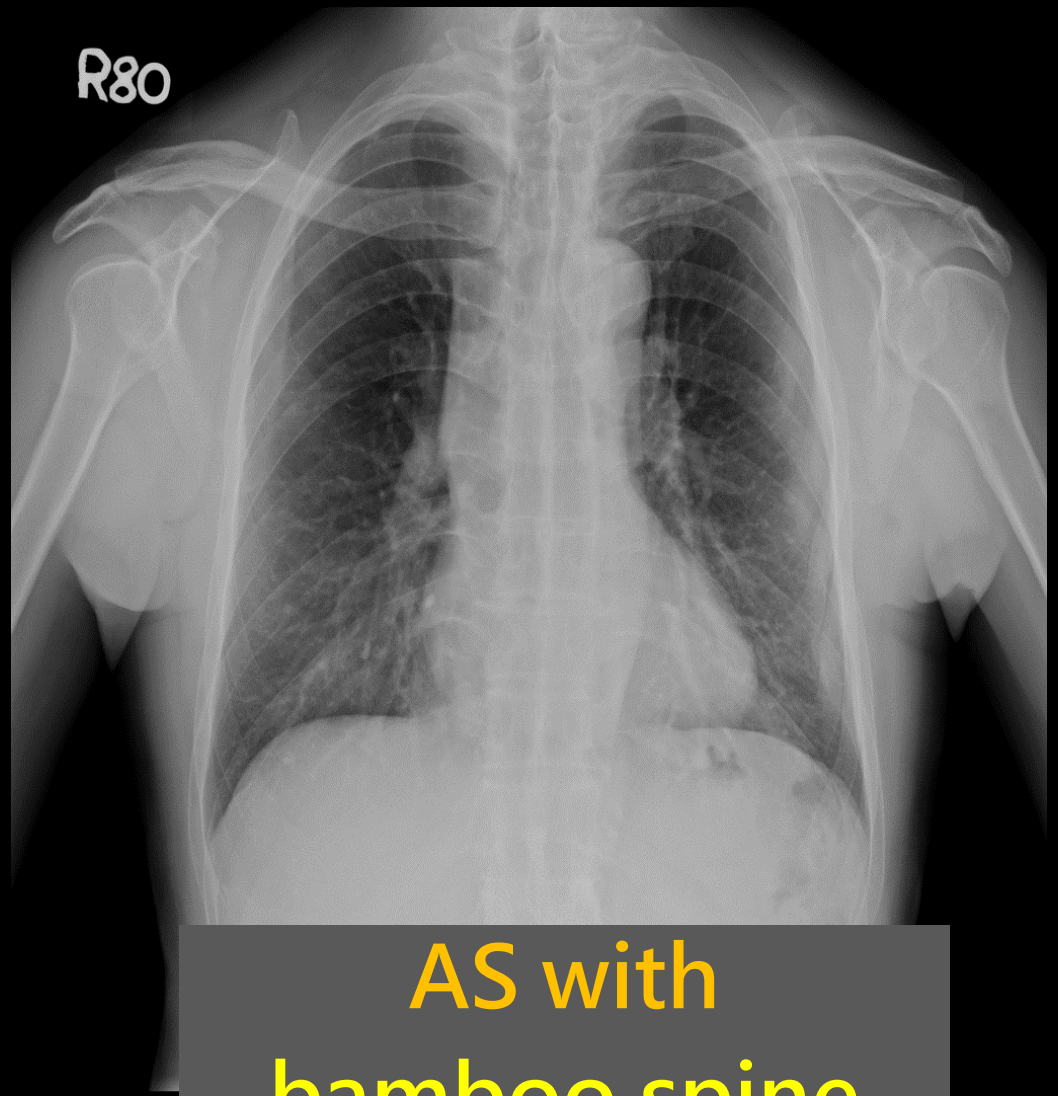


Thalassemia
Extramedullary hematopoiesis

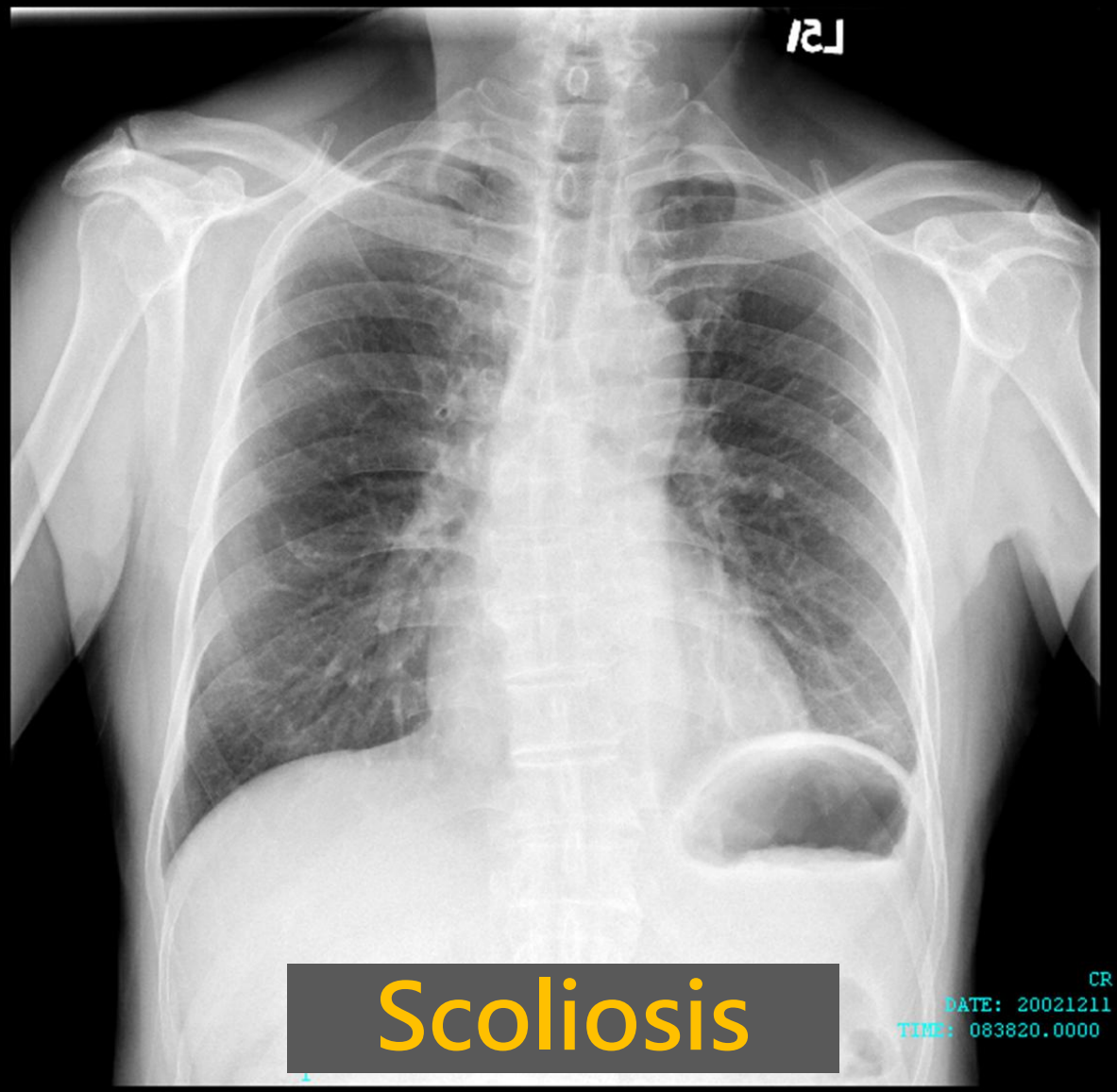
分區重點：Bone (Frontal View)

- **Sternum**
  - Pectus excavatum (Funnel chest)
  - Pectus carinatum (Pigeon chest)
- **Spine: the lower, the more radiolucent of density**
  - Compression fracture/osteoporosis
  - Bamboo spine
  - TB spine
  - Metastasis (osteoblastic, osteolytic)

分區重點：Bone (Frontal View)

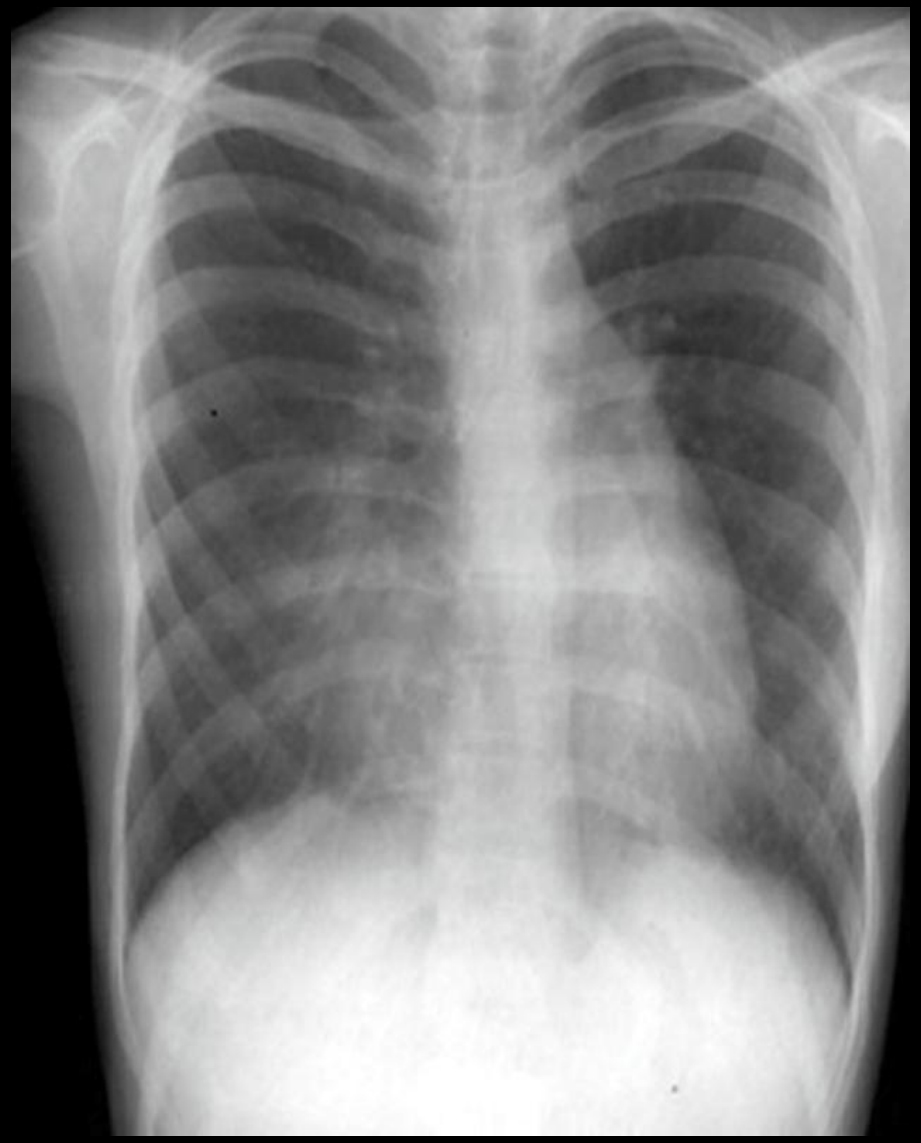


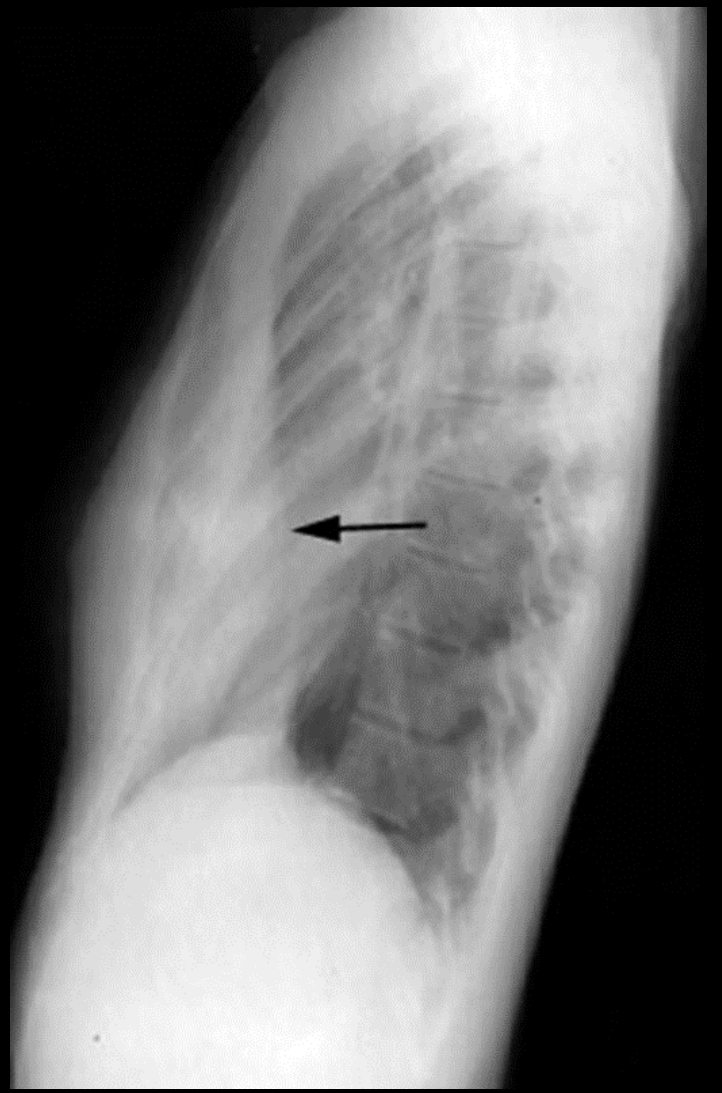
AS with
bamboo spine



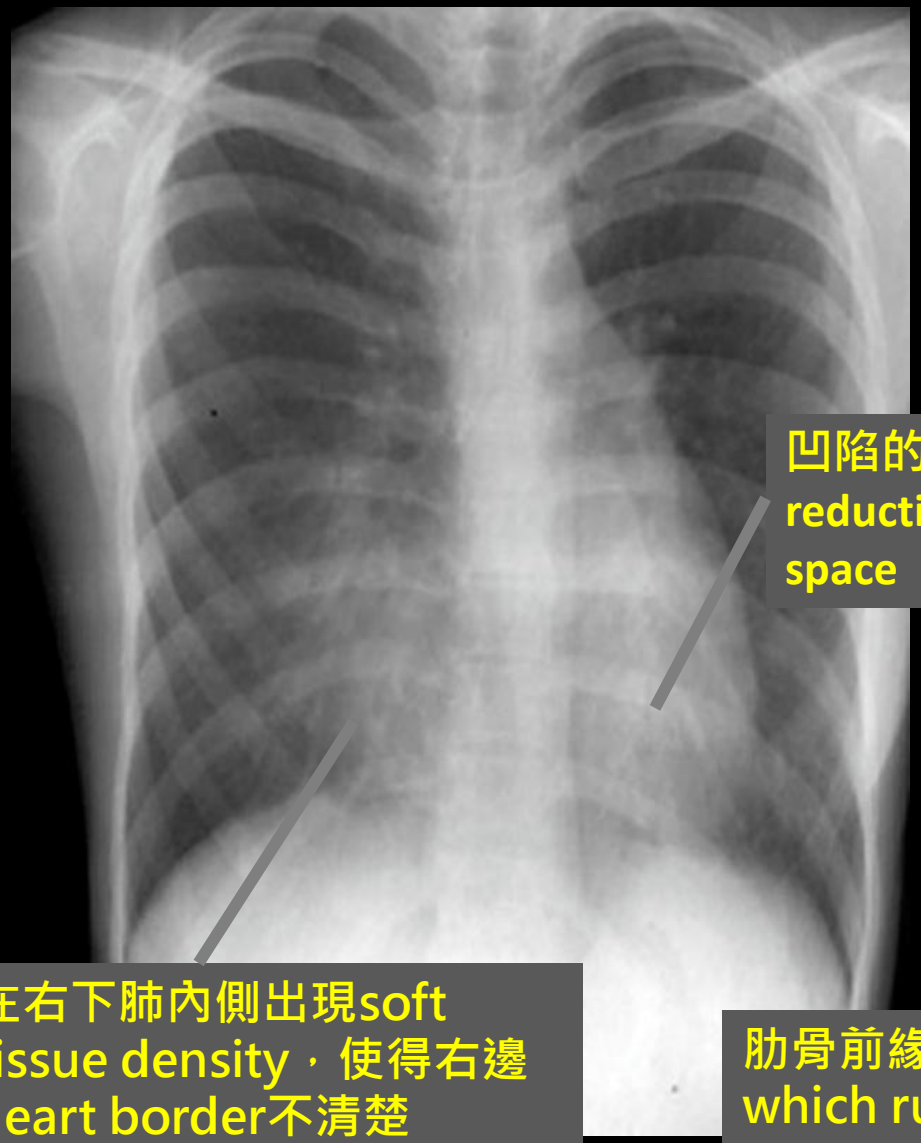
Scoliosis

分區重點：Bone (Frontal View)



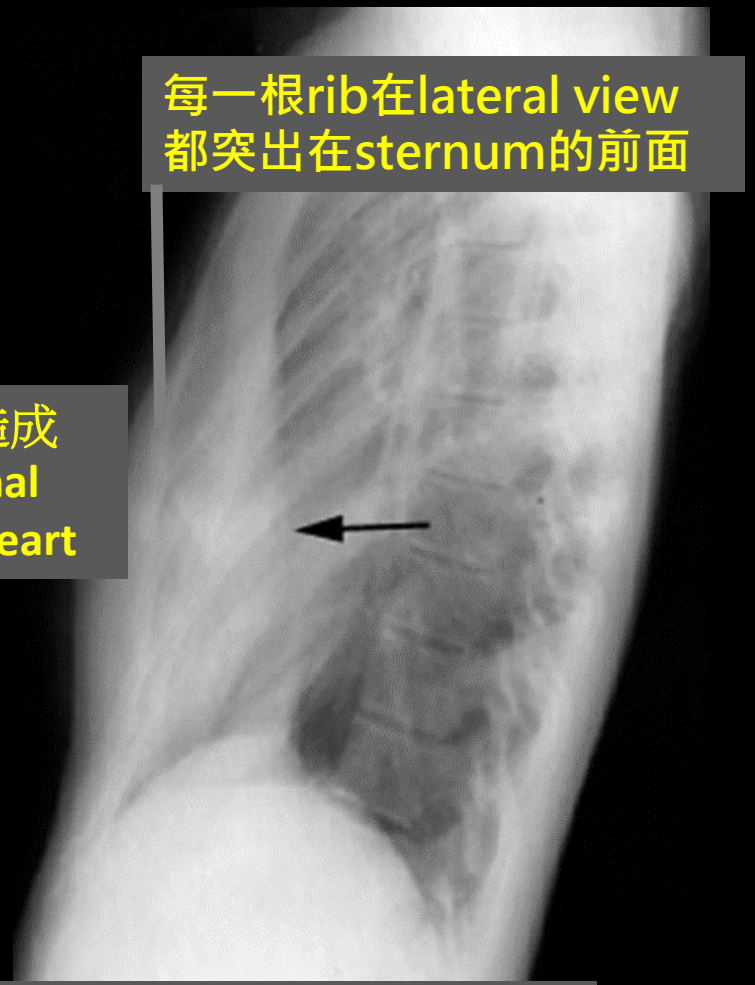


分區重點：Bone (Frontal View)



凹陷的sternum和rib造成
reduction of retrosternal space　Left shift of heart

在右下肺內側出現soft tissue density，使得右邊heart border不清楚



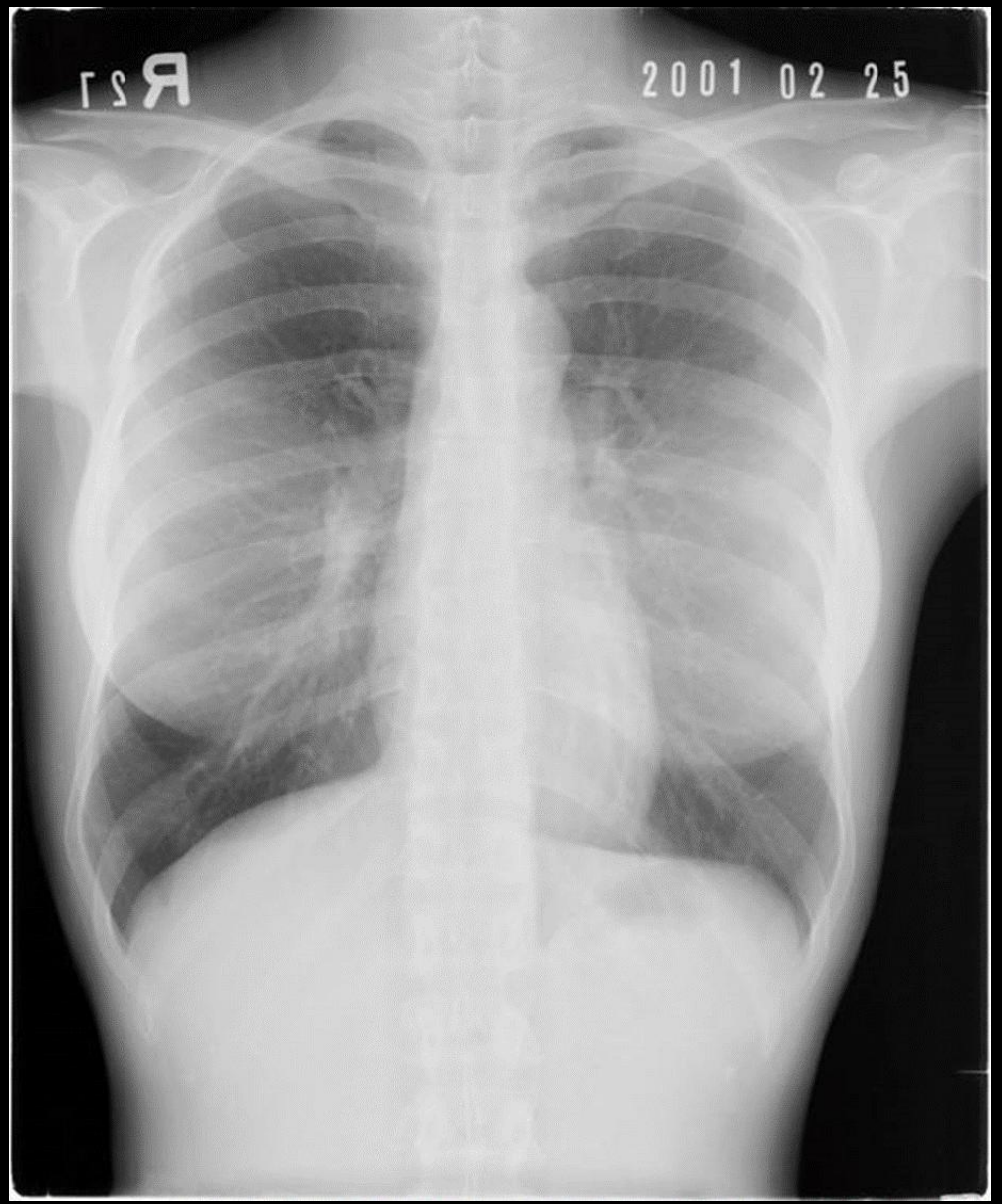
每一根rib在lateral view都突出在sternum的前面

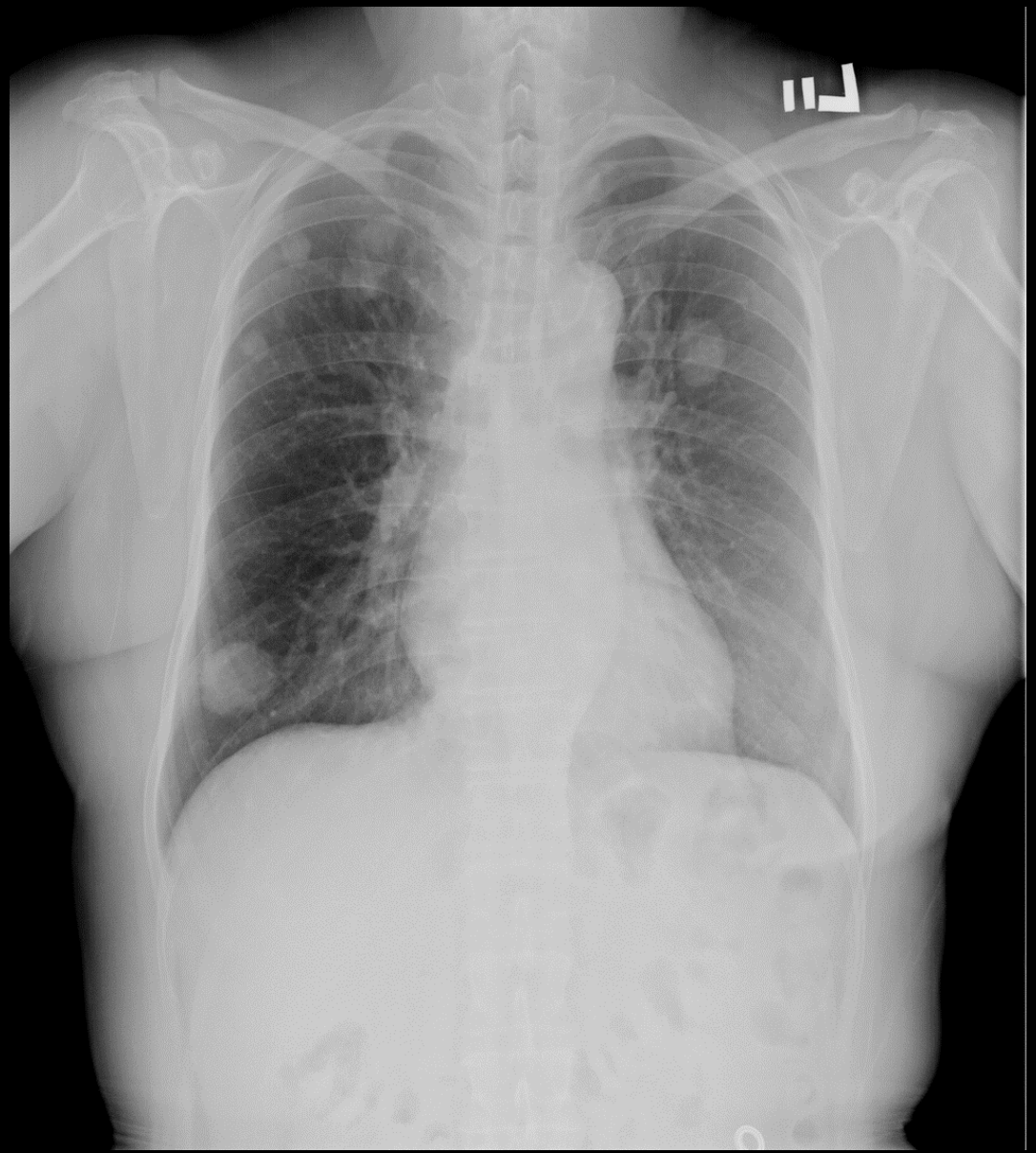
肋骨前緣：downward angulation(像數字”7”), which run almost parallel to each other.

分區重點：Soft tissue (Frontal View)

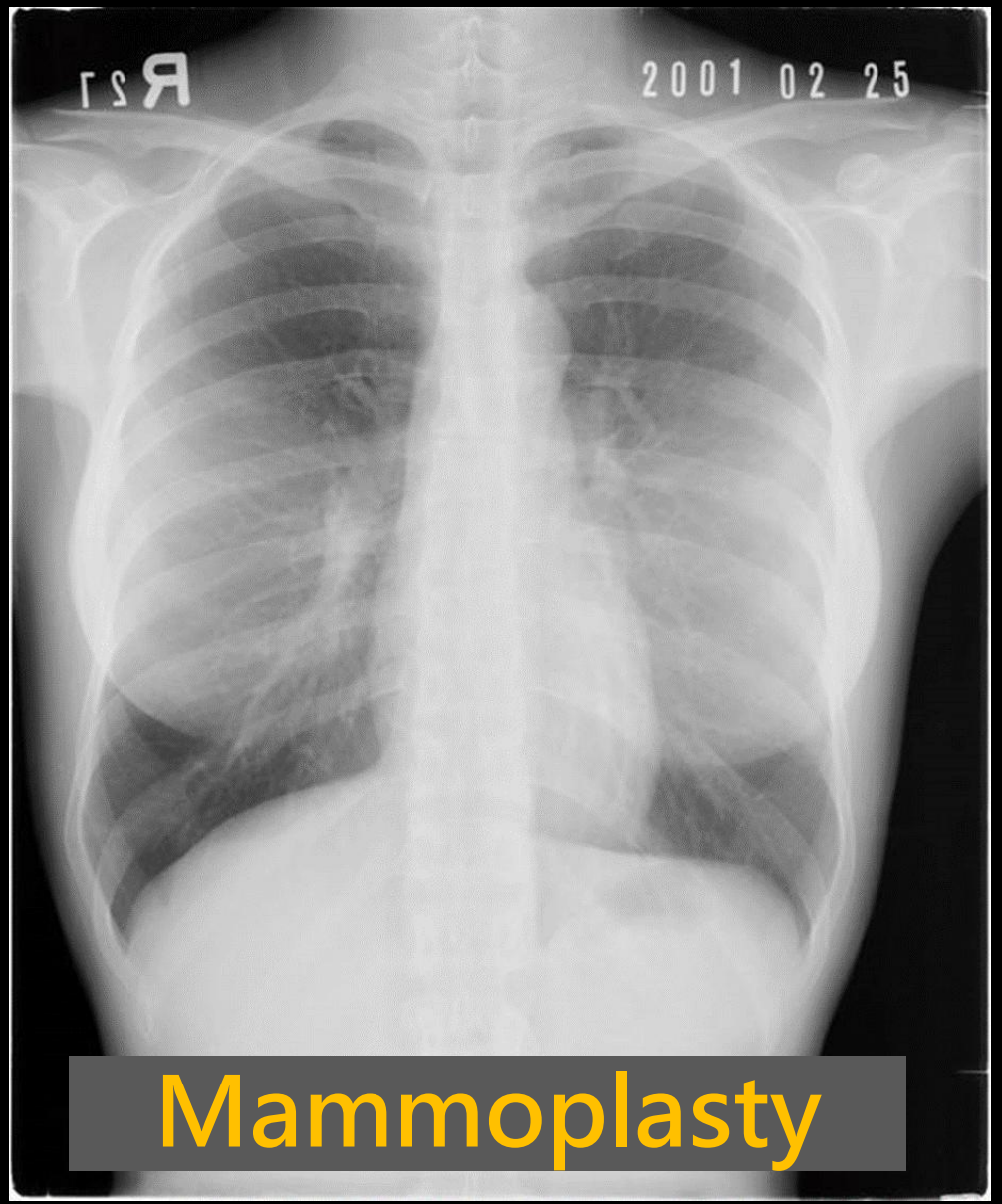
- **Breast** shadow
- Subcutaneous **emphysema**
- Subcutaneous **abscess/cellulitis**
- **Neck** mass/soft tissue mass
- **Gastric bubble**
  - Intragastric mass -- Gastric ca.
  - Extragastric mass -- Spleen or kidney
  - Absence -- Hiatal hernia, achalasia

分區重點：Soft tissue (Frontal View)

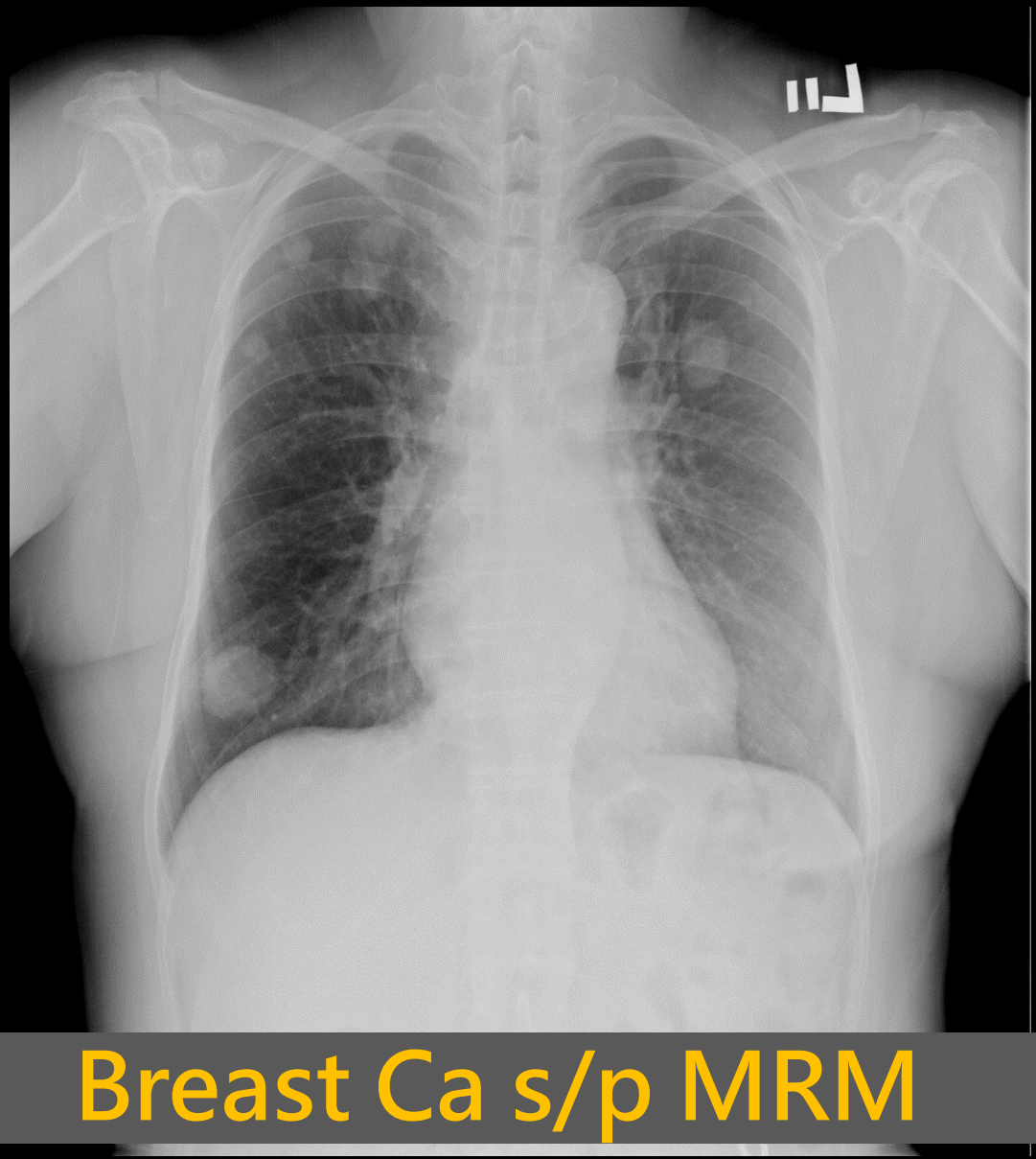




分區重點：Soft tissue (Frontal View)

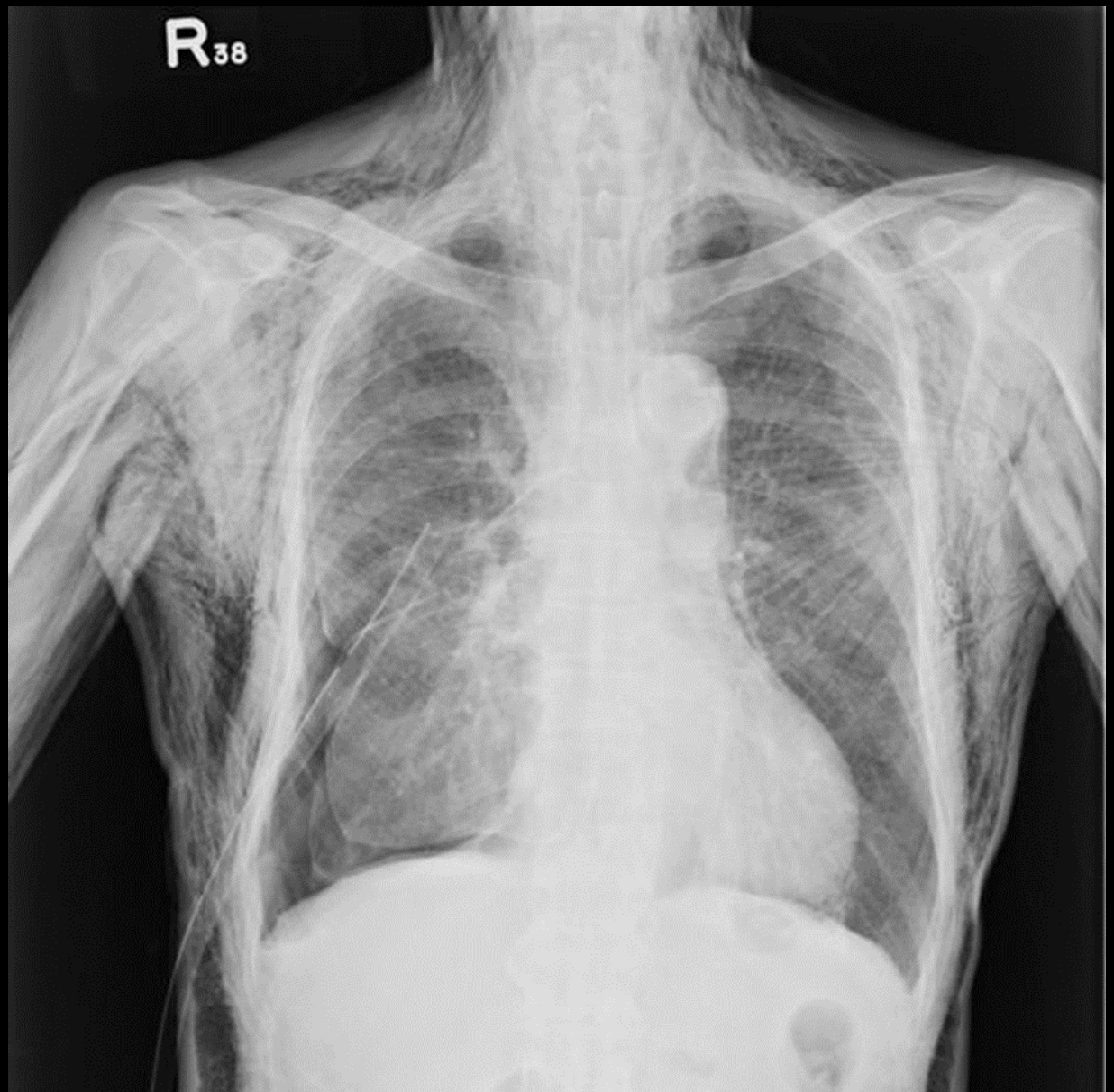


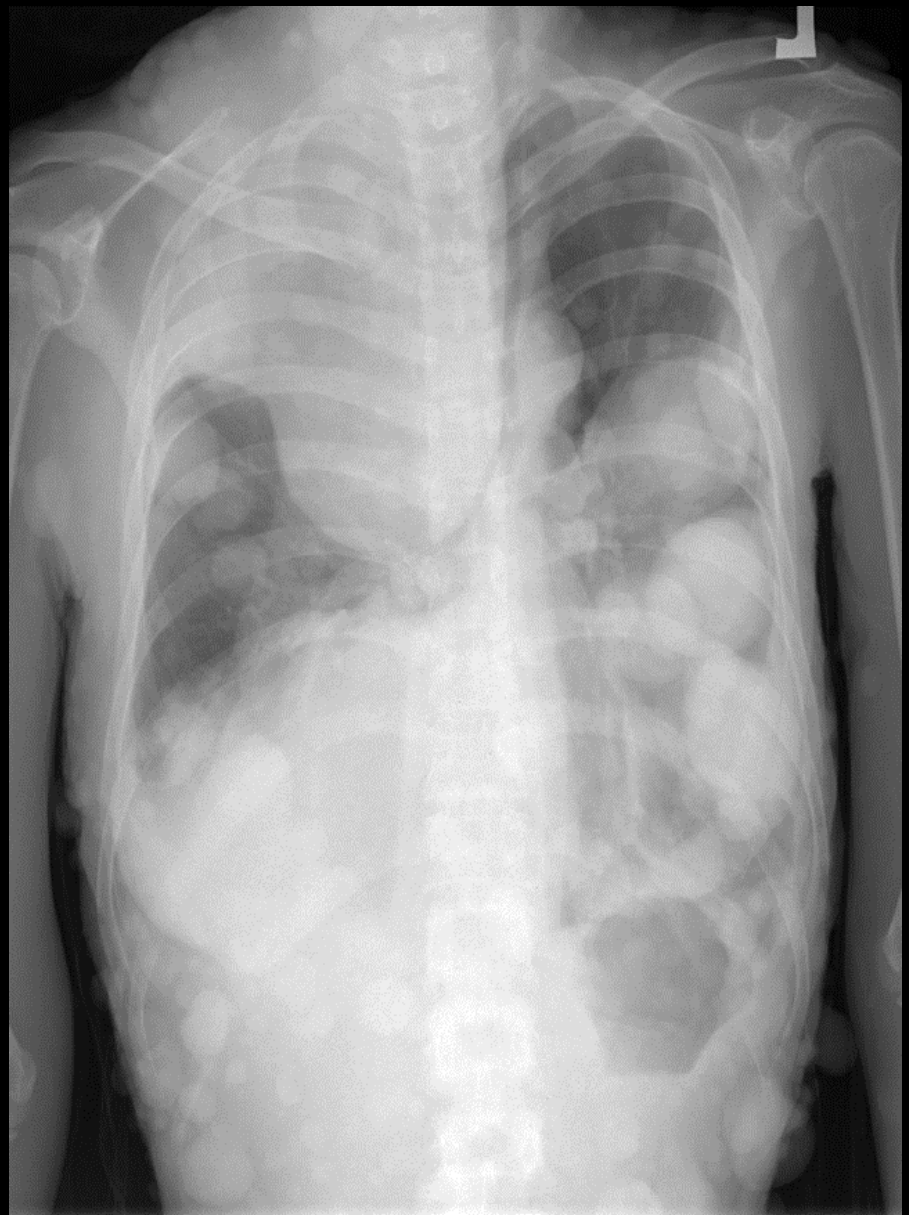
Mammoplasty



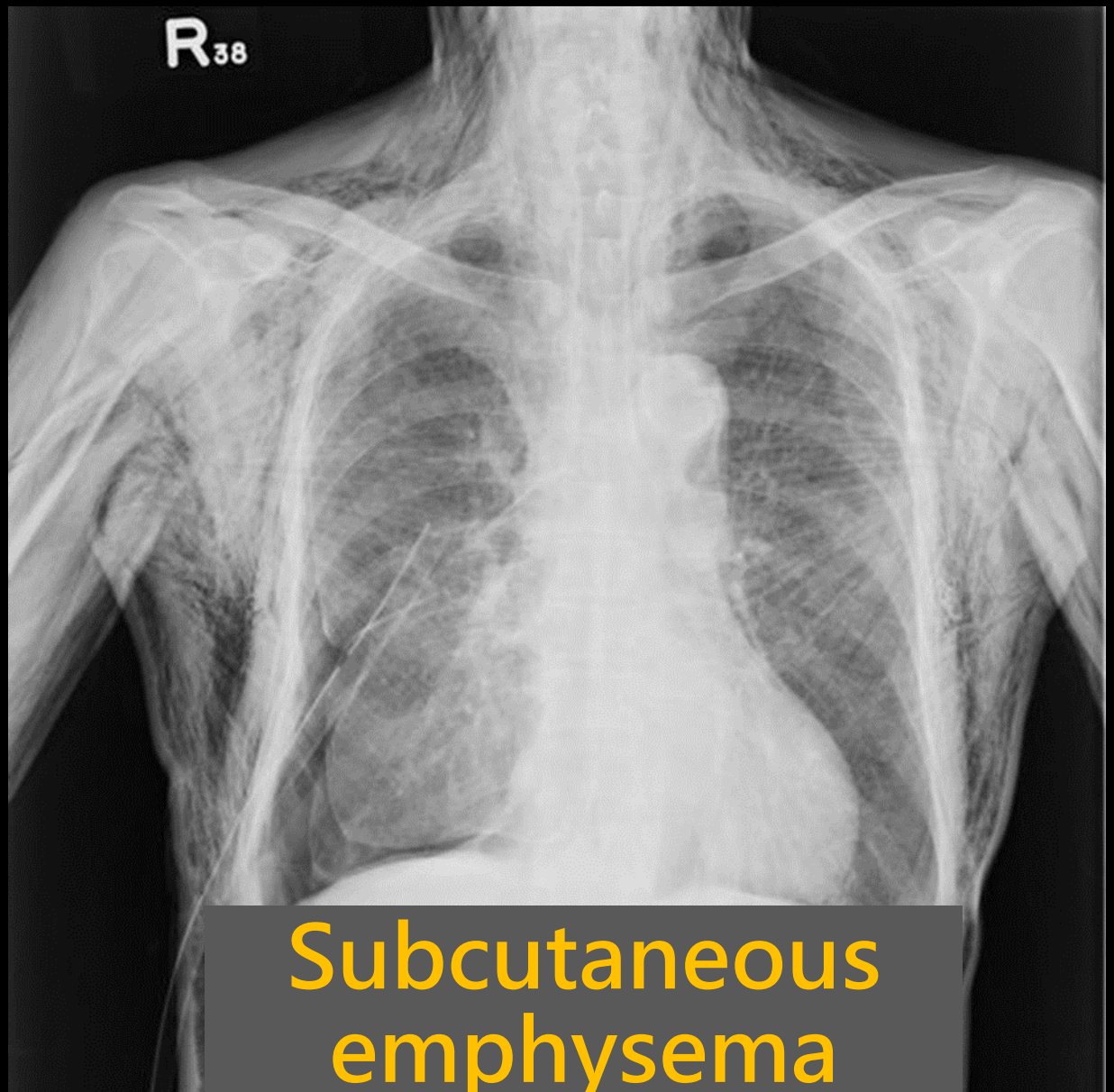
Breast Ca s/p MRM

分區重點：Soft tissue (Frontal View)

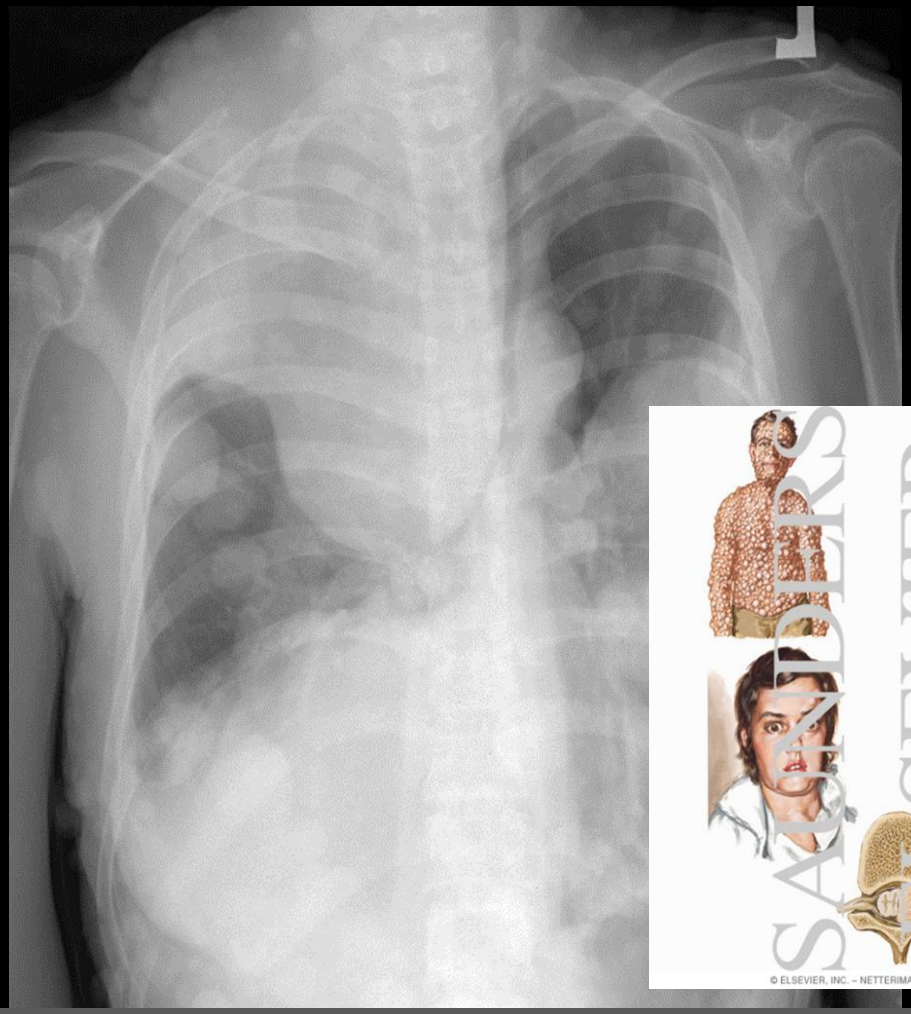




分區重點：Soft tissue (Frontal View)



Subcutaneous emphysema

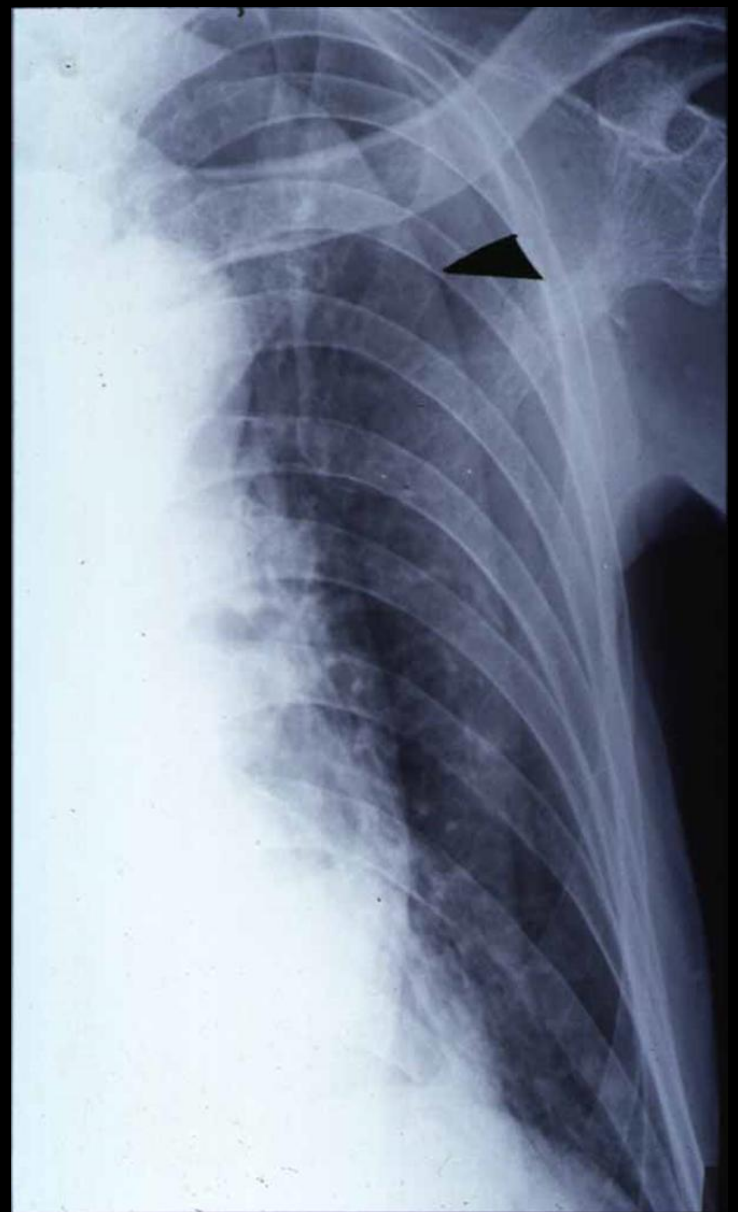


Neurofibromatosis with lung involvement

分區重點：Pleura

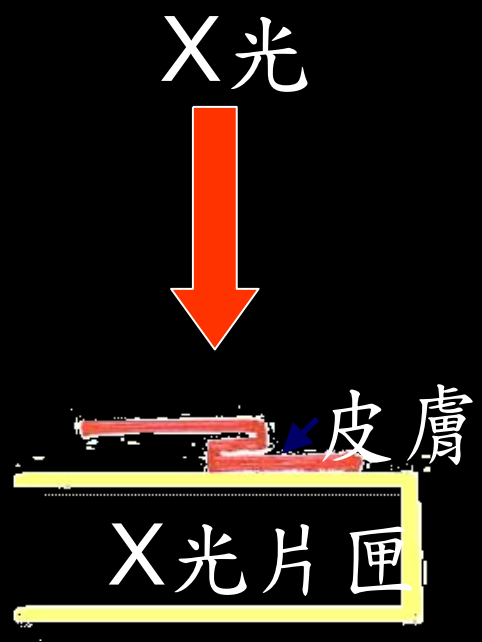
- Pleural lines
- Pleura-based mass
- Costophrenic angle blunting - effusion, thickening
- Pleural thickening - fibrosis, calcification

分區重點：Pleura

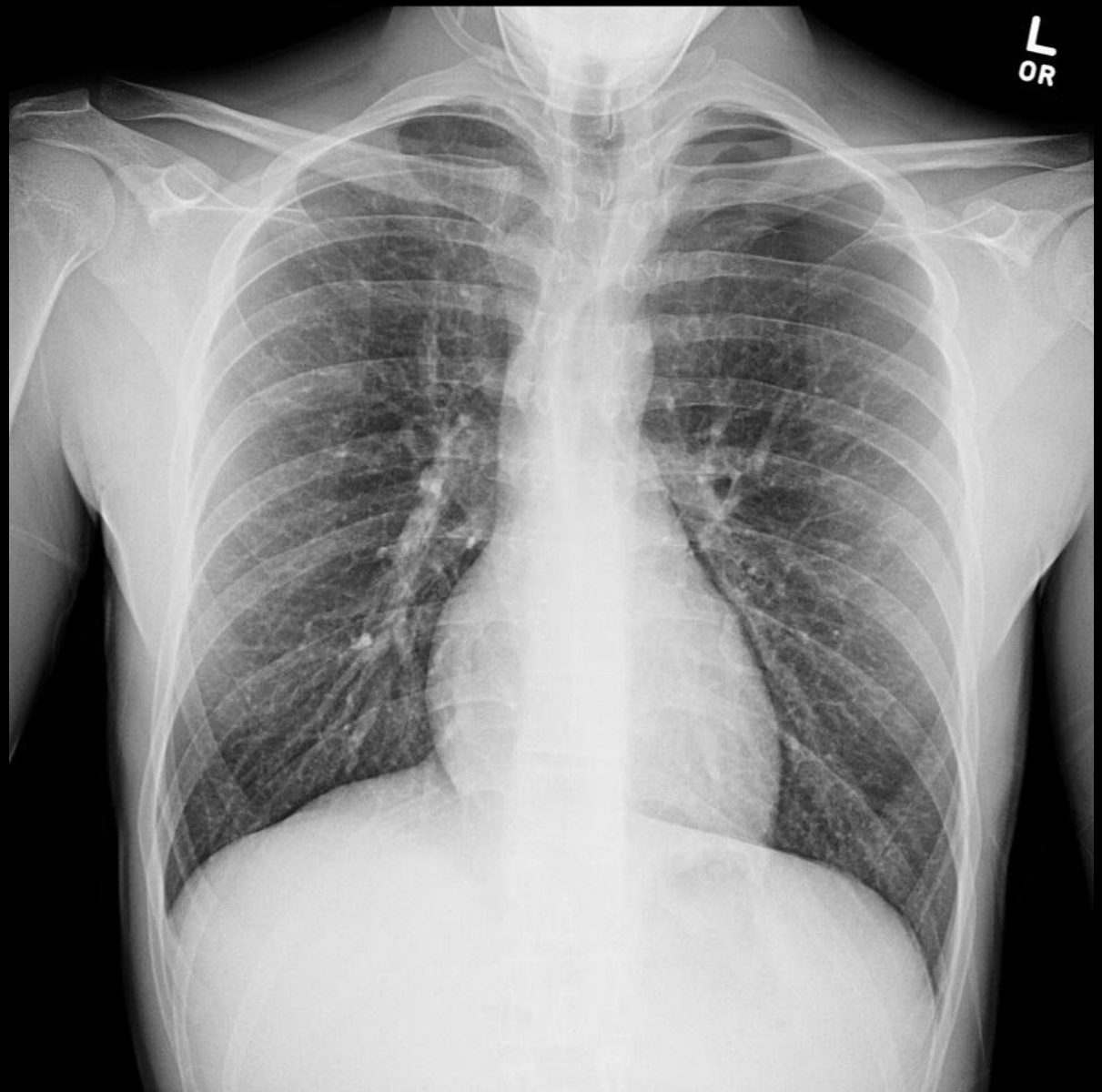


Skin fold

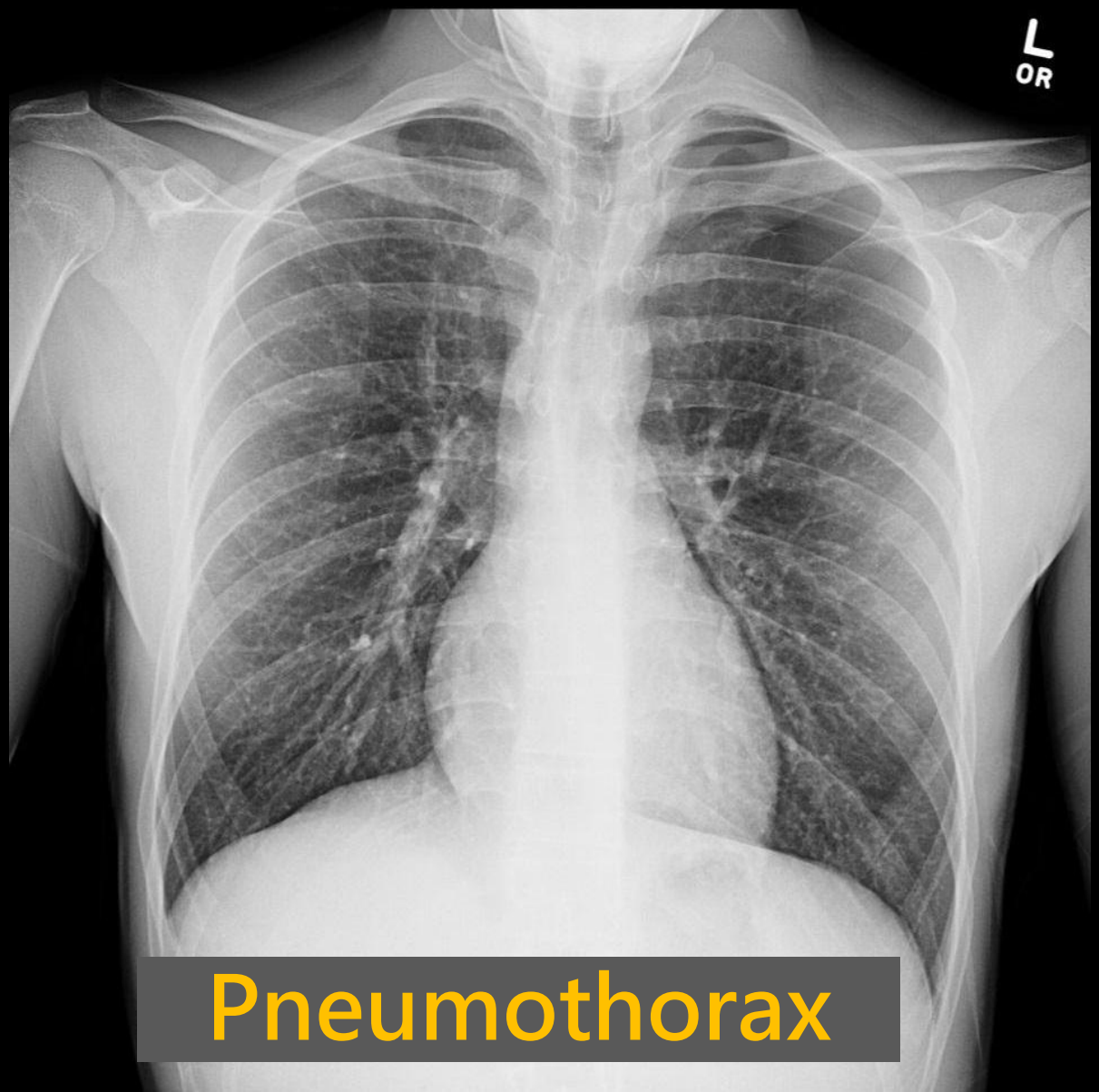
- 可以一直trace到lung filed以外
- 線條以外的lung fild內可以看到lung marking



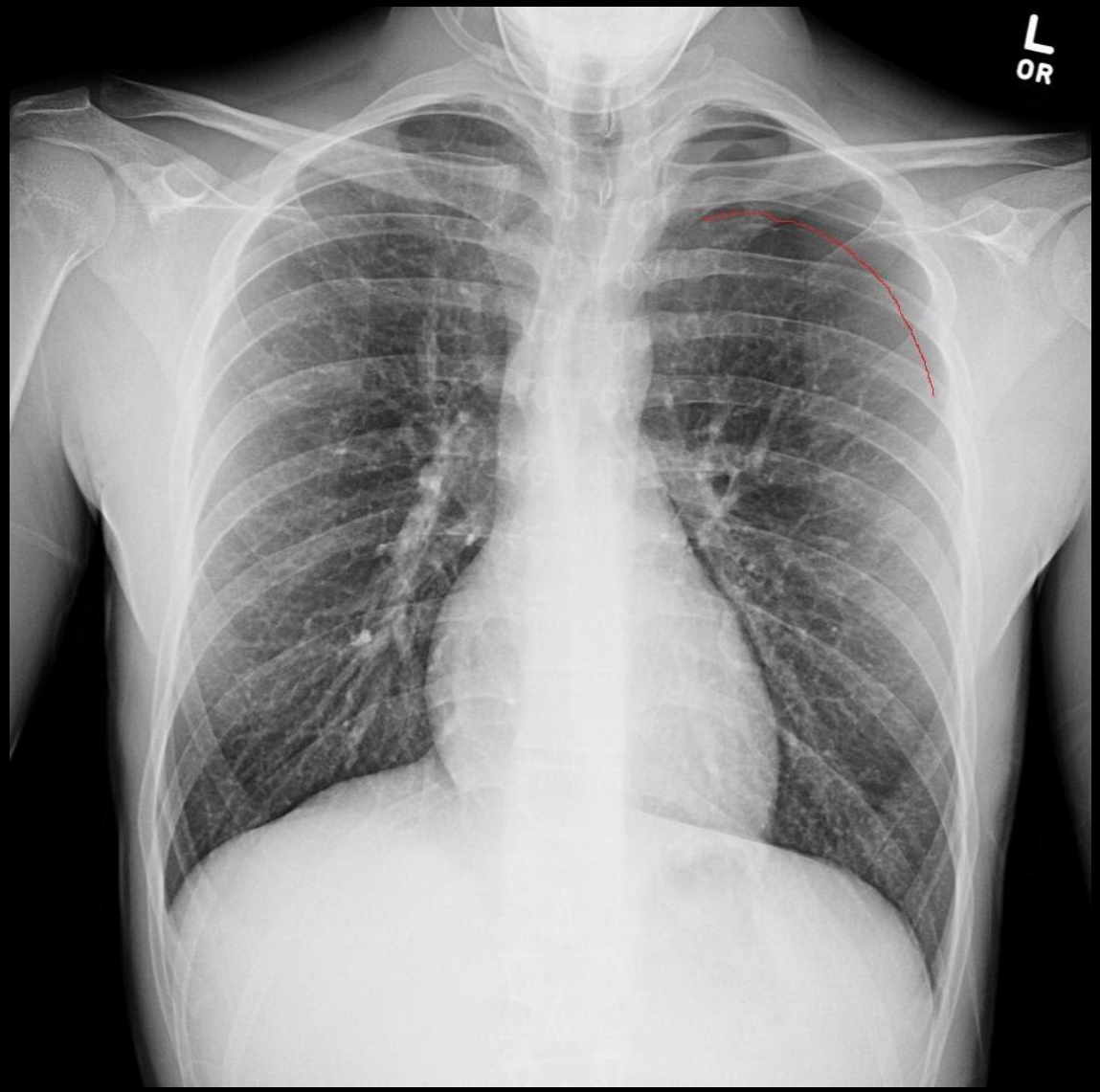
分區重點：Pleura



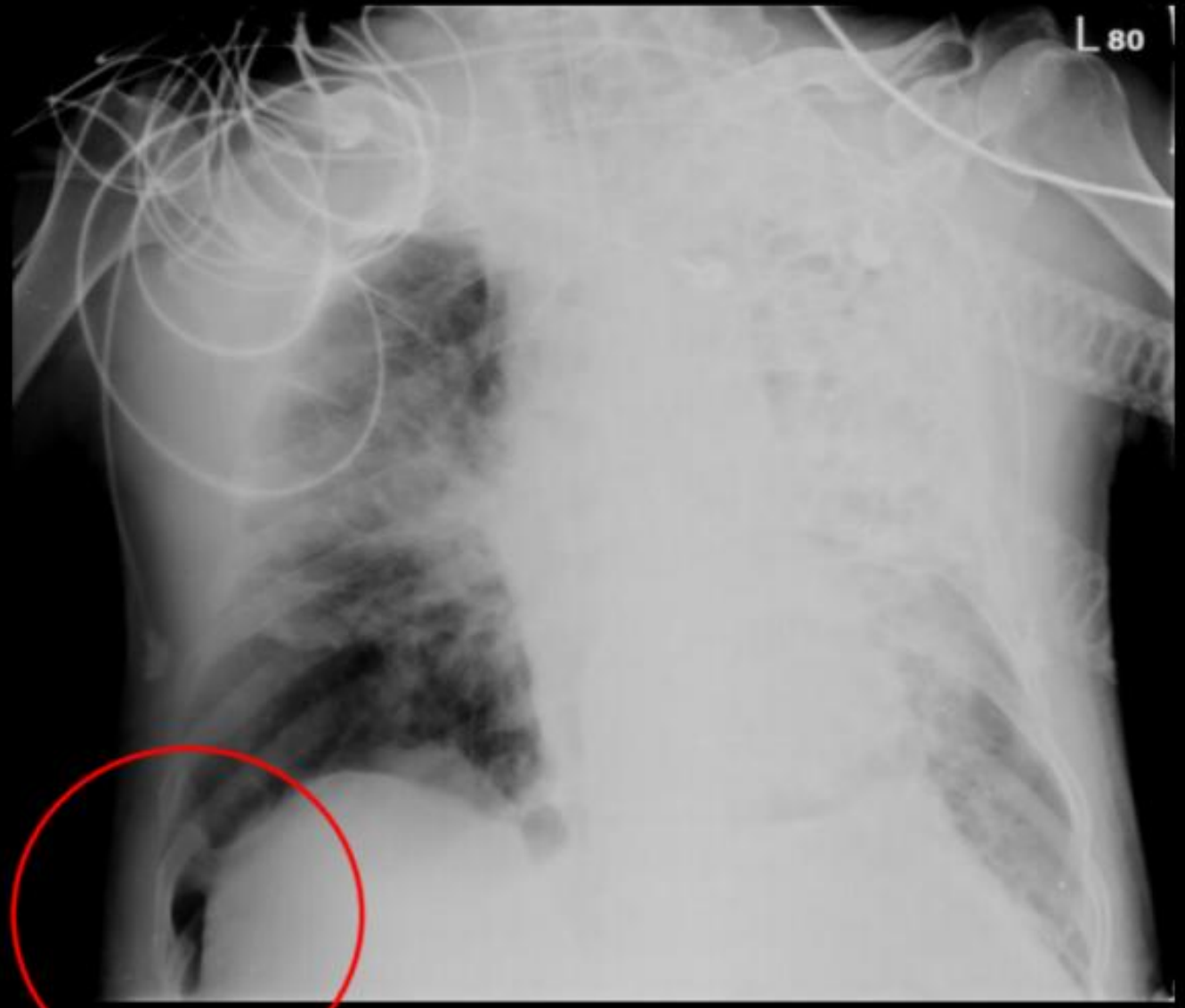
分區重點：Pleura



Pneumothorax



分區重點：Pleura



Pneumothorax-
deep sulcus sign

分區重點：橫膈、橫膈下影像

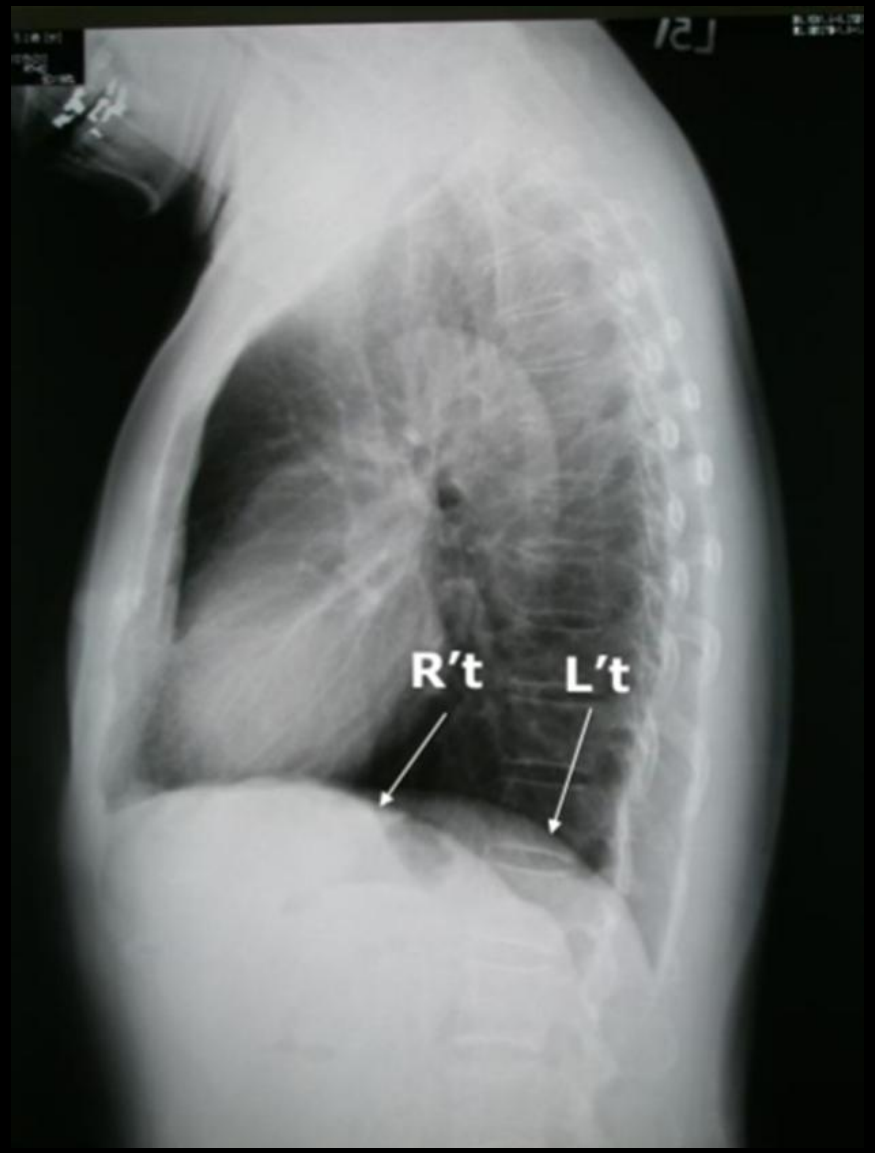
- 位置：前高後低, 右高左低, 內高外低
  - 右橫膈: 10~11 post. rib;
    左橫膈: 略低 0.5-1 vertebral body(約1-2cm)
  - 最高點在內1/3處
  - 左側橫膈高於右側橫膈/右側過高：異常
    - 肺部因素：Left lung volume reduction
    - 橫膈因素：diaphragmatic hernia, subpulmonic effusion
    - 腹腔內因素：lesion把Left diaphragm往上頂

分區重點：橫膈、橫膈下影像

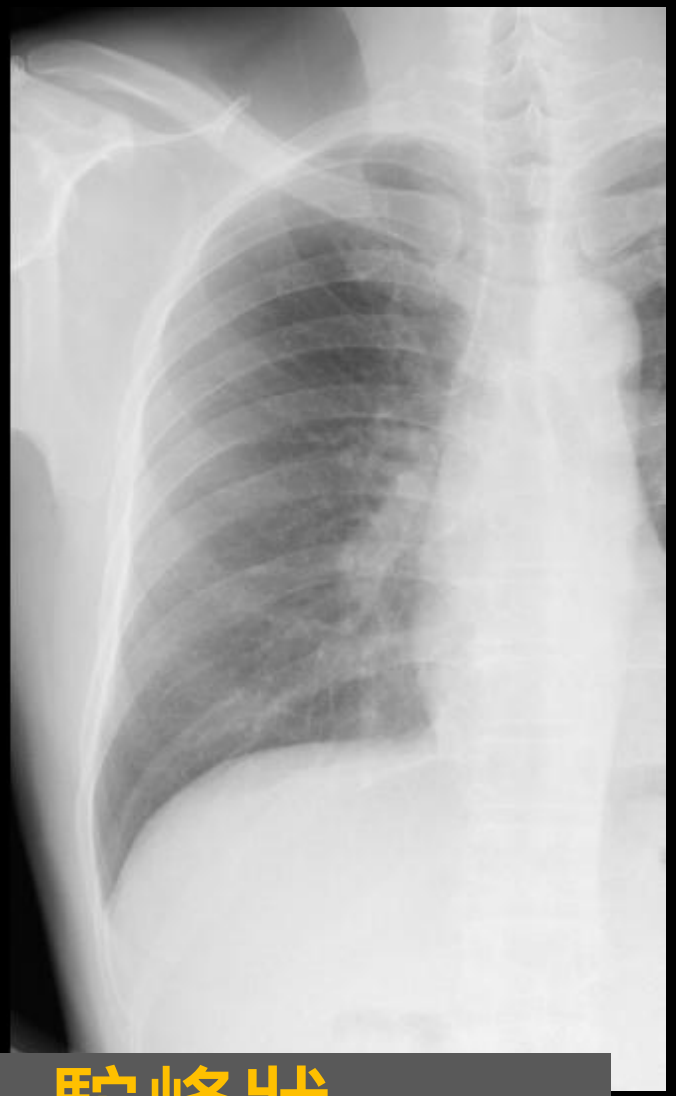
- 胃氣：
  - 距左橫膈 < 1cm; > 2cm要懷疑subpulmonic effusion
  - 胃內有沒有東西 (gastric Ca)
  - Gastric air不見：hiatal hernia, achalasia, 躺著照
- Liver：
  - Liver abscess: air-fluid level within liver density
  - 利用腸氣(colon gas)可判斷肝脾大小
- Subphrenic gas：PPU, subphrenic abscess, interposed colon

分區重點：橫膈、橫膈下影像

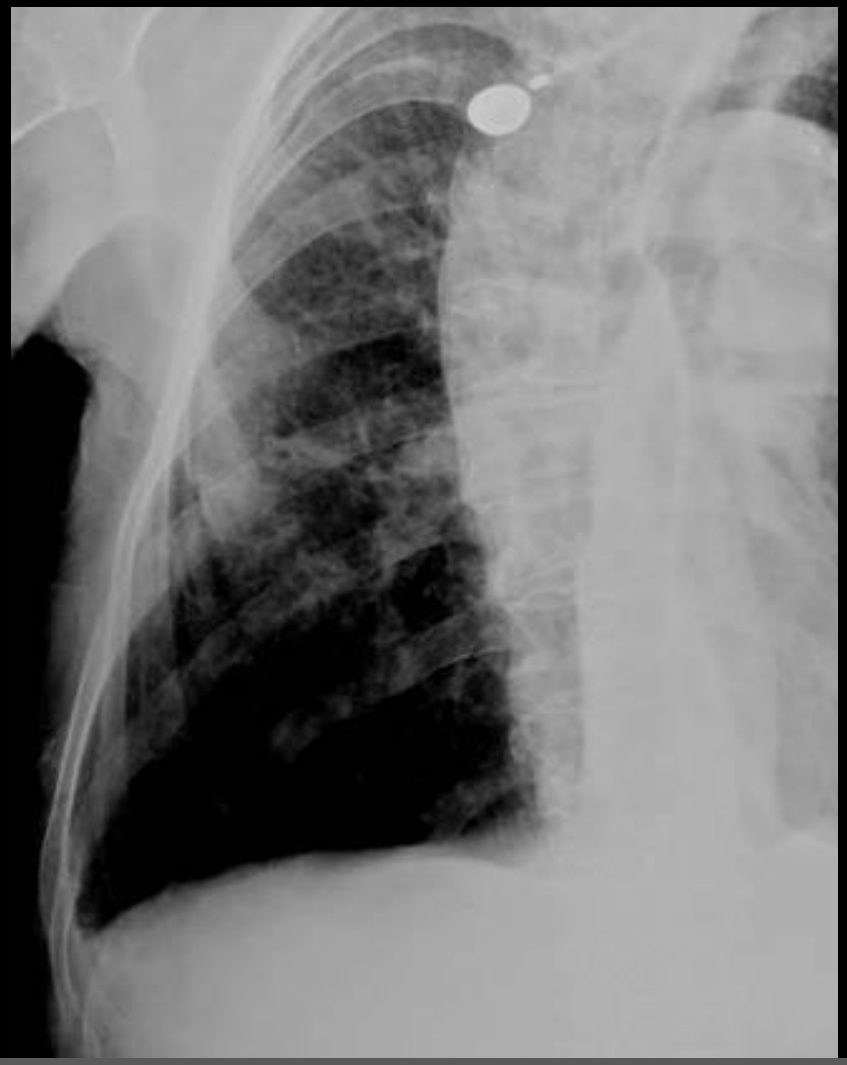
- 橫膈前高後低
- 如何辨認左右橫膈:
- 右:
  - 1. 被胃部空氣跨越者
  - 2. 和下腔靜脈相連者
  - 3. 前端橫膈仍清楚可見
  - 4. 在L’ t lateral view中與較粗肋骨相連者(big rib sign)
- 左: 1. 前端融入心臟影像(silhouette)



分區重點：橫膈、橫膈下影像

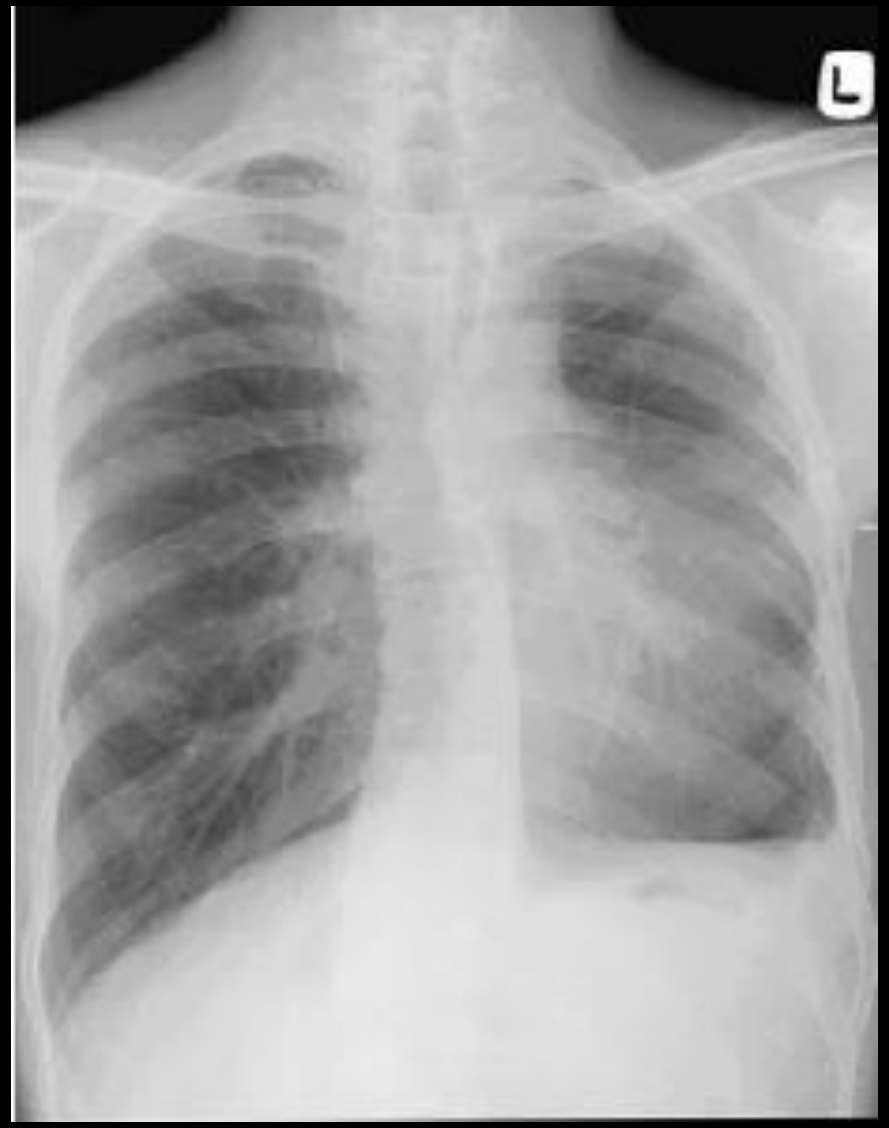


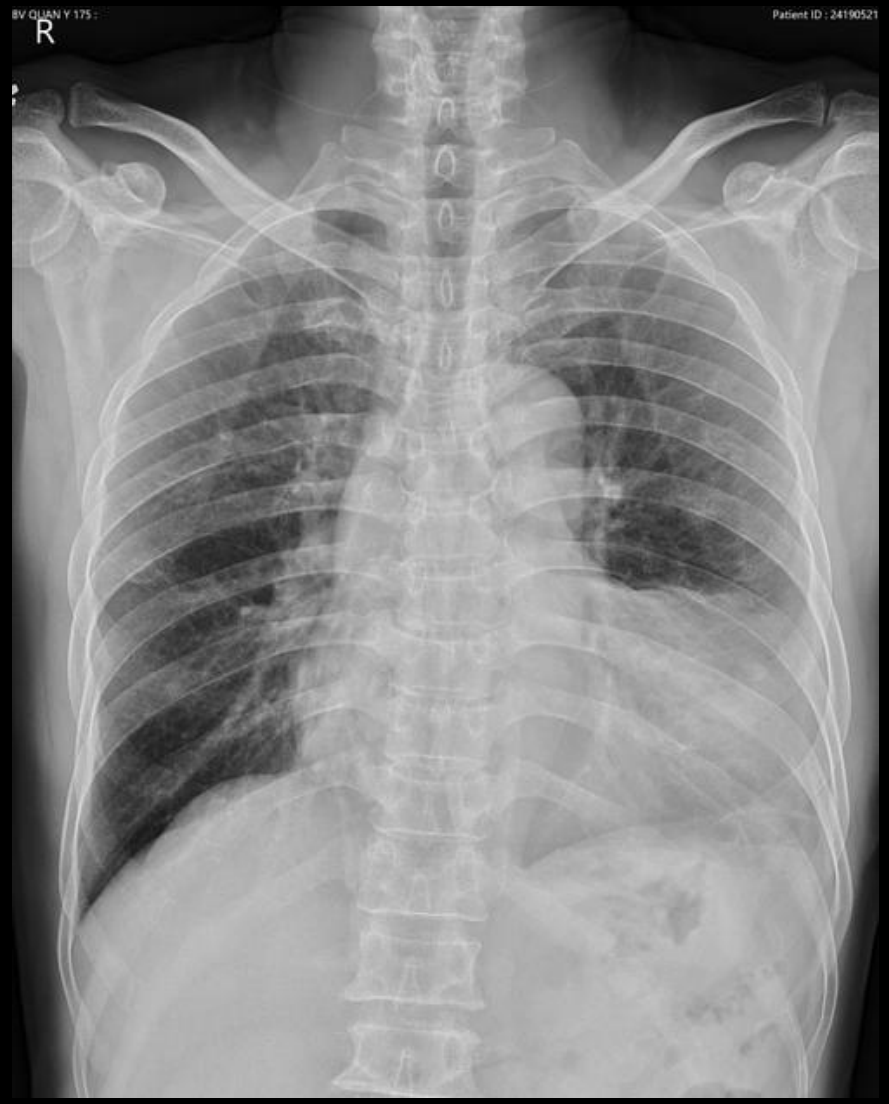
駝峰狀



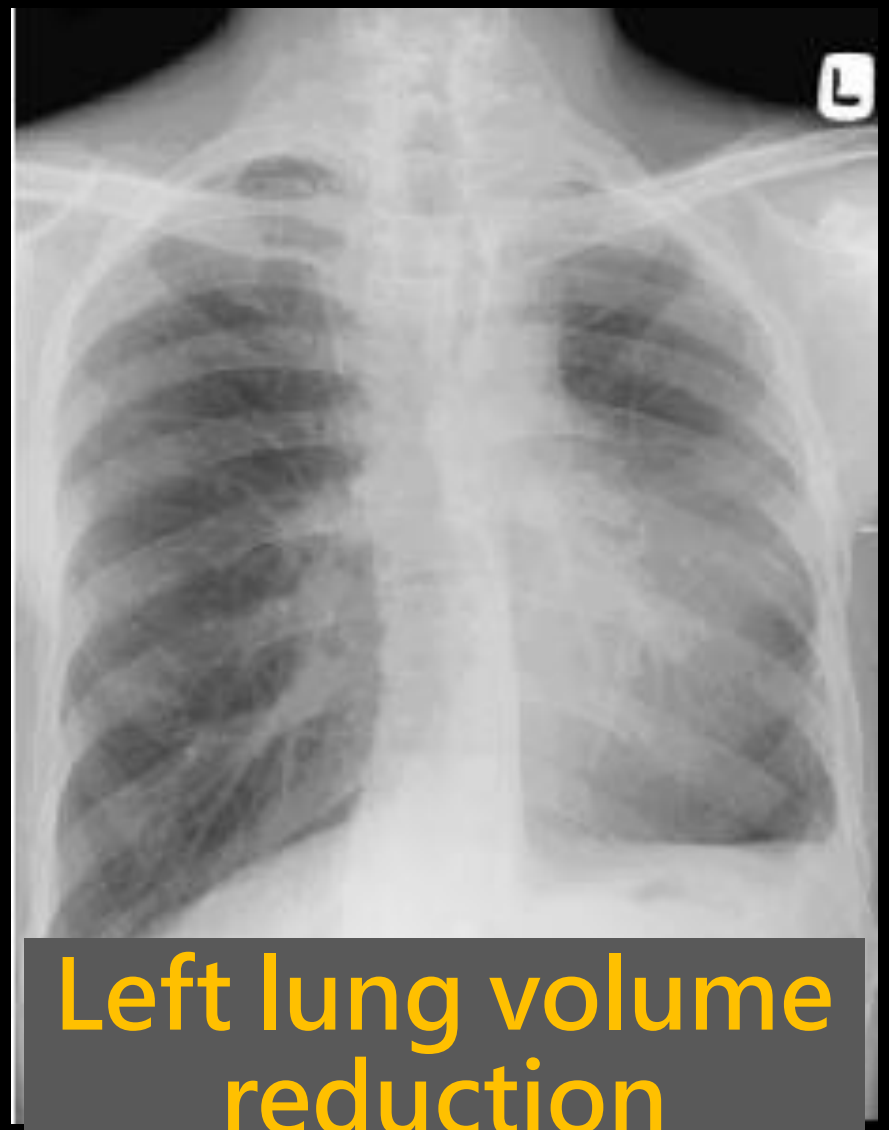
扁平狀 COPD

分區重點：橫膈、橫膈下影像

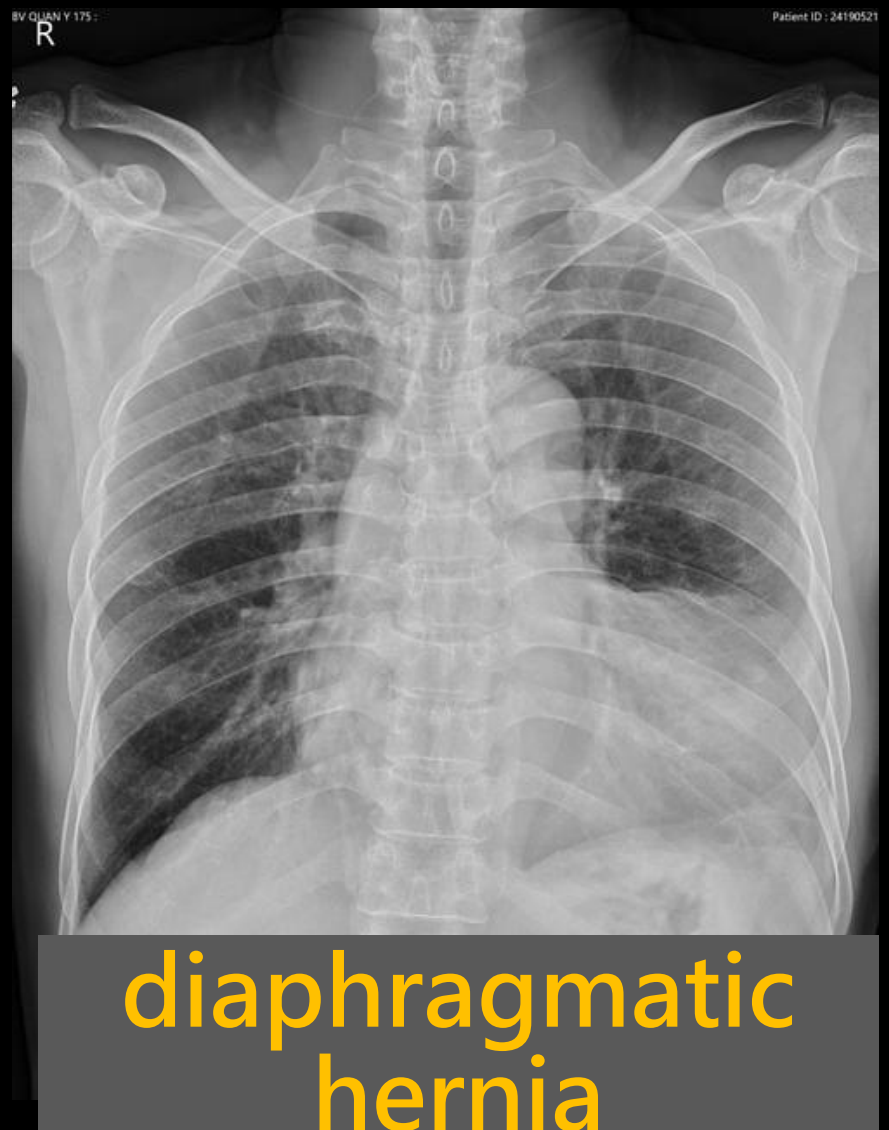




分區重點：橫膈、橫膈下影像

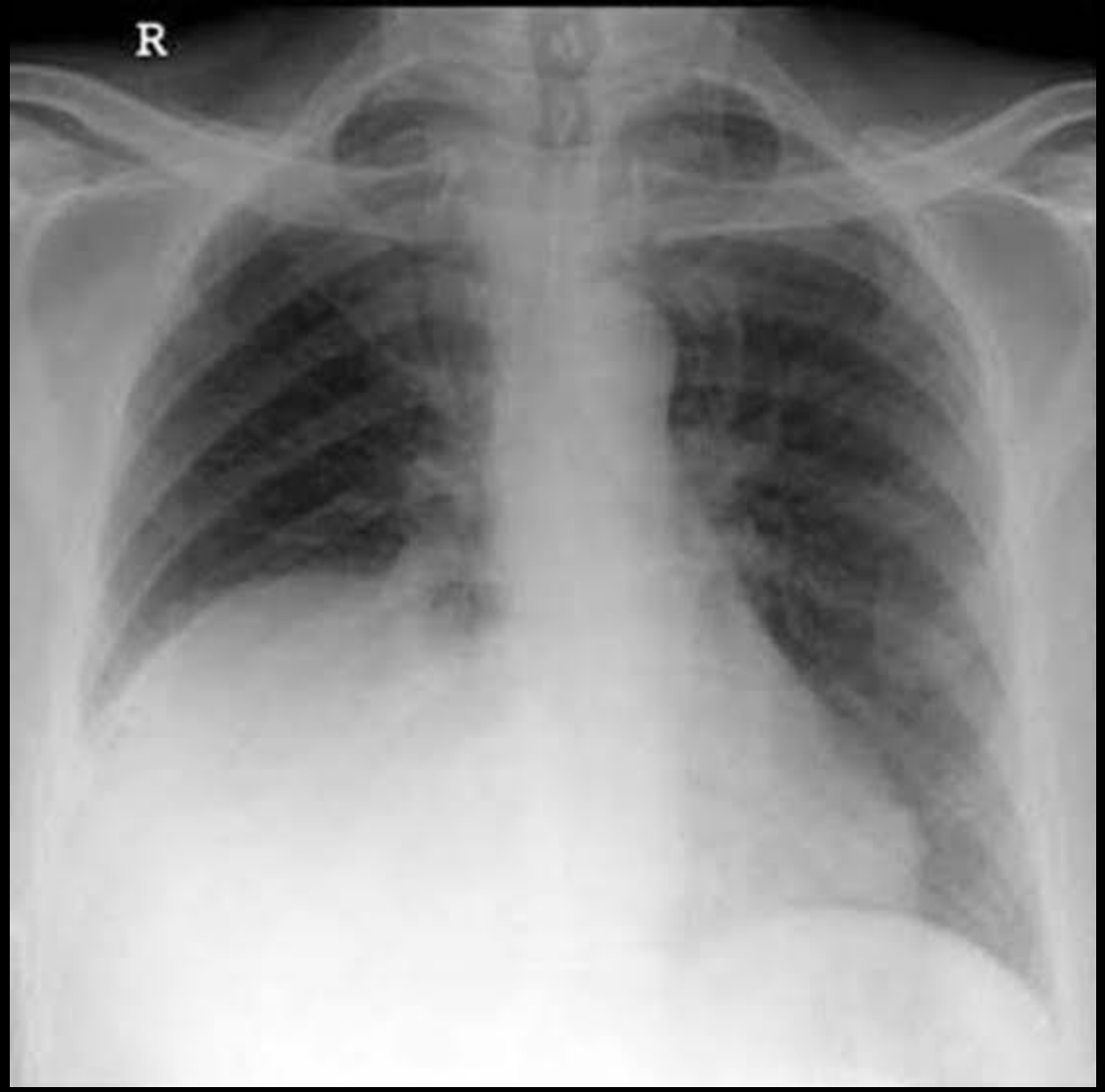


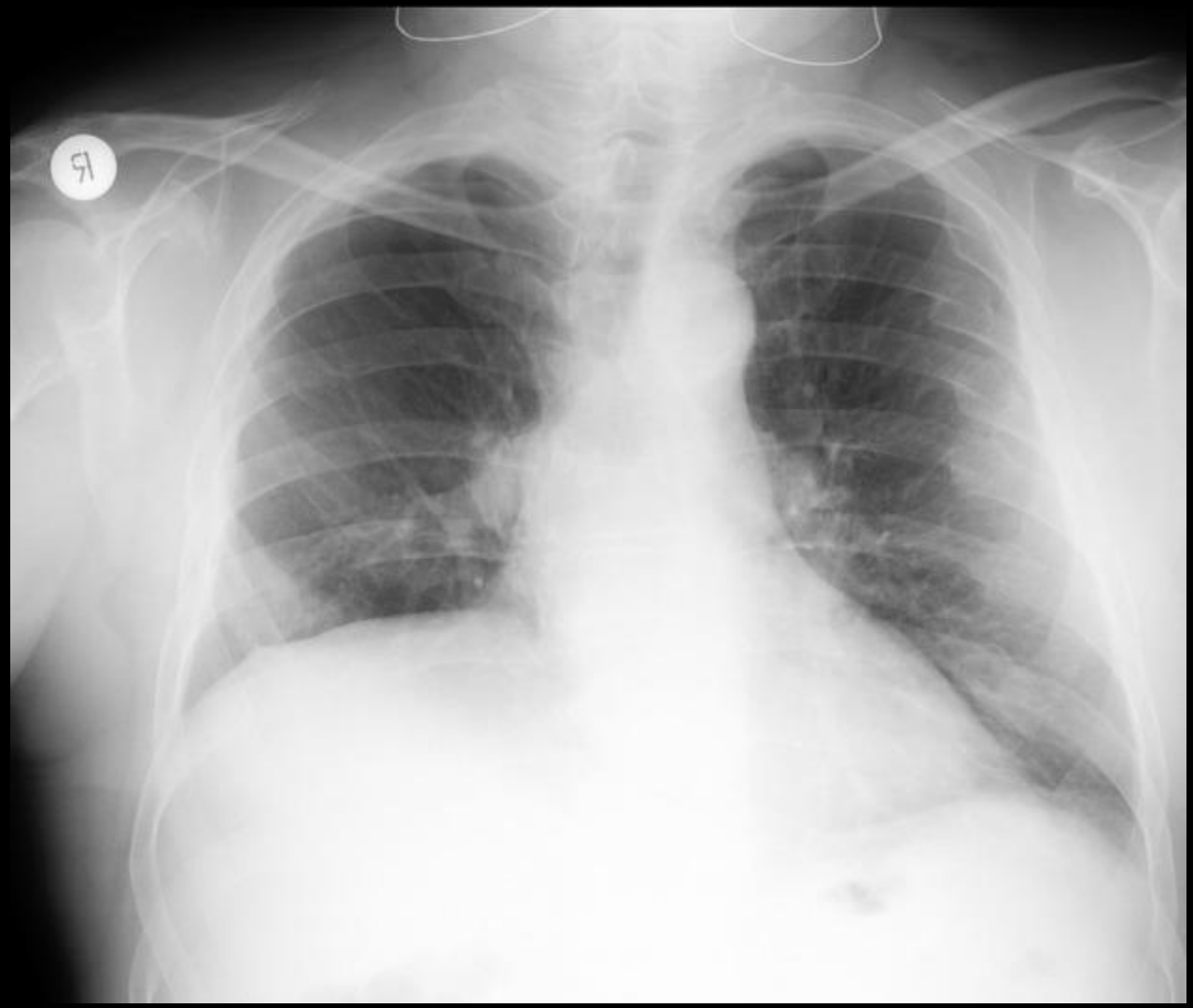
Left lung volume reduction



diaphragmatic hernia

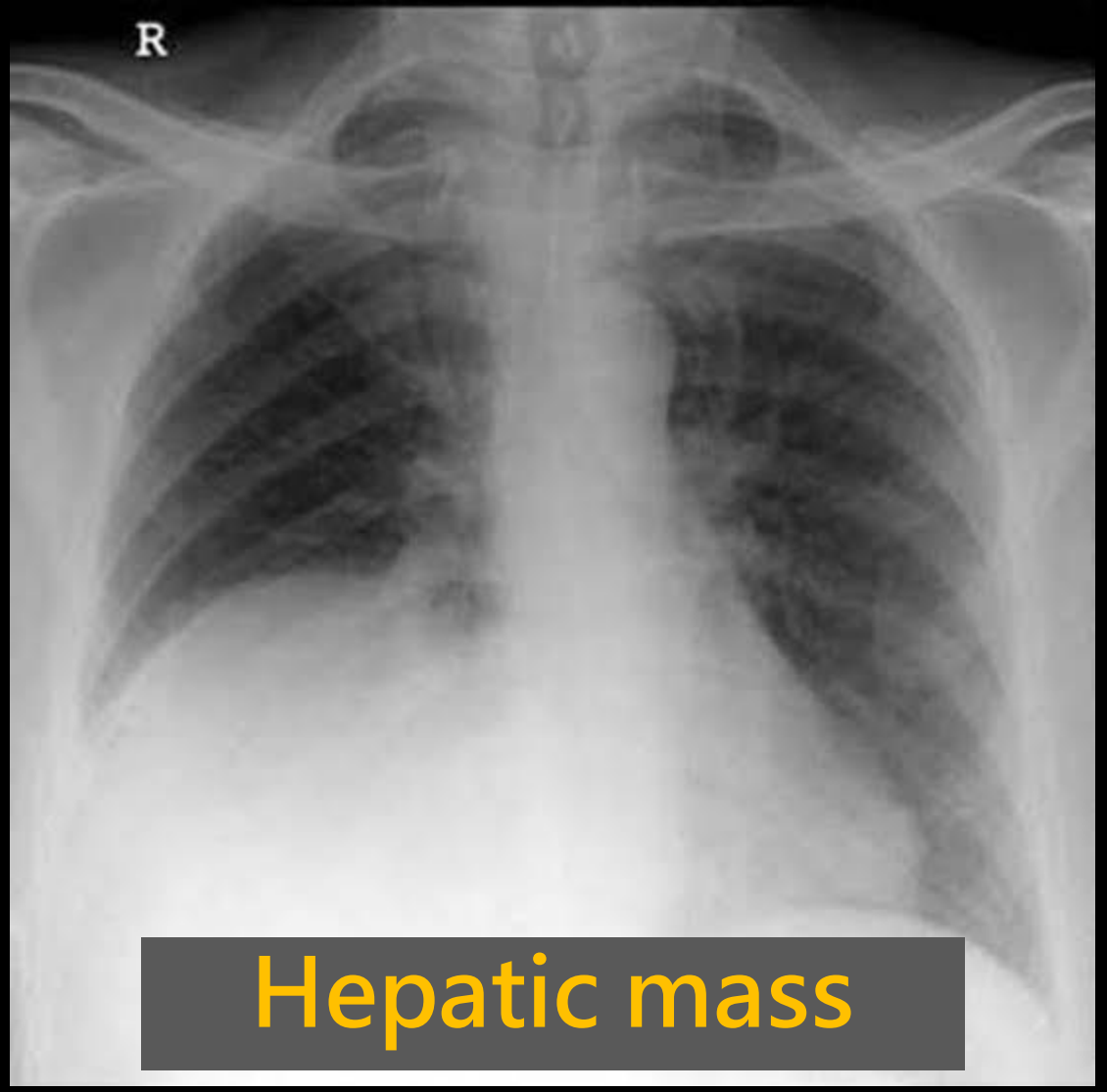
分區重點：橫膈、橫膈下影像



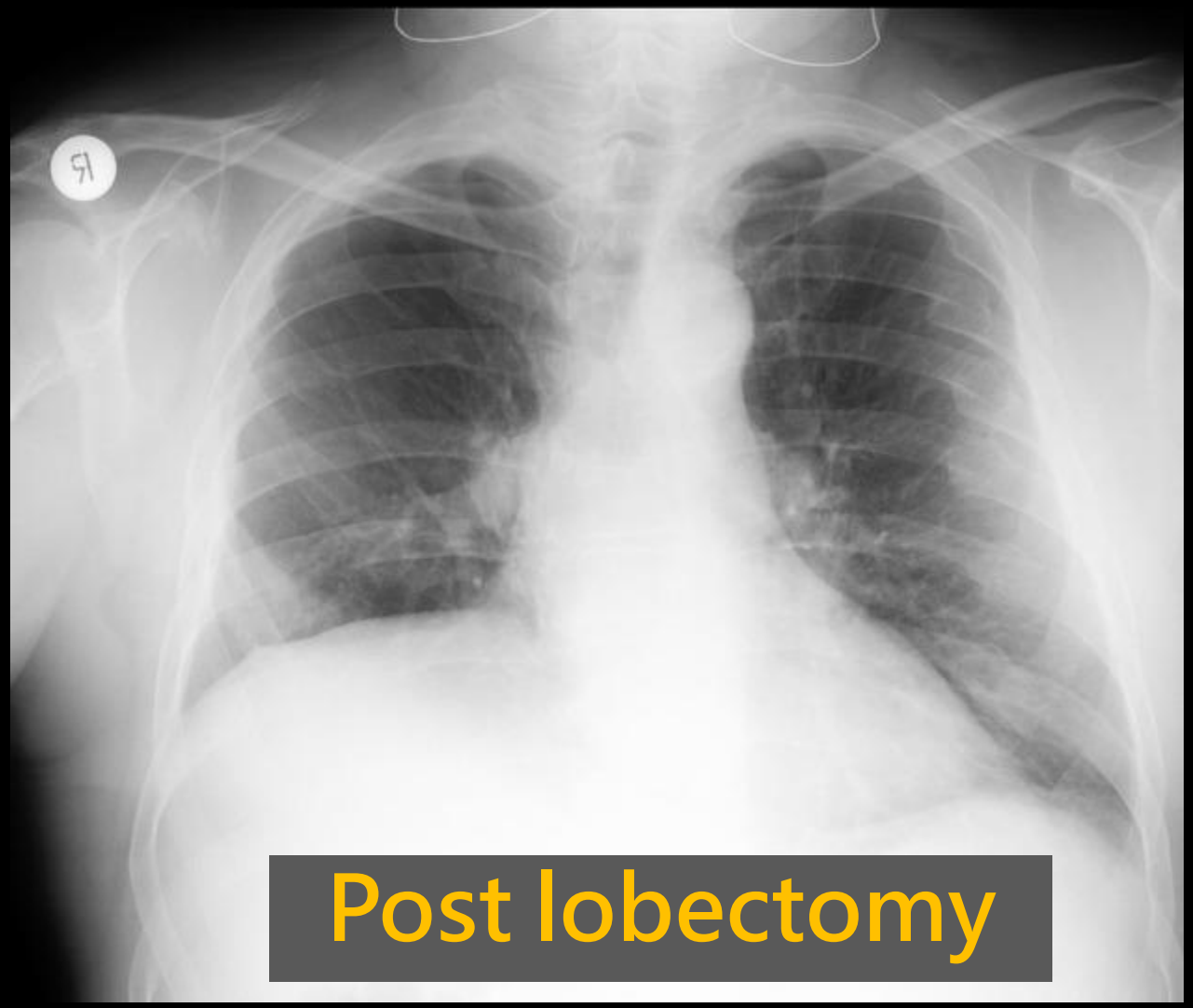


https://radiopaedia.org/articles/elevated-hemidiaphragm

分區重點：橫膈、橫膈下影像



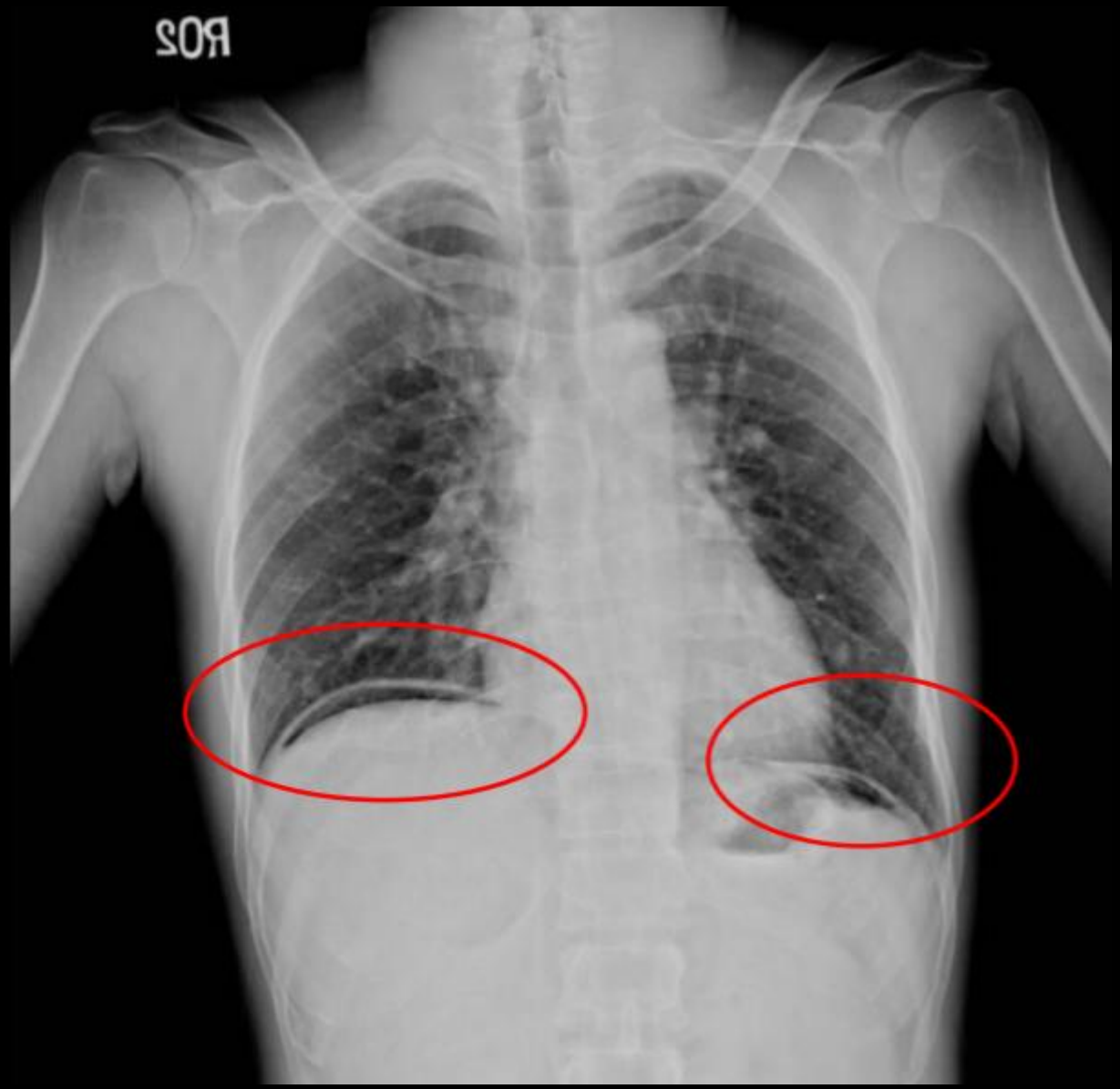
Hepatic mass



Post lobectomy

https://radiopaedia.org/articles/elevated-hemidiaphragm

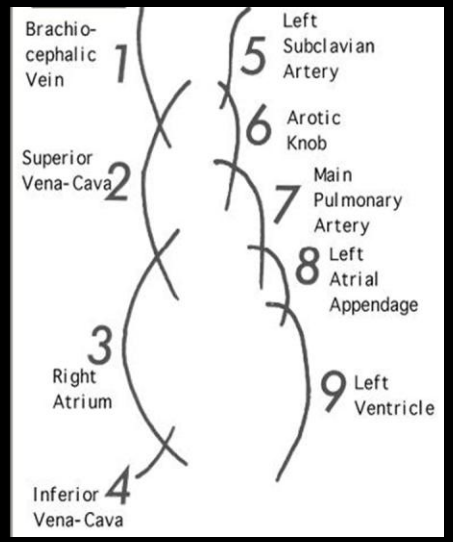
分區重點：橫膈、橫膈下影像

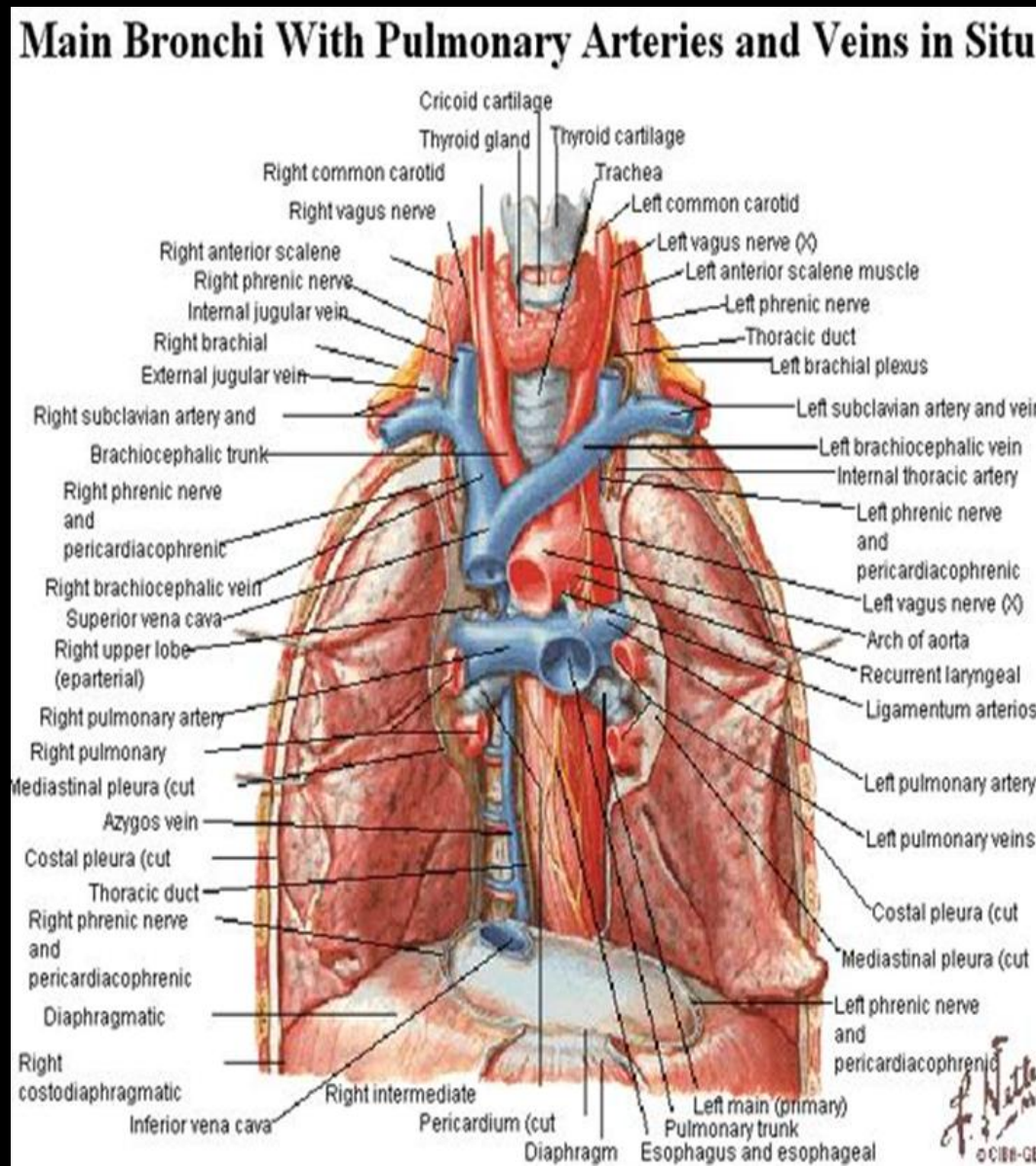


Pneumoperitoneum

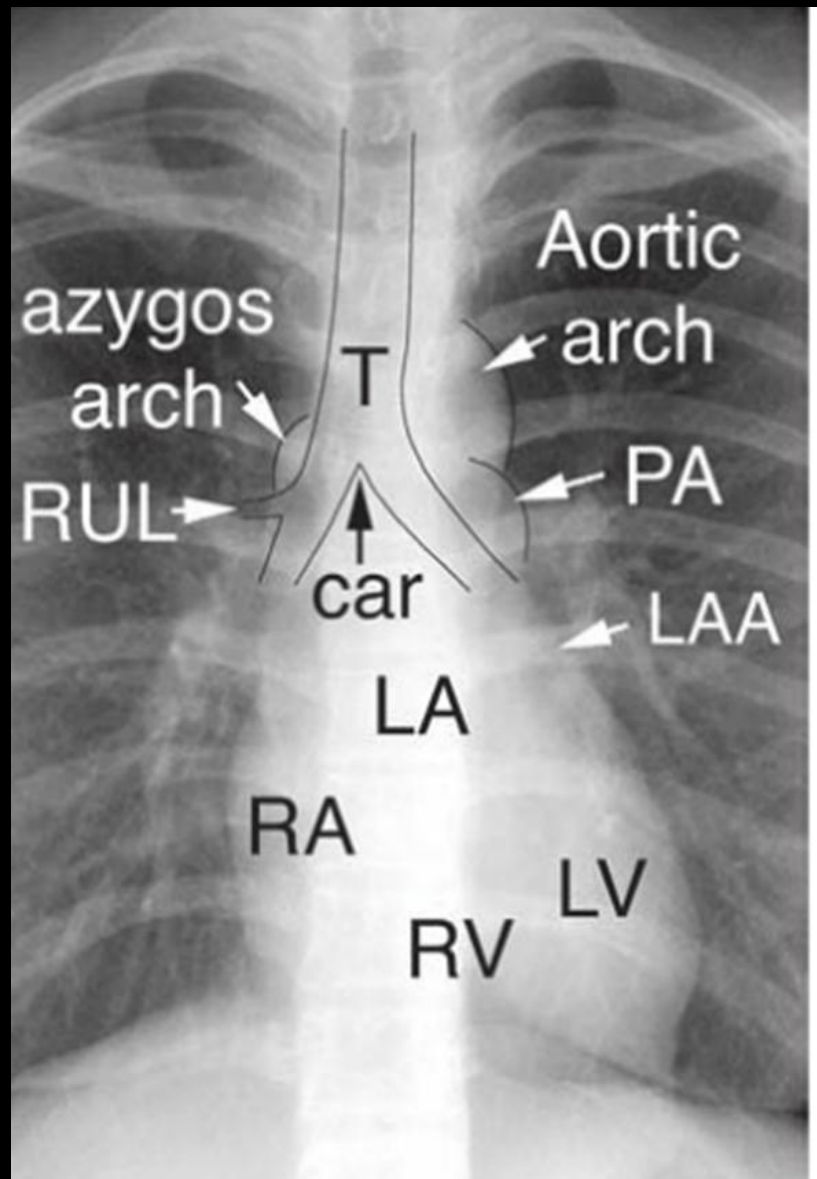
分區重點：Mediastinum 縱膈

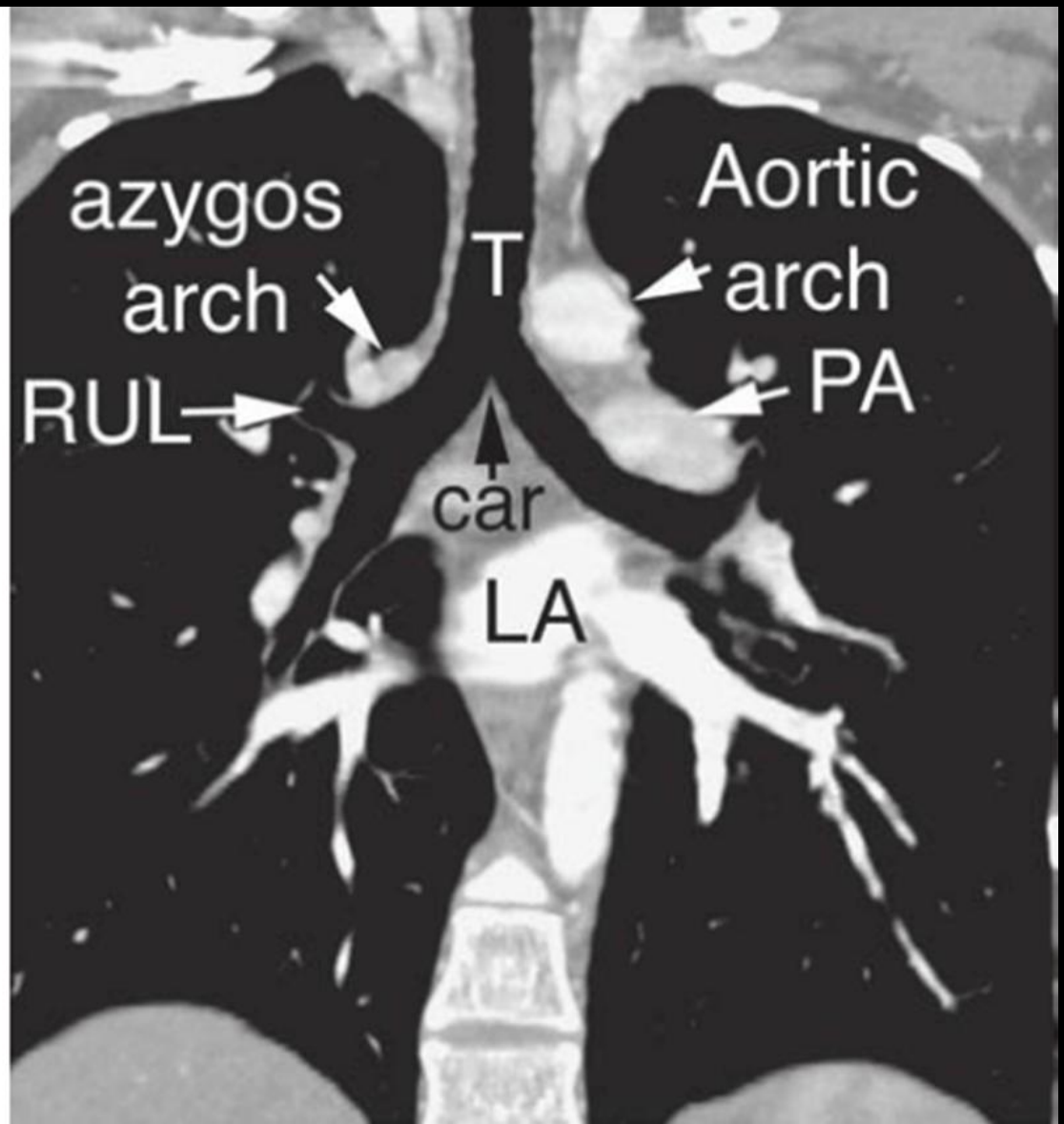
- 心臟
  - Heart shadow
  - Cardiothoracic Index
- 大血管
  - Aorta
  - Pulmonary arteries
- 大氣道
  - Endotracheal/endobronchial
  - Subcarinal angle 75°
- 食道
- 肺門





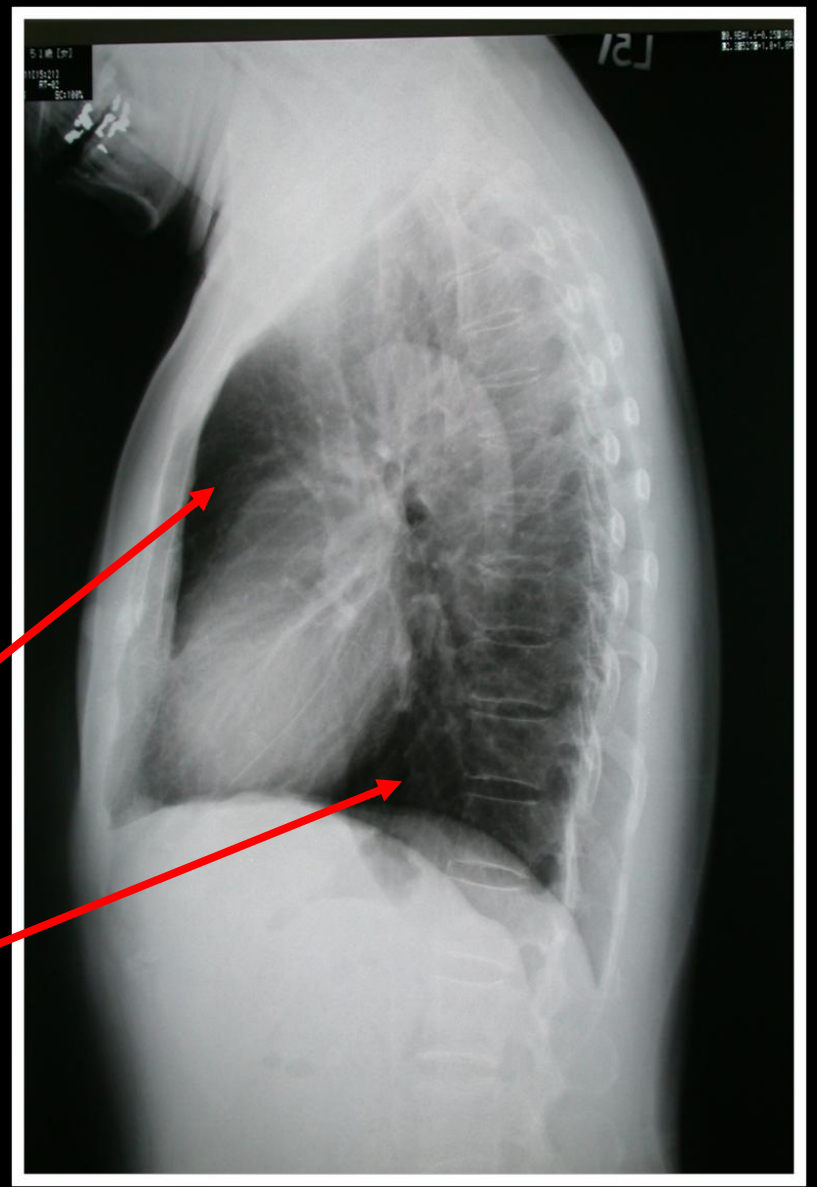
分區重點：Mediastinum 縱膈





分區重點：Mediastinum 縱膈

- 懷疑縱膈病灶-務必看側位照
  - 上、前、中、後縱膈
- 心臟
- 大血管
  - Aorta
  - Pulmonary arteries
- 大氣道 –
  - Posterior tracheal stripe
- 食道
- 肺門
- Retrosternal triangle
- Retrocardiac triangle



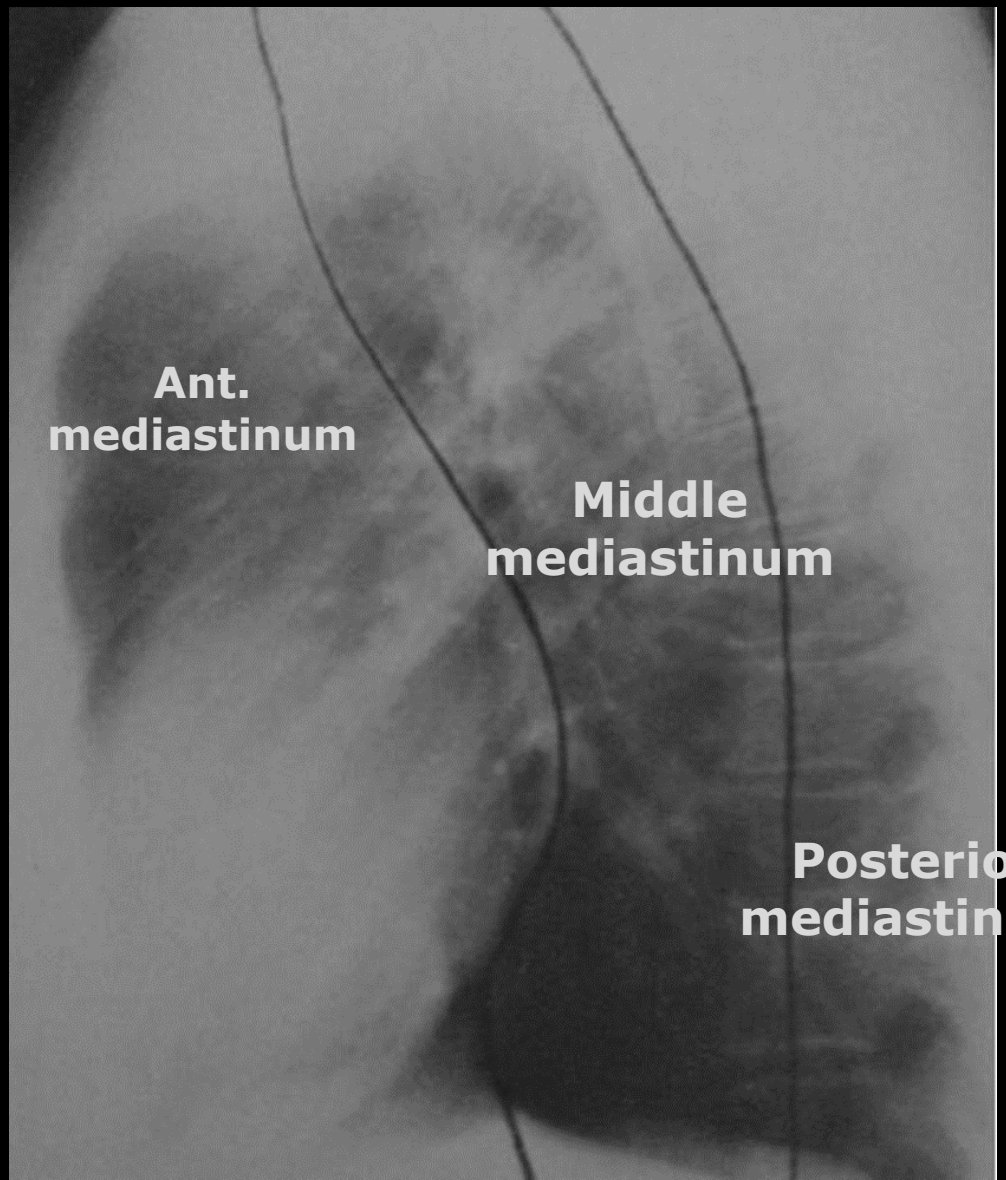
分區重點：Mediastinum 縱膈

- Shift
- Widening
  - Aortic aneurysm
  - Lipomatosis
  - Mediastinitis (air-fluid level)
- Soft tissue density
  - Mass, neoplasm
- Air or air-fluid level
  - Pneumomediastinum
  - 食道病變：esophagus reconstruction, esophageal cancer, achalasia
  - Hernia

分區重點：Mediastinum 縱膈

- Anatomy Landmarks
- Anterior
- Middle
- Posterior

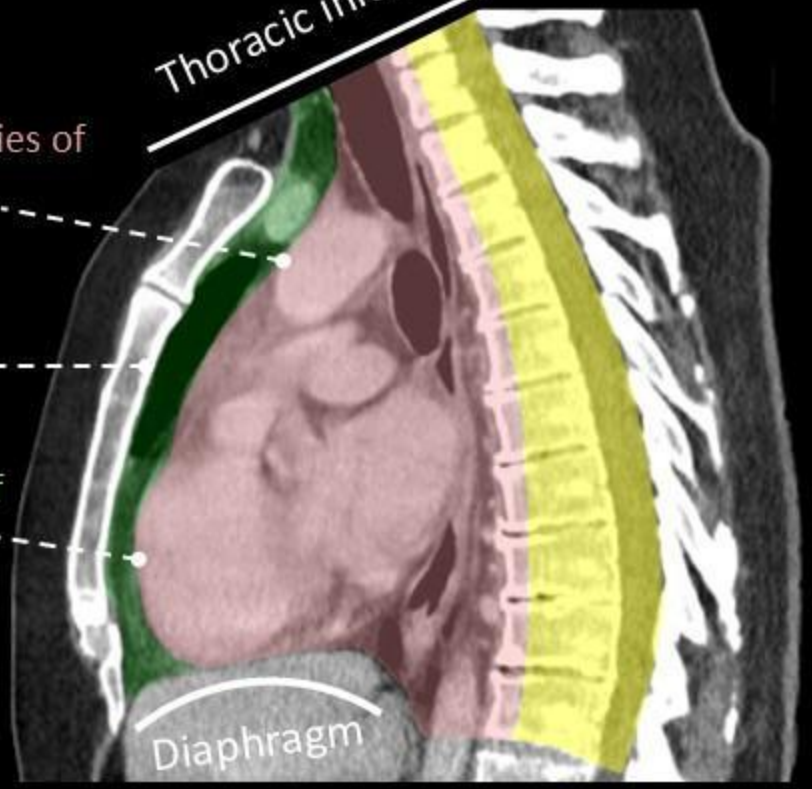
- 氣管前緣-心臟後緣
- 椎體前緣向後1 cm

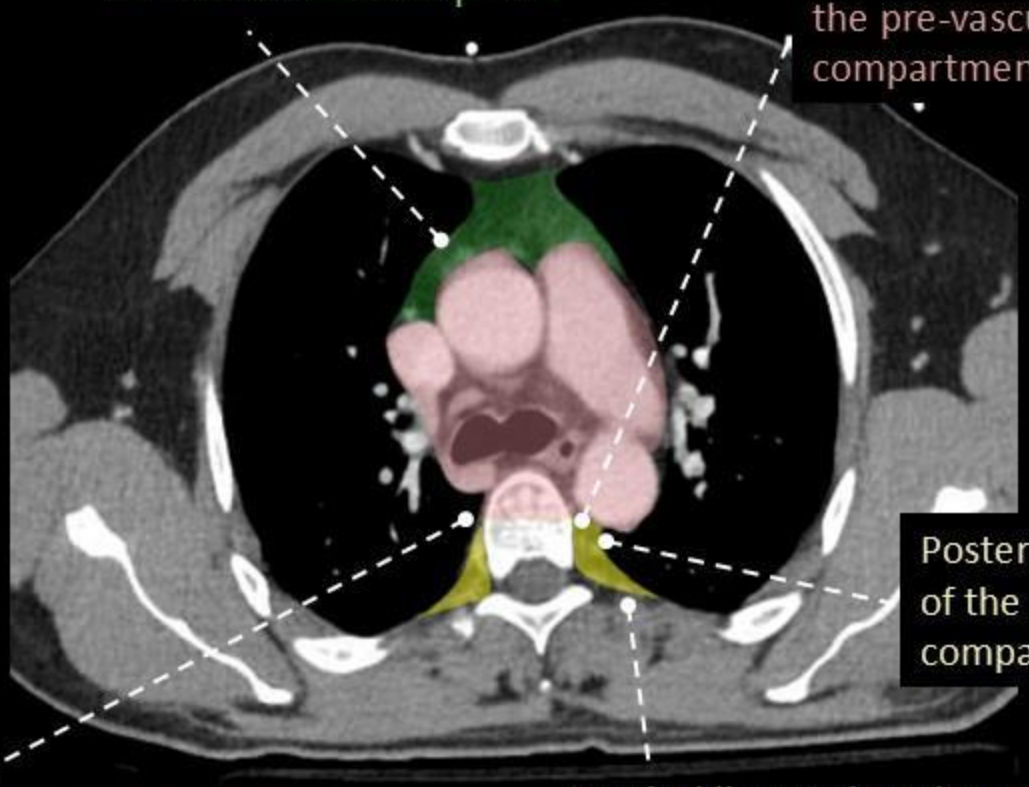


MEDIASTINAL COMPARTMENTS

ITMIG (International Thymic Malignancy Interest Group) Classification and boundaries:

Prevascular (anterior) Vascular (middle) Paravertebral (posterior)





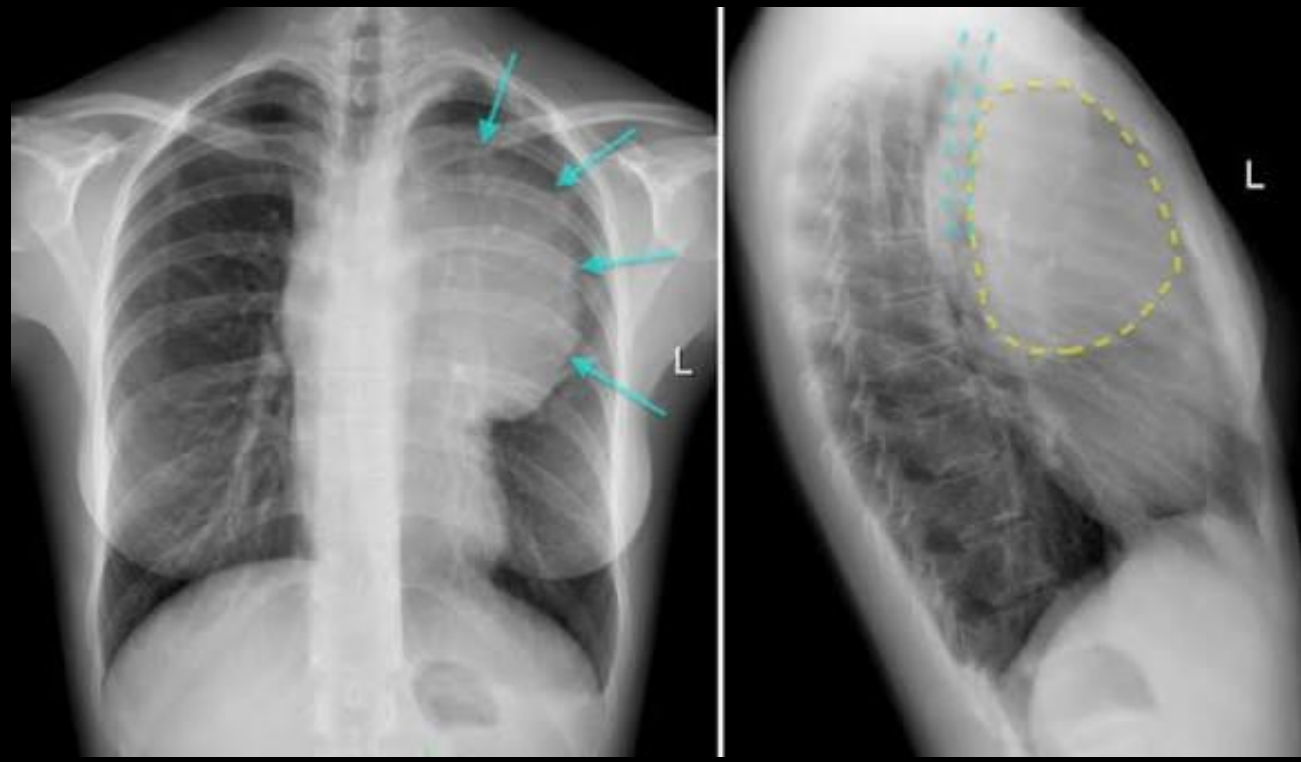
Vertical line connecting a point on each thoracic vertebral body 1 cm posterior to its anterior margin

Vertical line against the posterior margin of the chest wall

https://dx.doi.org/10.26044/ecr2025/C-14630

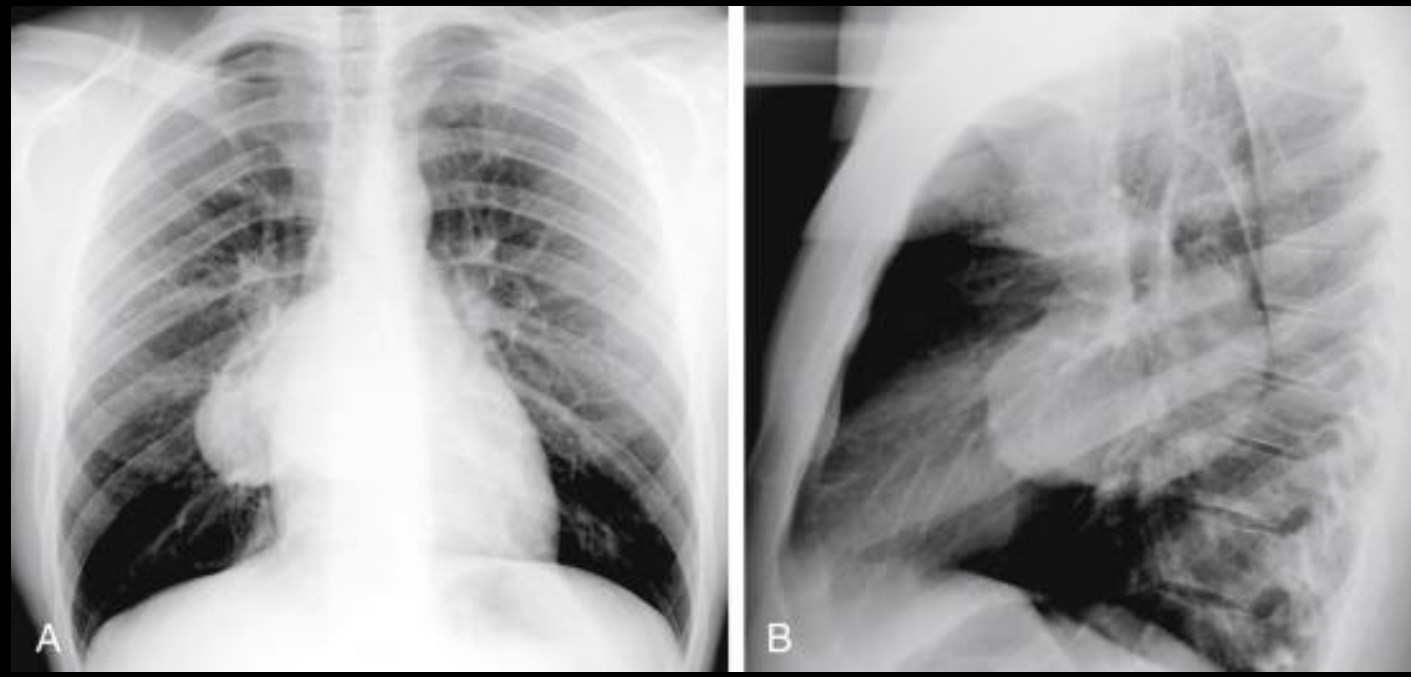
分區重點：Mediastinum 縱膈

- Anterior mediastinum（前縱隔）
- "4Ts(3T1L)" 記憶
  - Thymoma（胸腺瘤）
  - Thyroid mass（甲狀腺腫）
  - Teratoma / Germ cell tumor（生殖細胞瘤)
  - “Terrible” Lymphoma(淋巴瘤)



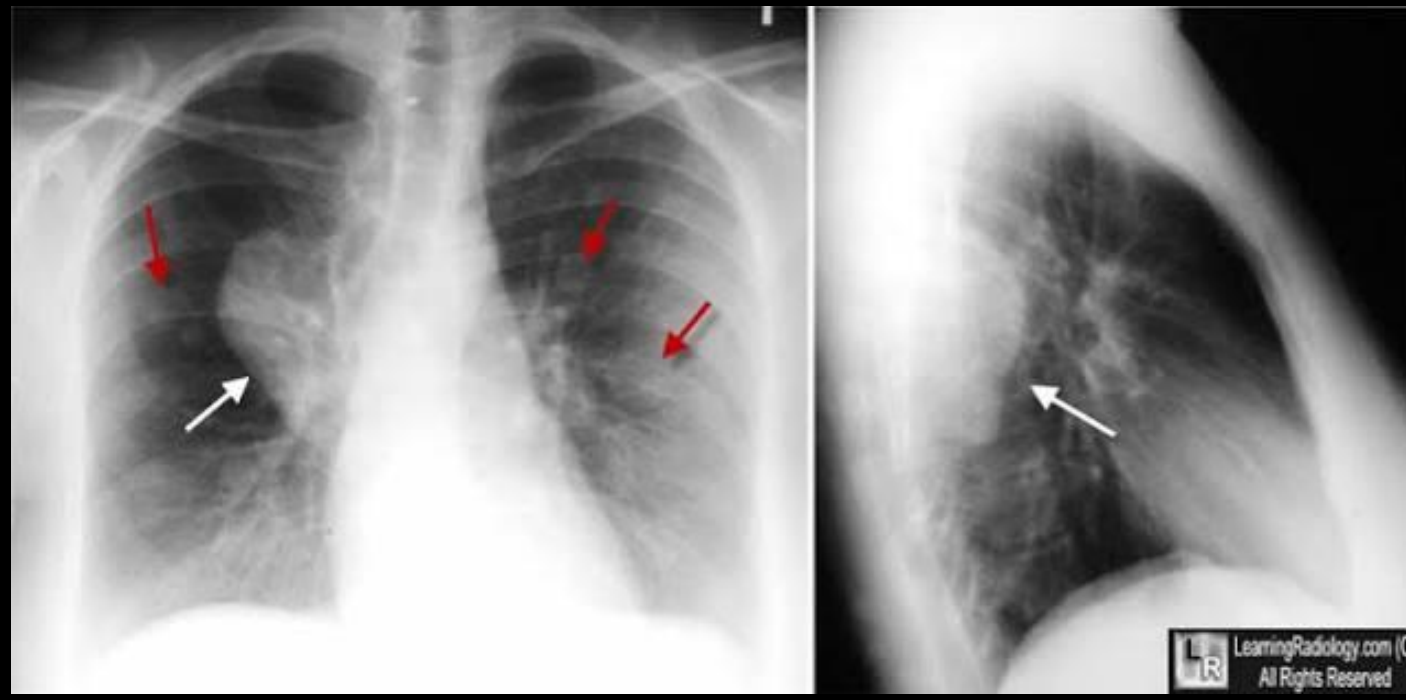
分區重點：Mediastinum 縱膈

- Middle mediastinum（中縱隔）
- “4Ls”記憶
  - Lymph nodes
  - Liquid cyst（bronchogenic/pericardial cyst)
  - Large vessels（aorta、pulmonary artery）
  - Lower airway（trachea/bronchi）



分區重點：Mediastinum 縱膈

- Posterior mediastinum（後縱隔)
- “4Ns”記憶
  - **N**eurogenic tumor (Schwannoma, Neurofibroma, Ganglioneuroma)
  - **N**ear esophagus (Esophageal cancer, Diverticulum)
  - **N**eurenteric/duplication cyst
  - **N**ear spine (Vertebral tumor, Paraspinal abscess, Extramedullary hematopoiesis)

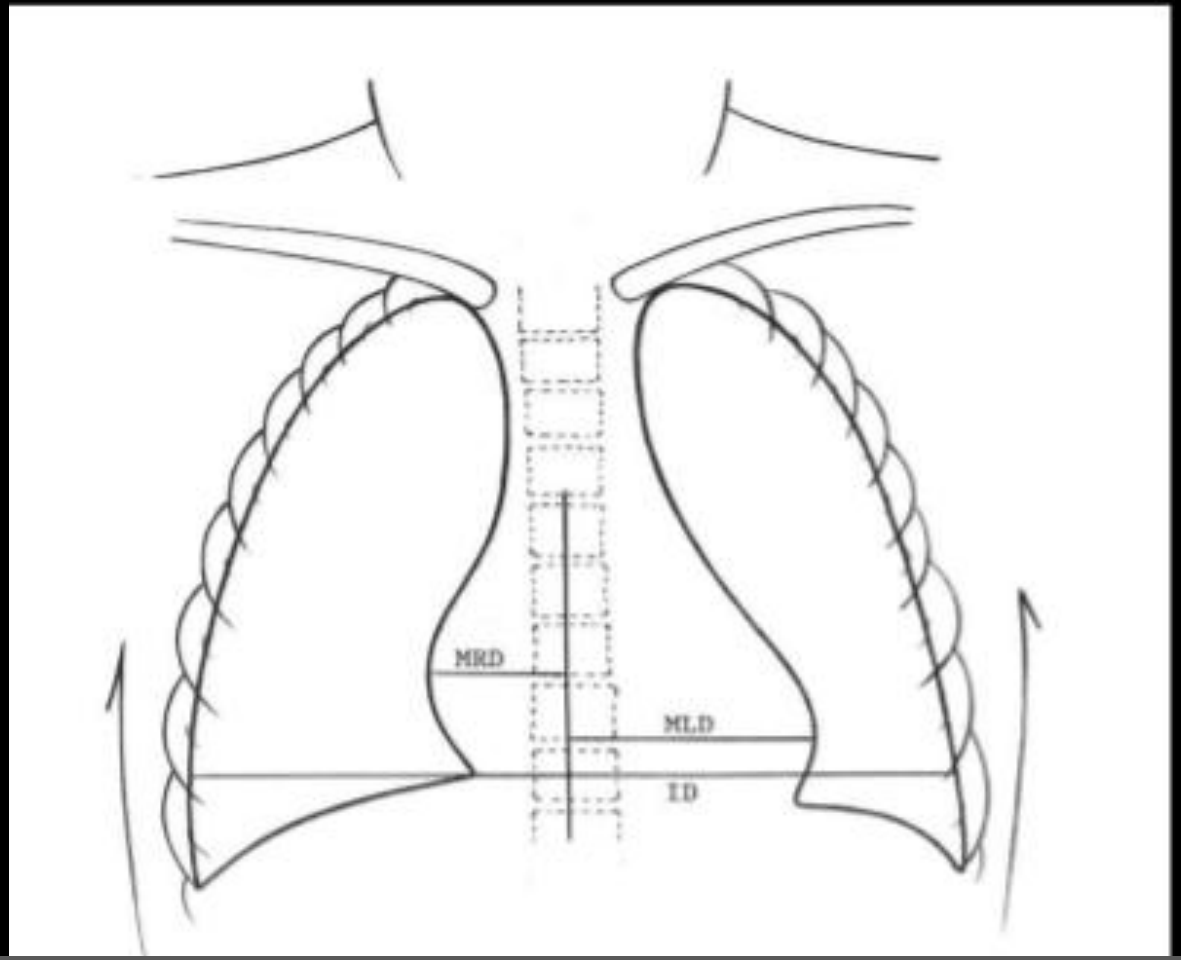


分區重點：Heart

- Size change: Cardiothoracic (C-T) ratio
  - Signs:
    - Water bag: Pericardial effusion
    - Boot-shaped: Tetrology of Fallot (TOF)
    - Straight Lt heart border (Flat-waist sign) : LLL atelectasis
    - Double density of right heart border (Double contour sign): LAE
- Pericardiac mass : 心臟、橫膈、肺、其他縱膈腫塊
  - L: LV aneurysm
  - R: Morgagni hernia
  - R / L: Epicardial fat pad, pericardial cyst, diaphragmatic hernia, lung mass
- Pericardial calcification: constrictive pericarditis
- Retrocardiac density: 死角

分區重點：Heart

- ID = internal diameter of chest at level of right hemi-diaphragm
- MRD = greatest perpendicular diameter from midline to right heart border
- MLD = greatest perpendicular diameter from midline to left heart border
- CT index = (MRD + MLD)/ID

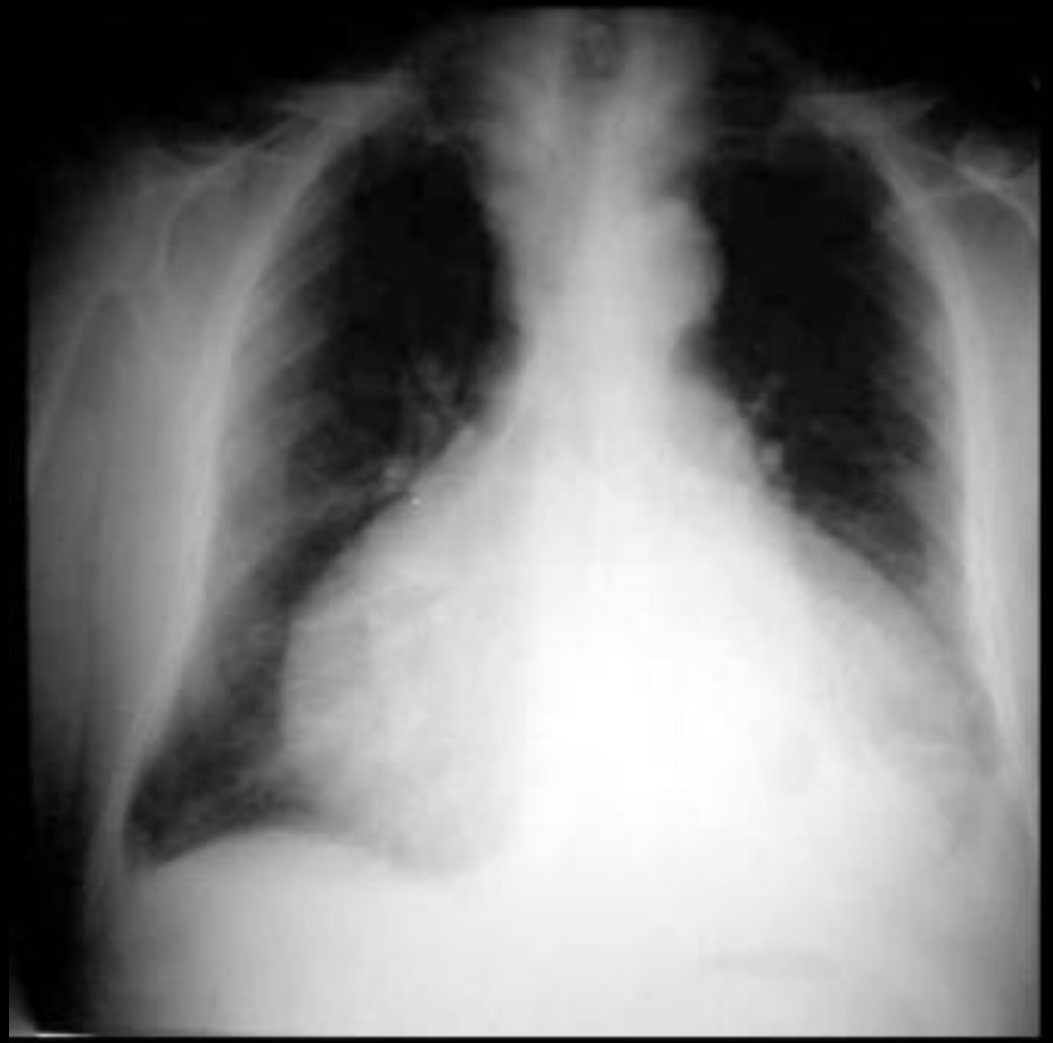


Cardiothoracic Index

正常成人 < 0.5 in PA view

分區重點：Heart

- Enlarged "cardiac" density
- Water bottle appearance
- Pulmonary oligemia
- Precardiac fat line in lateral view below

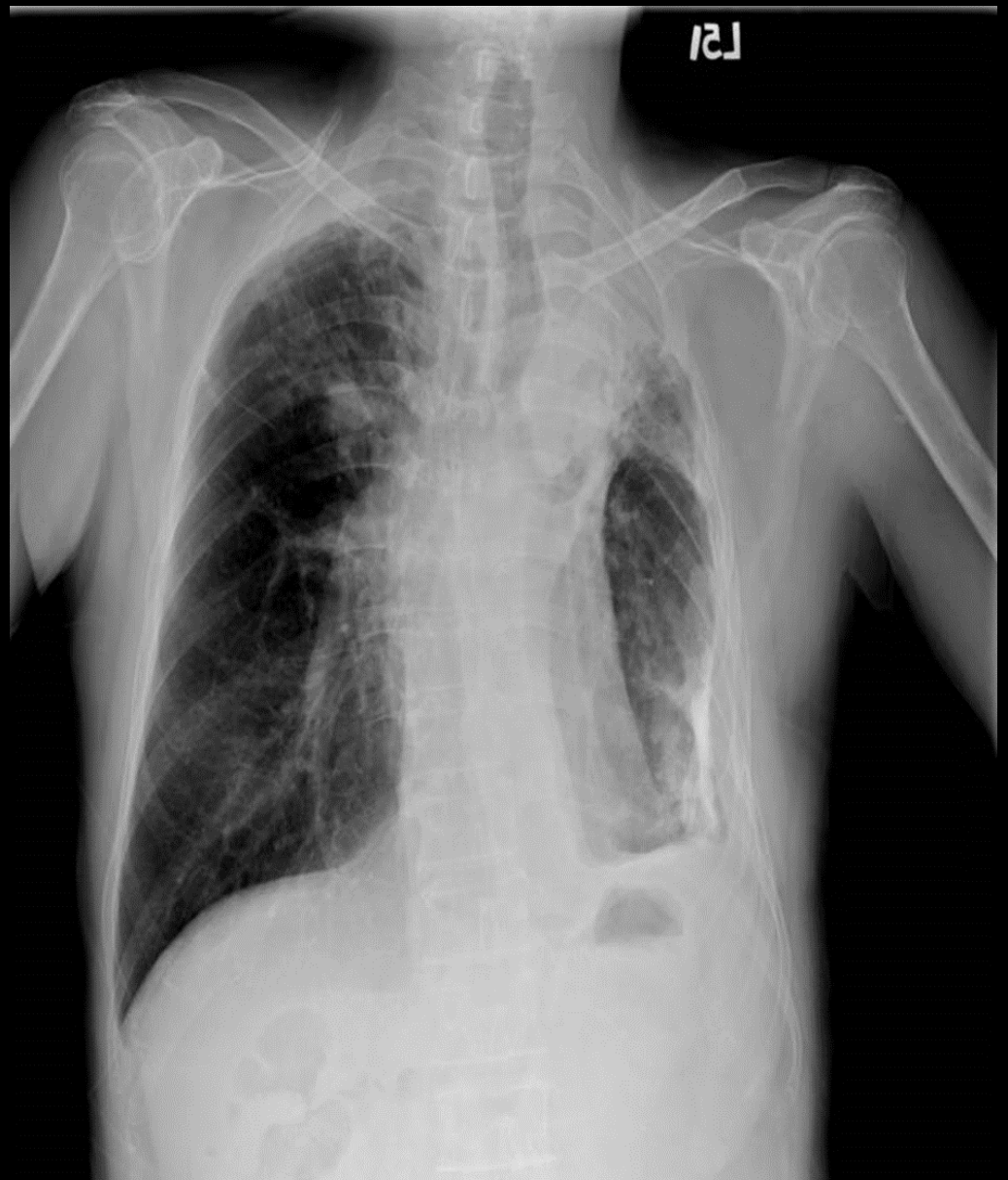


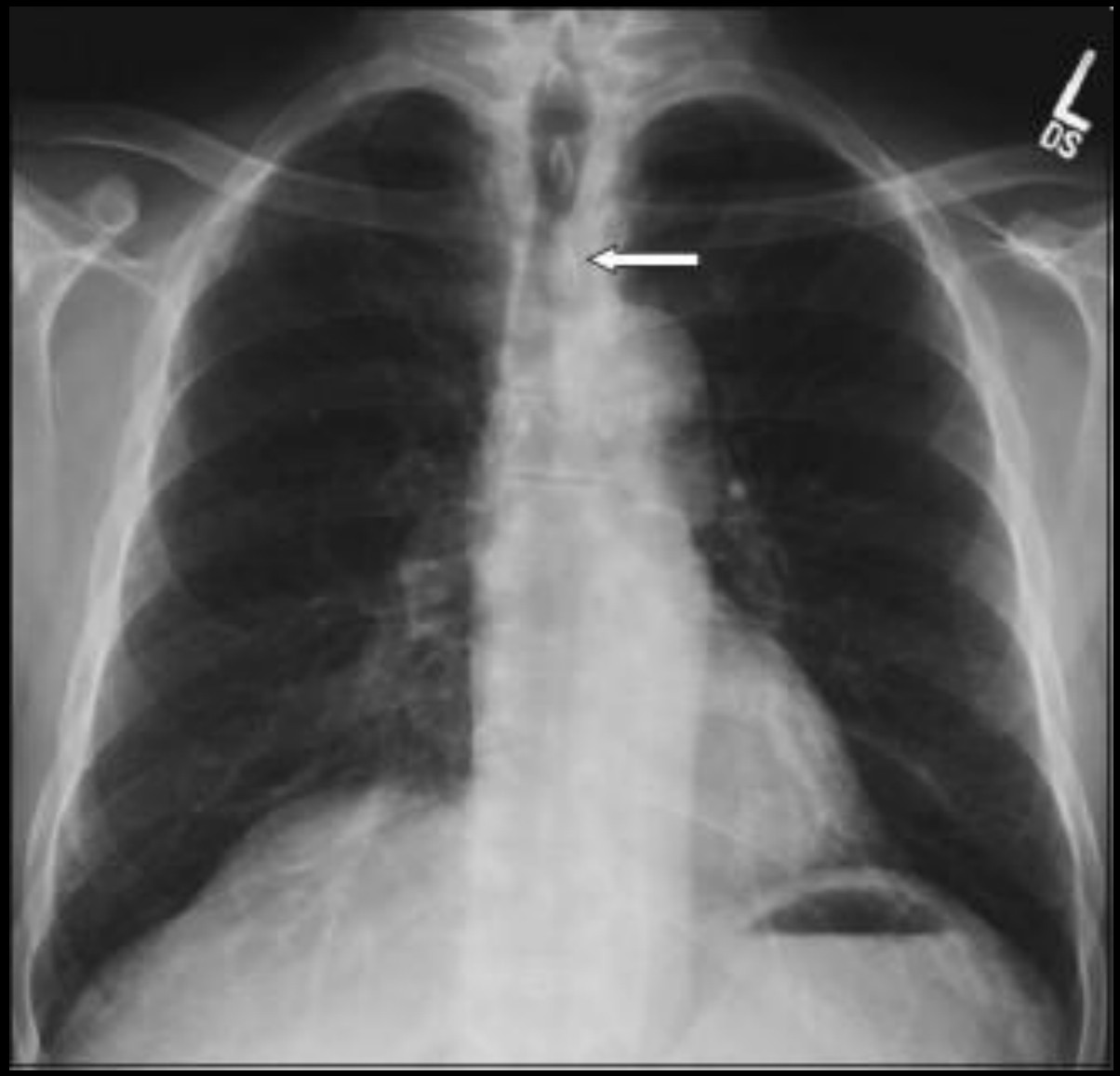
Pericardial Effusion

分區重點：Airway

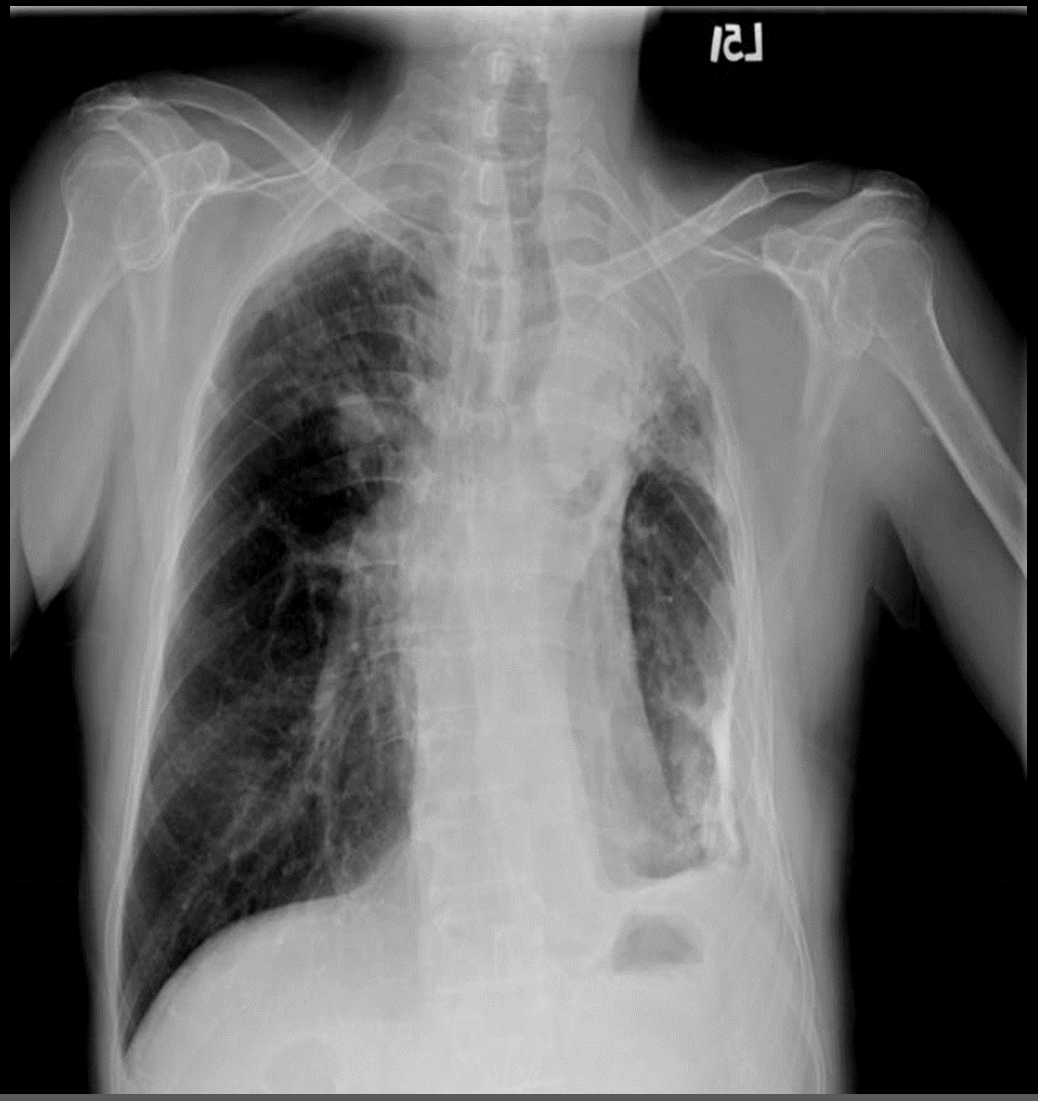
- Diameter change: (Normal < 2-2.5cm)
  - Stenosis: Relapsing polychondritis
  - Dilate: tracheomalacia
- Deviation:
  - Pathological change
  - Aortic notch compression
- Tumor:
  - Tracheal tumor; hamartoma; carcinoid tumor; cylindroma
- Carina angle: (正常約75°; Rt : 30 °, Lt: 45 °)
  - < 60°: lower lobe volume reduction
  - > 90°: upper lobe volume reduction, LAE, pericardial effusion, subcarinal LAP

分區重點：Airway

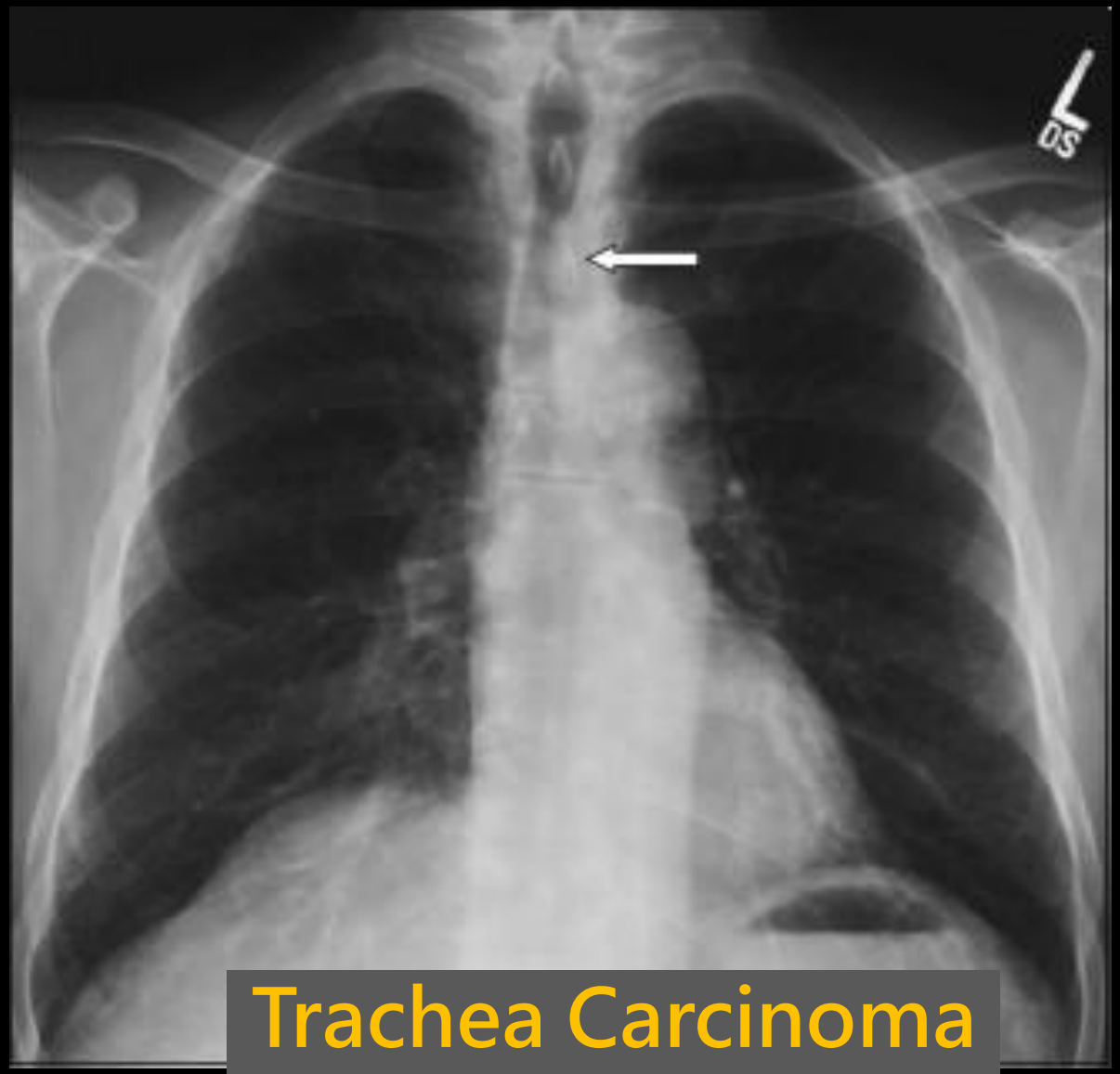




分區重點：Airway



Trachea deviation to left side



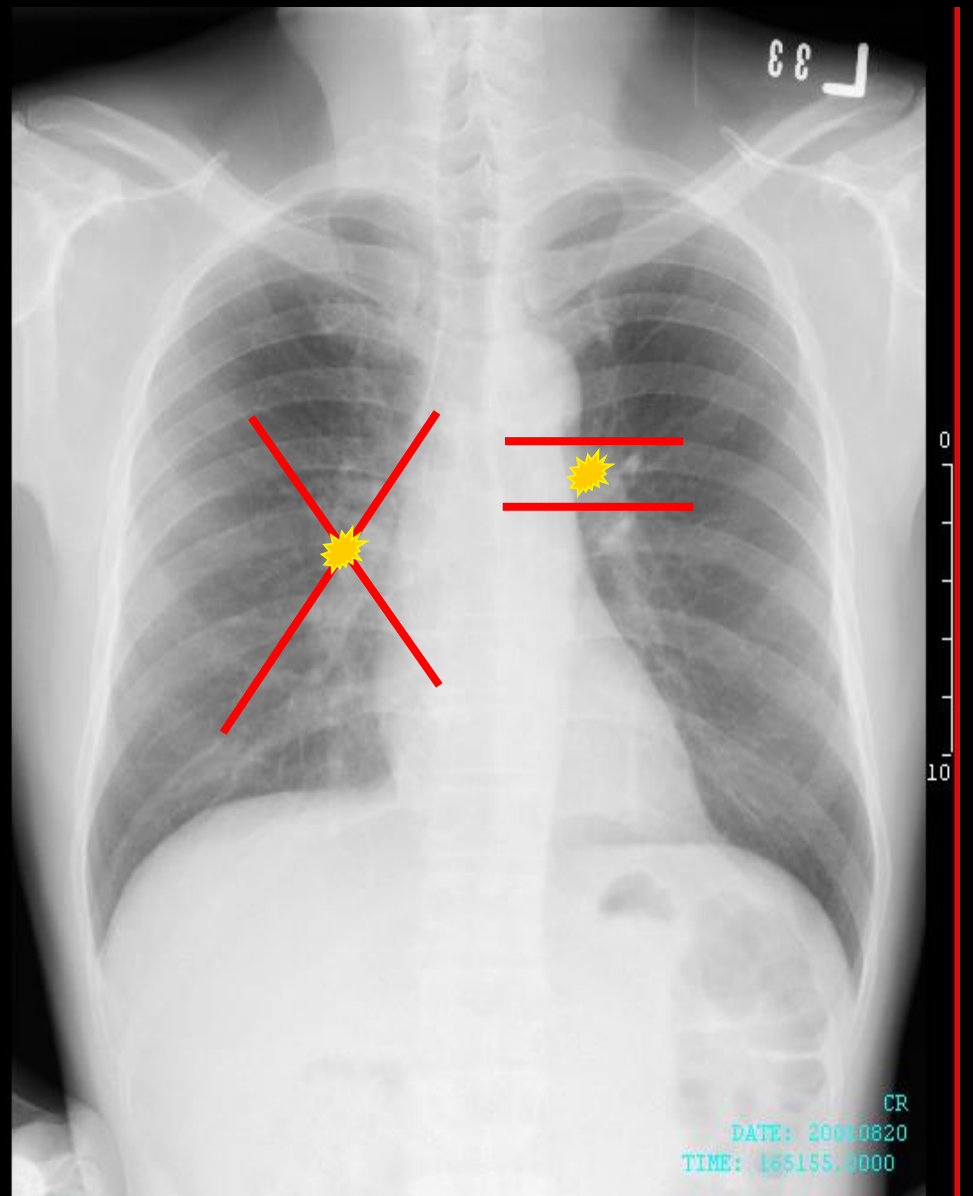
Trachea Carcinoma

分區重點：Hilum

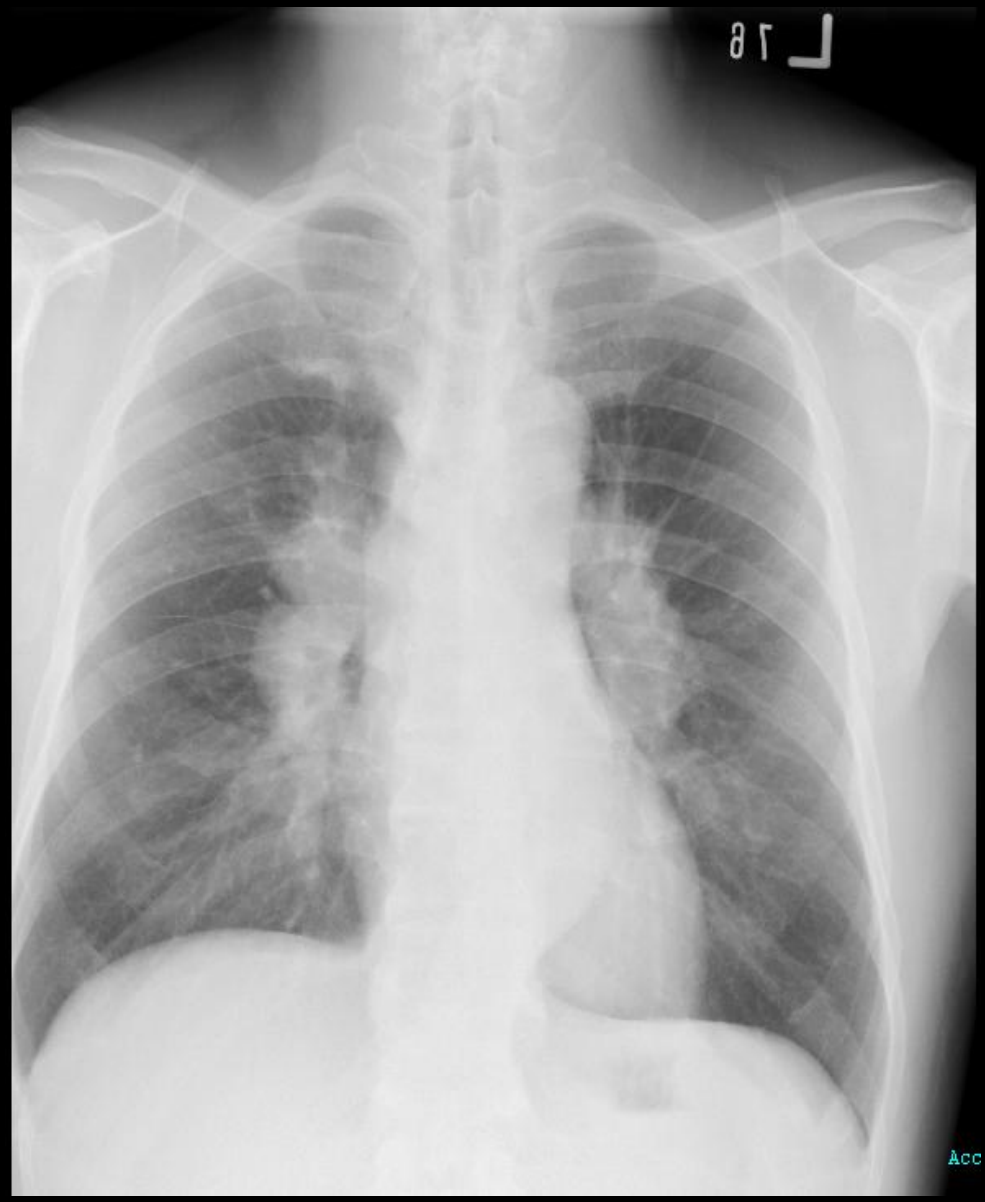
- 觀察重點：
  - 大小、位置、形狀、濃度(density)
- 位置：
  - 正常：左高於右(97% , 0.75-3cm，左右等高(3%)
  - 異常：右高於左
  - 右側肺門：Rt. superior pulmonary vein 和inferior limb of Rt. pulmonary artery的交點
  - 左側肺門：Upper margin of Lt. pulmonary artery trunk and LMB的中點
- Hilum enlargement
  - Hilar lesion
    - Vessel engorgement
    - Hilar LAP
  - Superimposed mass(lung, mediastinum)

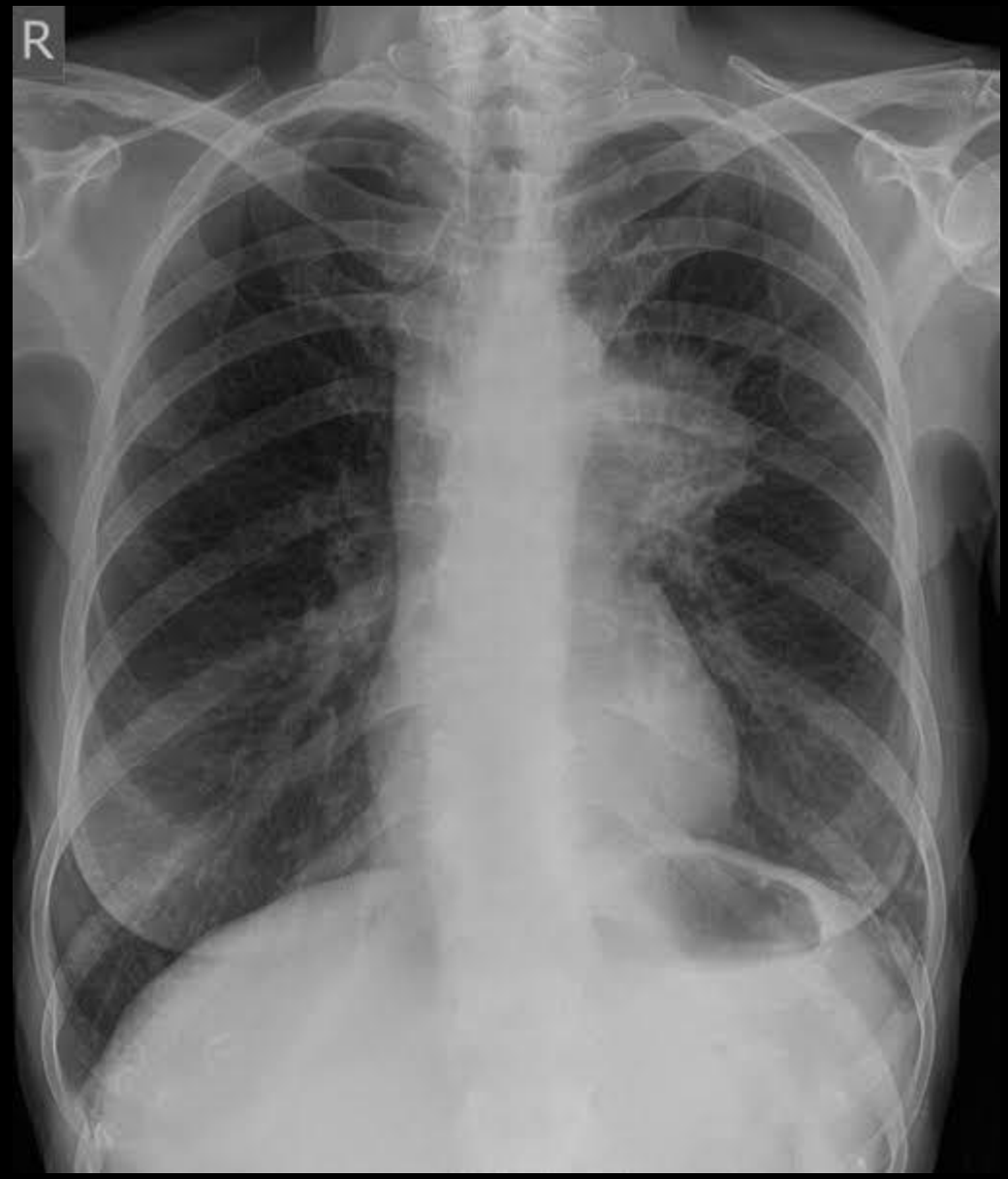
分區重點：Hilum

- 右肺門約在第三肋骨或肋間
- 右低左高
- 肺動脈直徑通常小於
  - 右: 16 mm
  - 左: 18mm

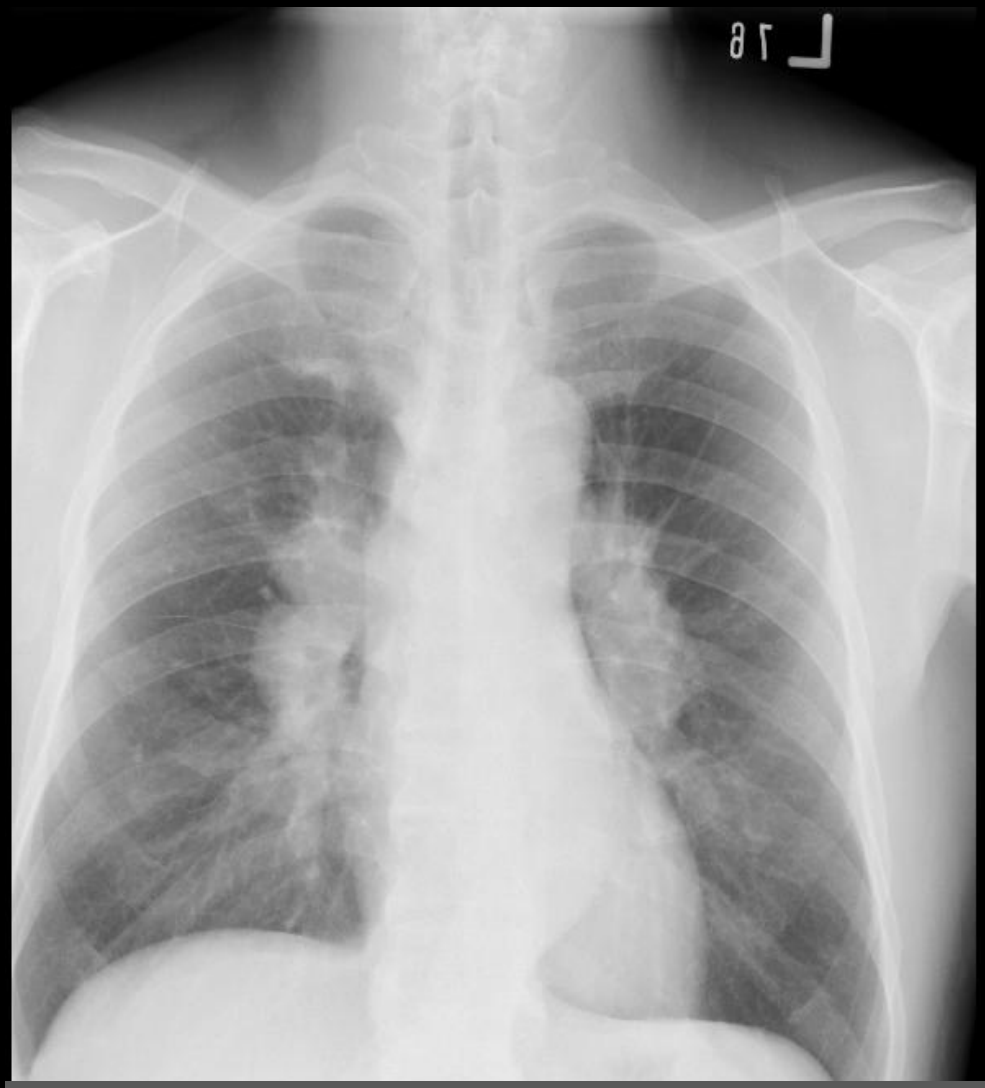


分區重點：Hilum

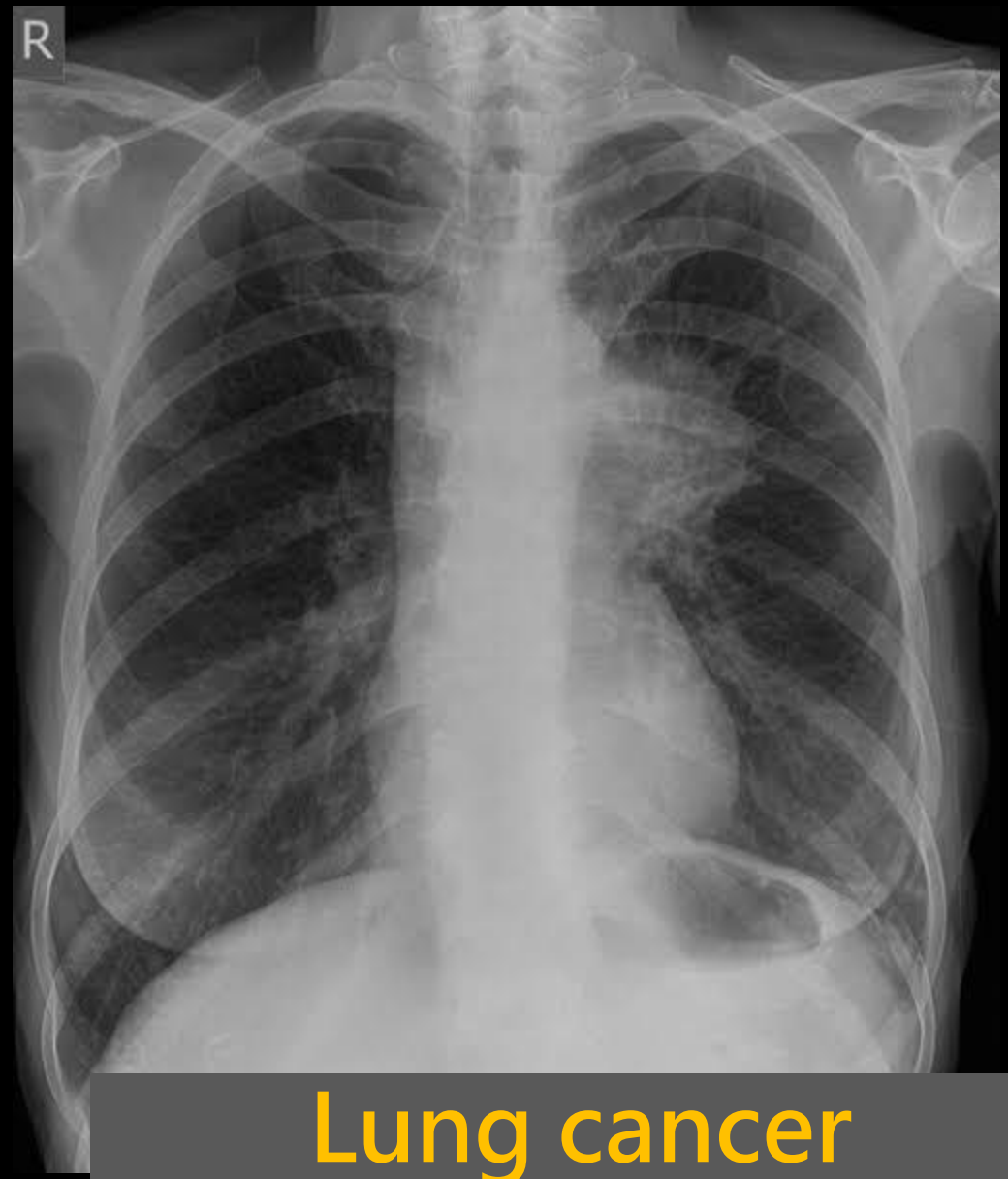




分區重點：Hilum



Sarcoidosis

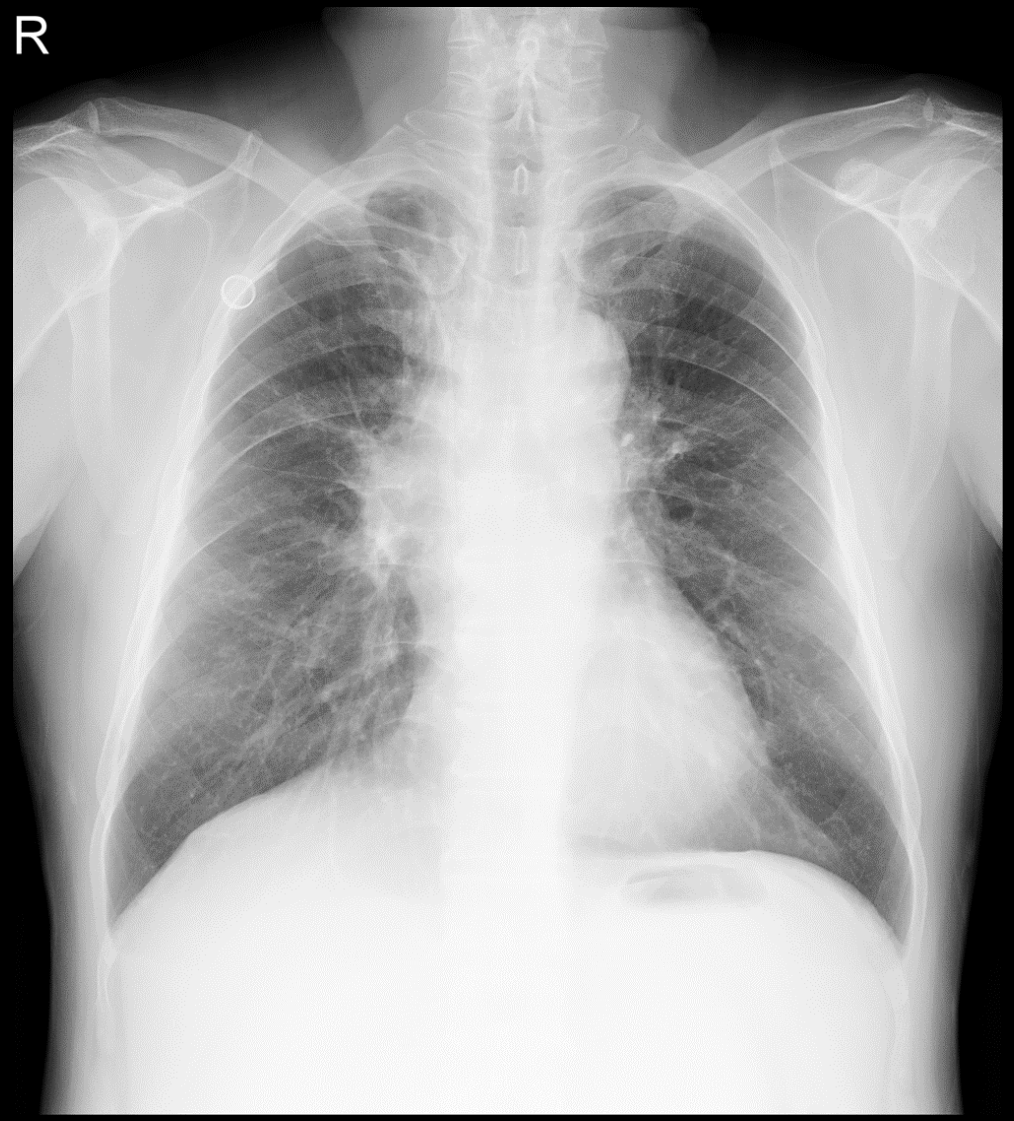


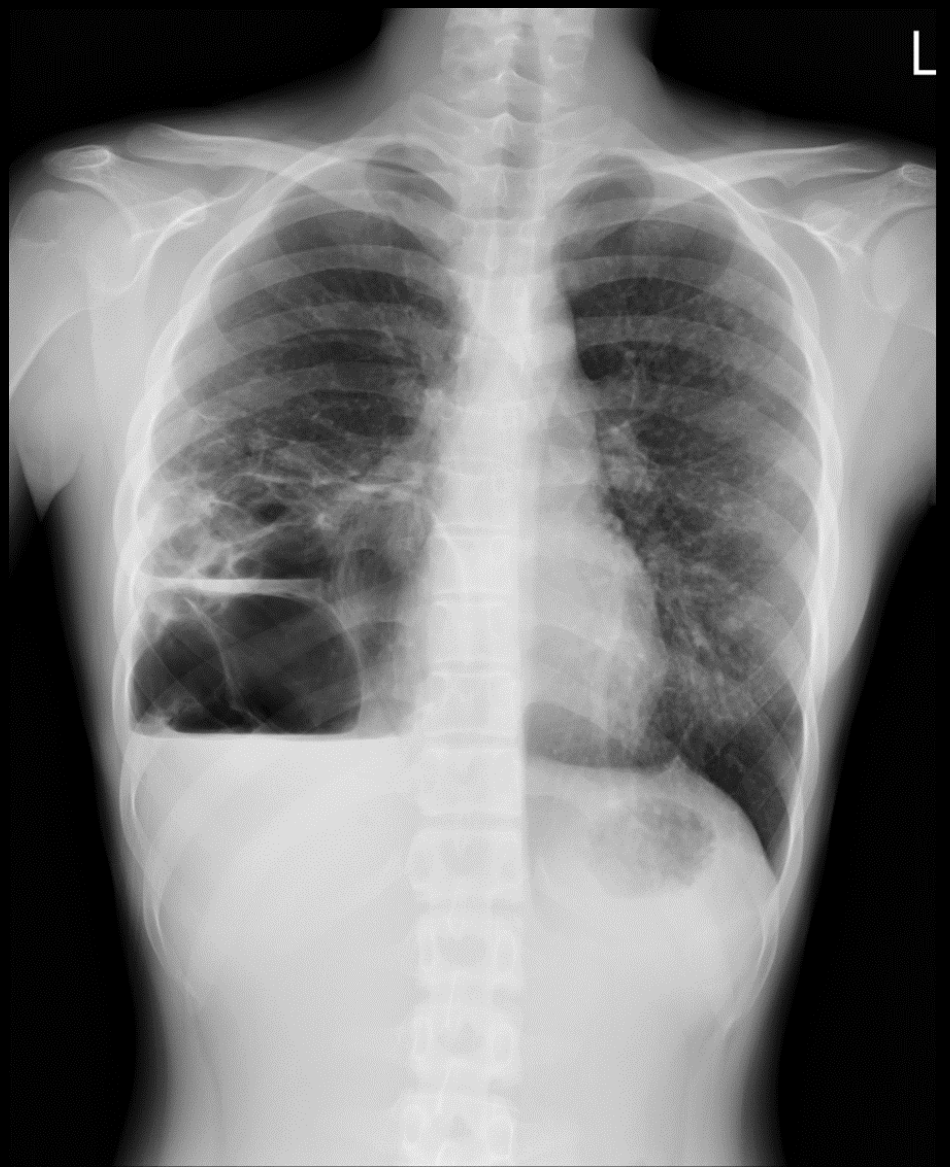
Lung cancer

分區重點：Lung Fields

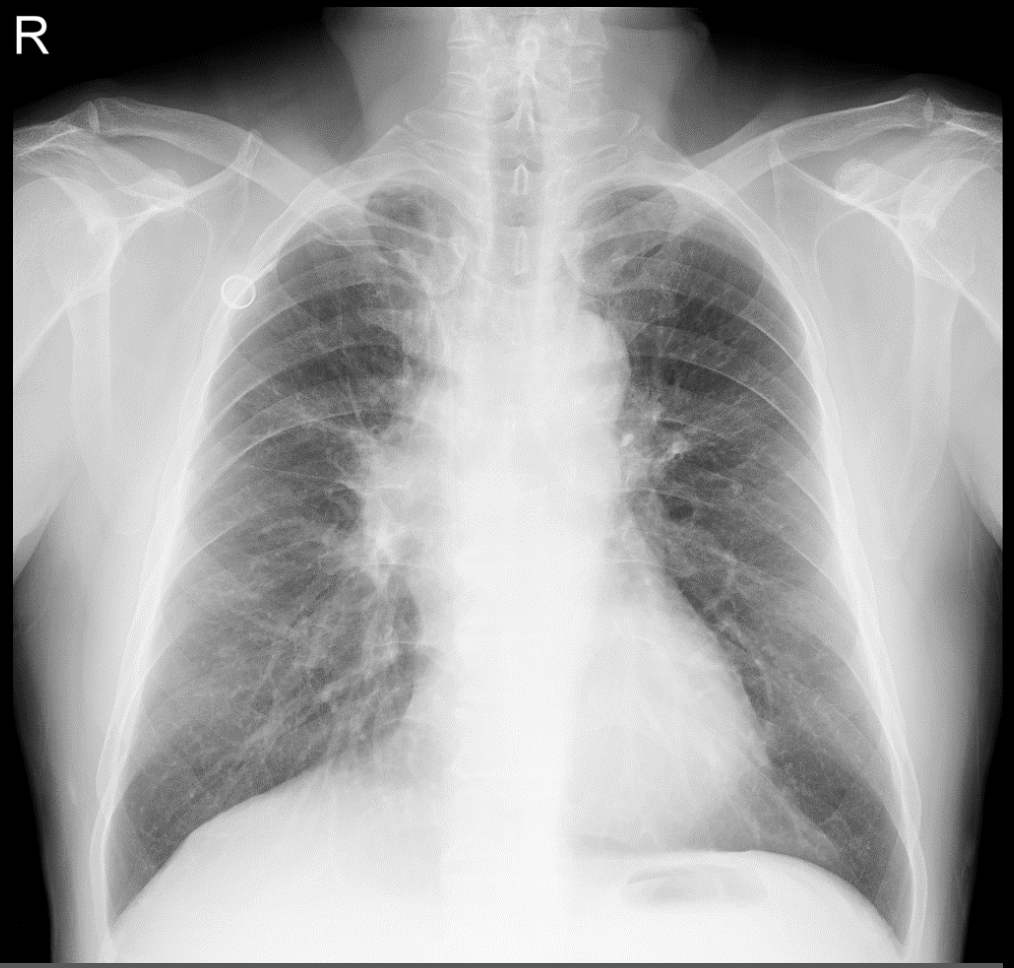
- 太白太黑都要注意
- 兩側相互比較
  - 單側hemithorax density異常
    - lesion site是太白處or太黑處
  - Increased opacity(太白)
    - Abnormal shadows
  - Increased radiolucency(太黑):由外而內D/D
    - 胸廓外：mastectomy, Poland’s syndrome(少了大胸肌)
    - 肋膜：pneumothorax
    - Decreased vessel: pulmonary embolism(a), Pul. a. agenesis(a), Scimitar syndrome(v)
    - Air collection: endrobronchial obstruction, Swyer-James syndrome, emphysema, localized bullae

分區重點：Lung Fields

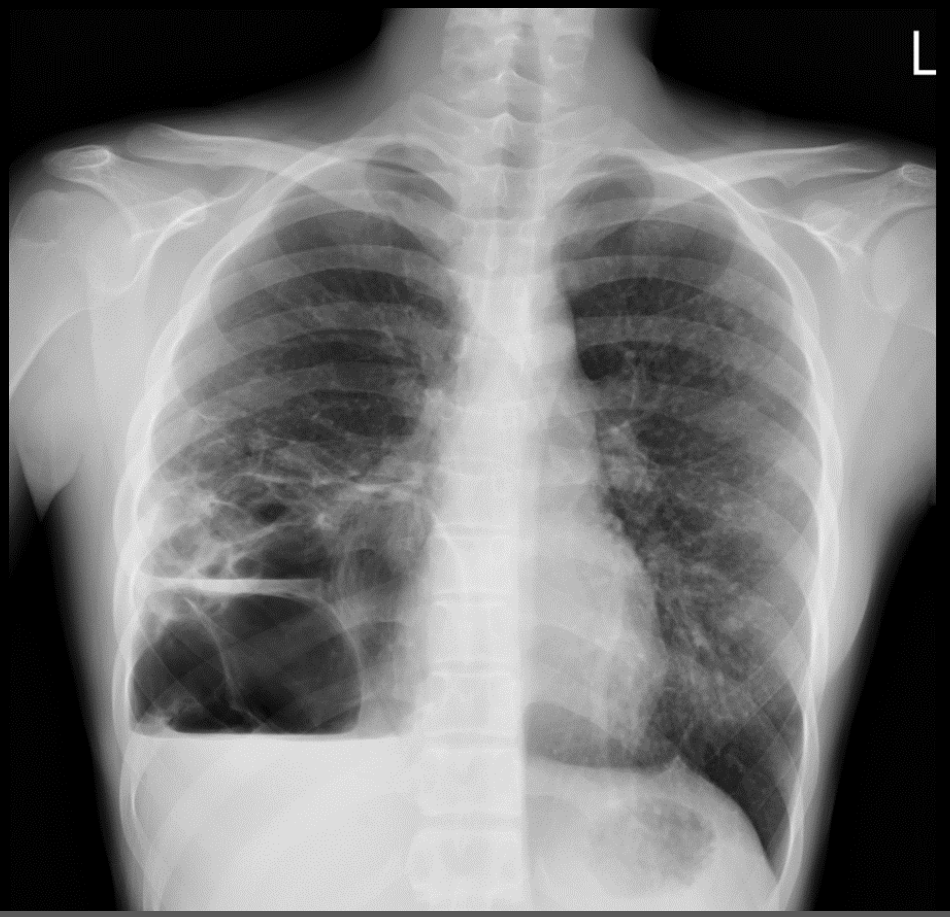




分區重點：Lung Fields



Port A dislodgement
Lung cancer

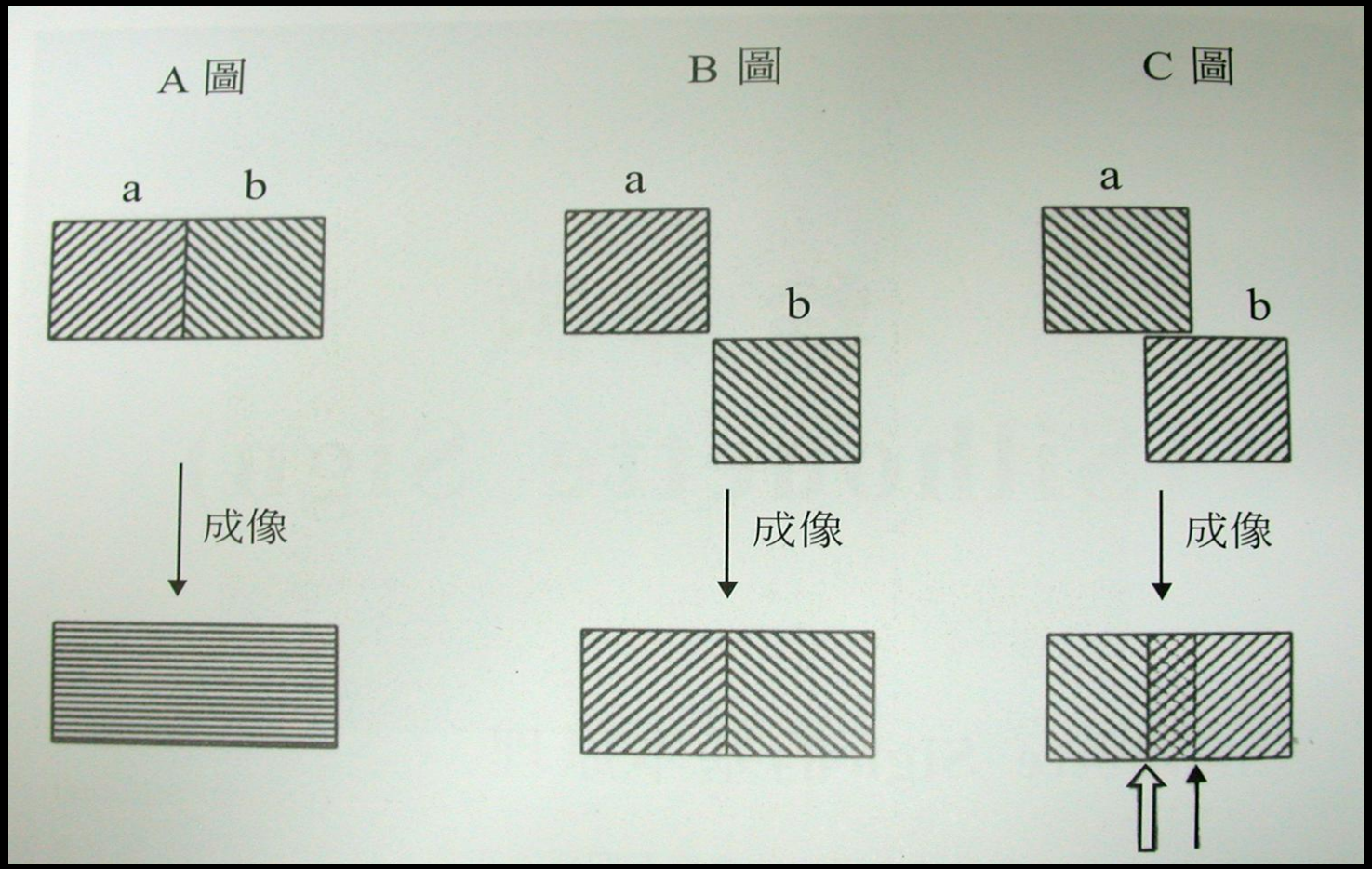


Congenital pulmonary airway malformations (CPAM)

常用癥象

Signs of Chest Radiograph

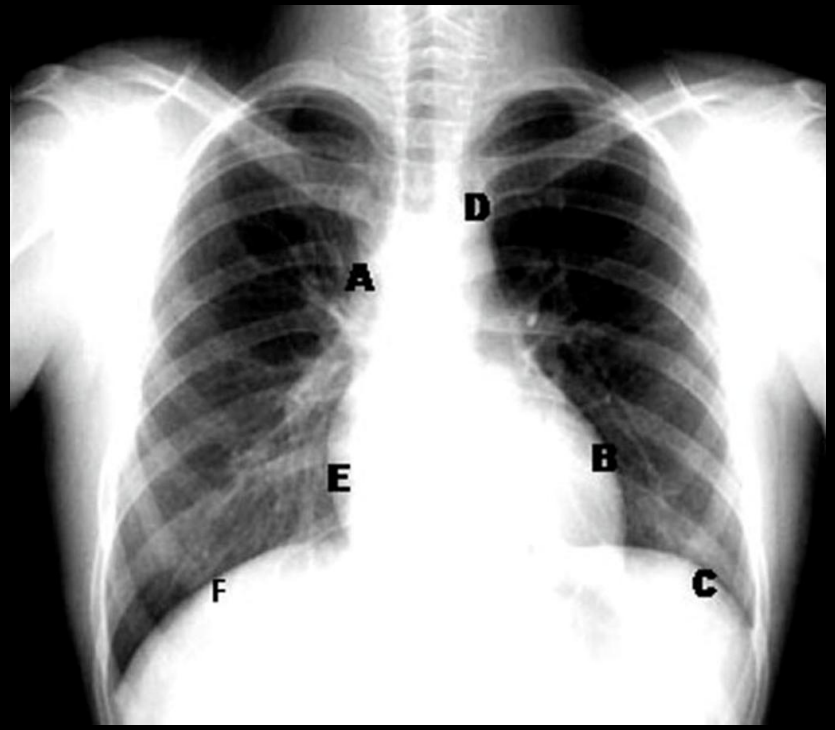
- **輪廓徵 (Silhouette Sign)**
- 兩個密度相近物質直接靠在一起時，兩者的界線在X光上是分不出來的

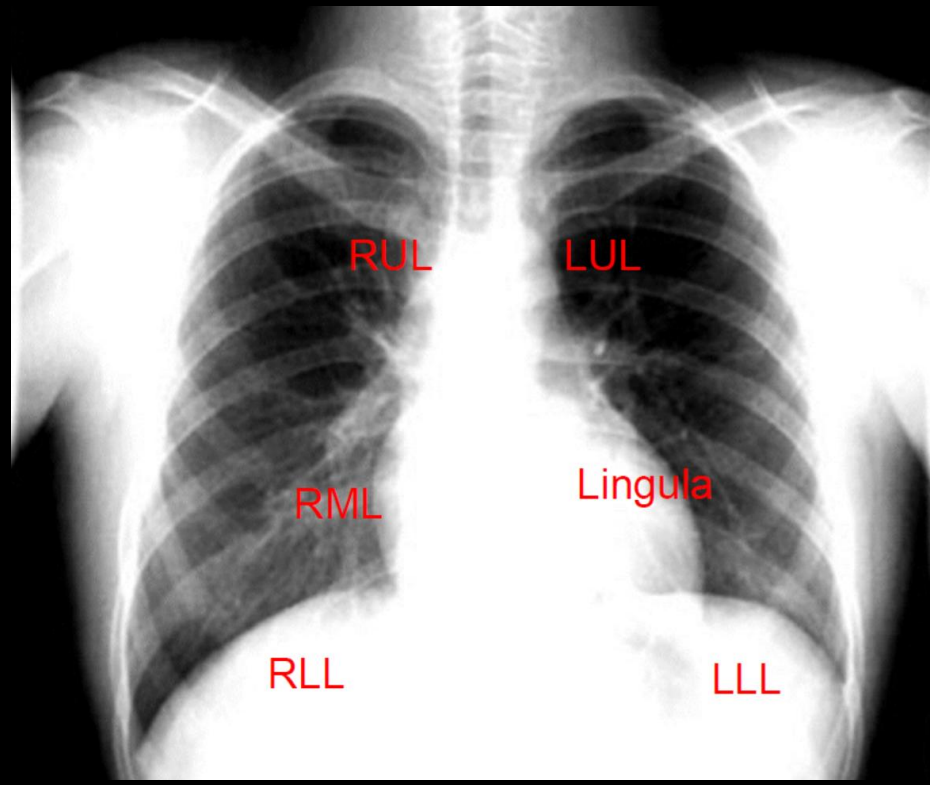


Signs of Chest Radiograph

- 輪廓徵 (Silhouette Sign)

A: Ascending aorta
B: LV margin
C: Left diaphragm
D: Aortic knob
E: RA margin
F: Right diaphragm





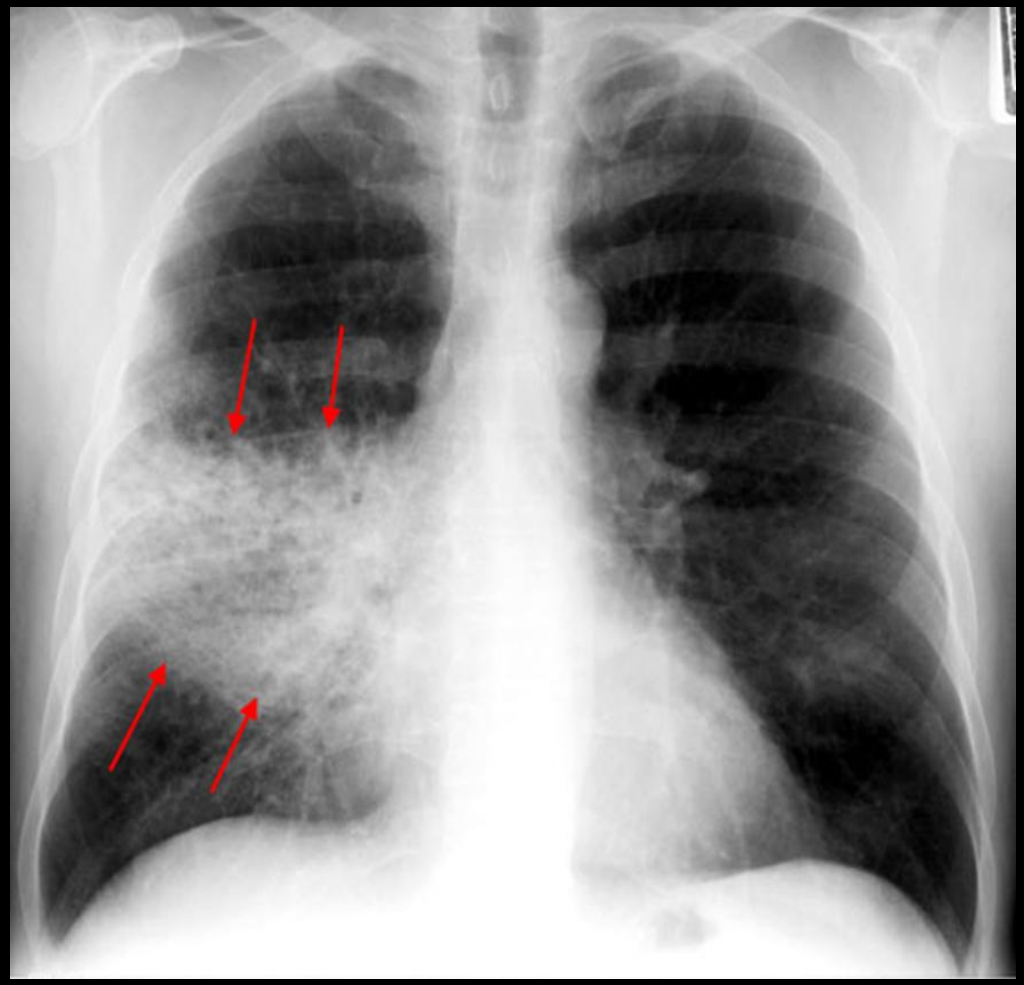
Signs of Chest Radiograph

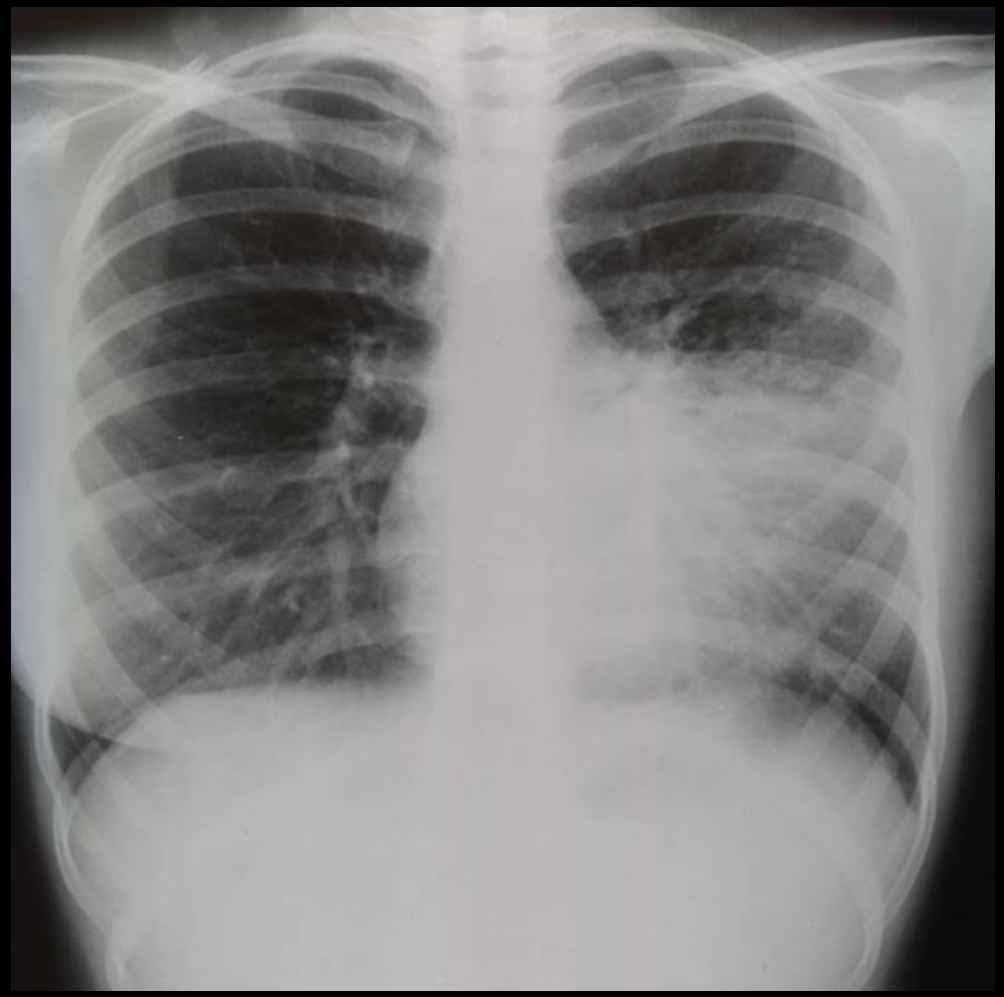
- 輪廓徵 (Silhouette Sign)

	接觸的結構
Ascending aorta	RUL anterior segment Anterior mediastinum
Arch	LUL apicoposterior segment Posterior mediastinum
Descending aorta	LLL / Posterior mediastinum
Right heart	RML / Anterior mediastinum
Left heart	Left lingual lobe Anterior mediastinum
Diaphragm	Lower lobe / Abdomen

Signs of Chest Radiograph

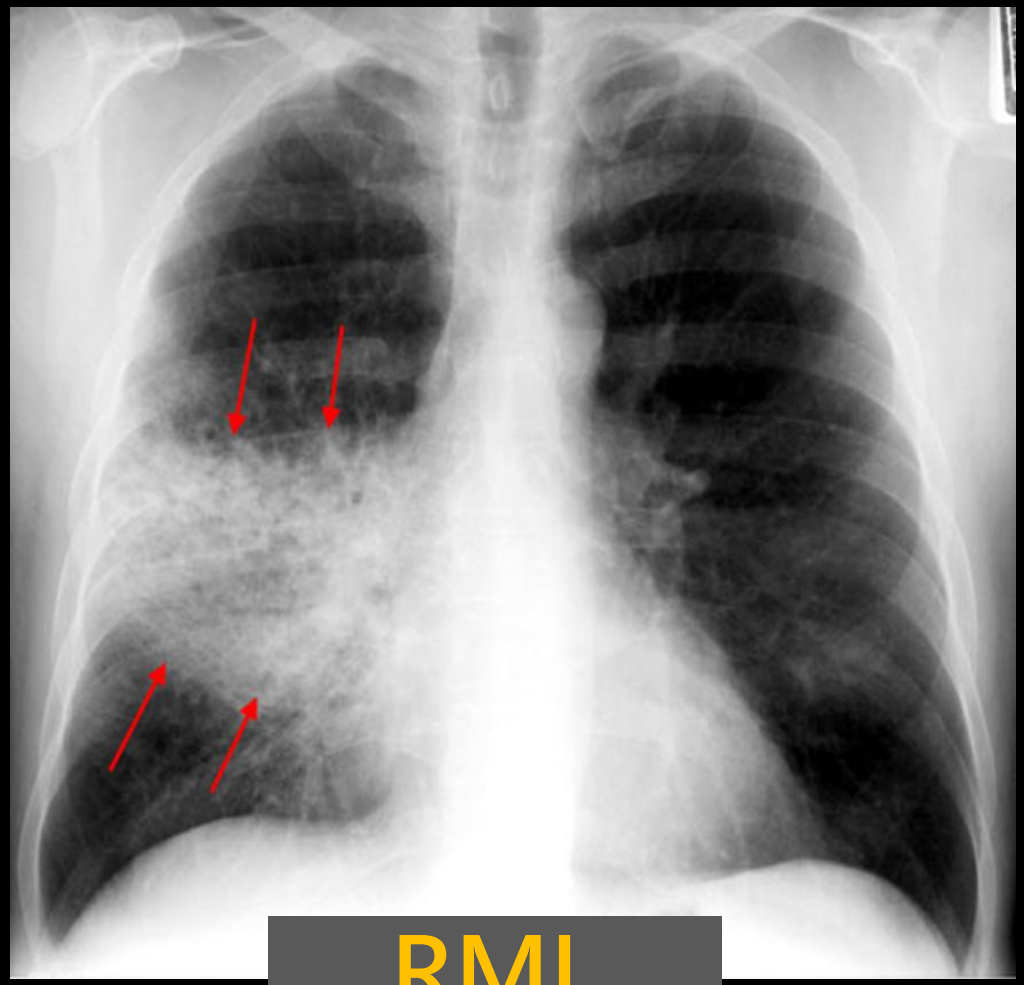
- 輪廓徵 (Silhouette Sign)



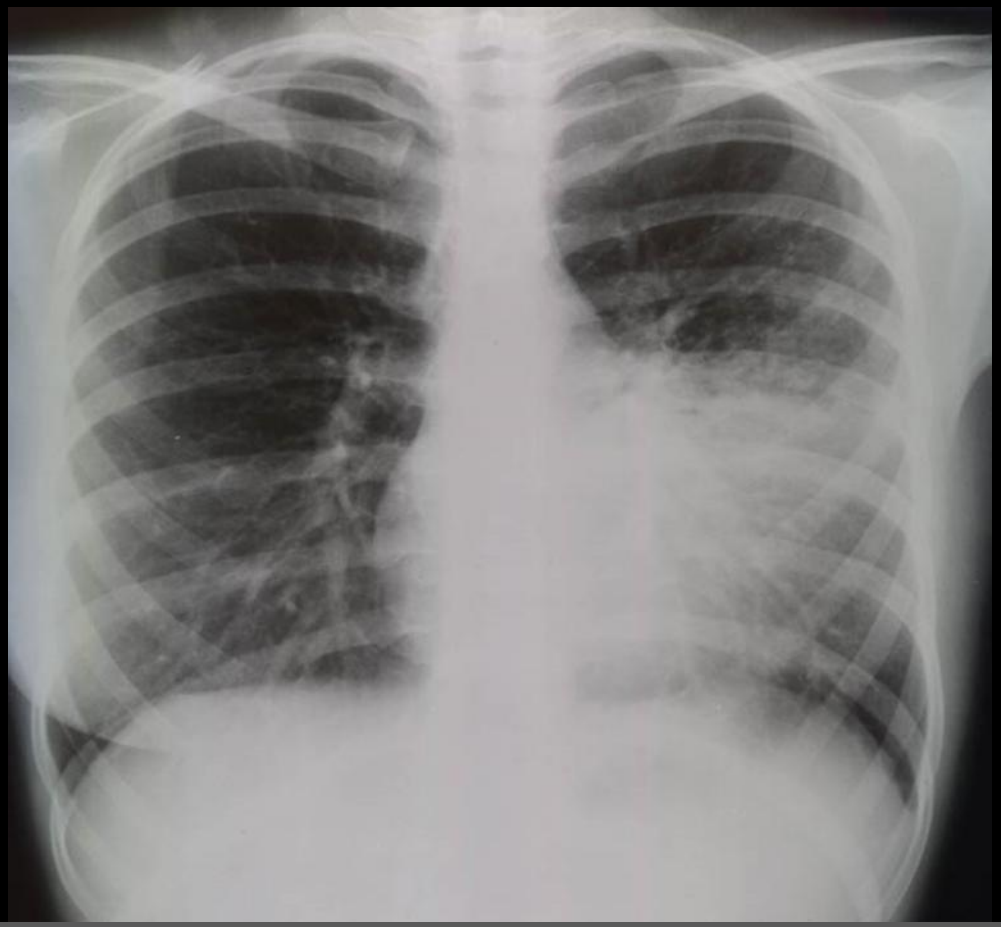


Signs of Chest Radiograph

- 輪廓徵 (Silhouette Sign)



RML



Left Lingular lobe

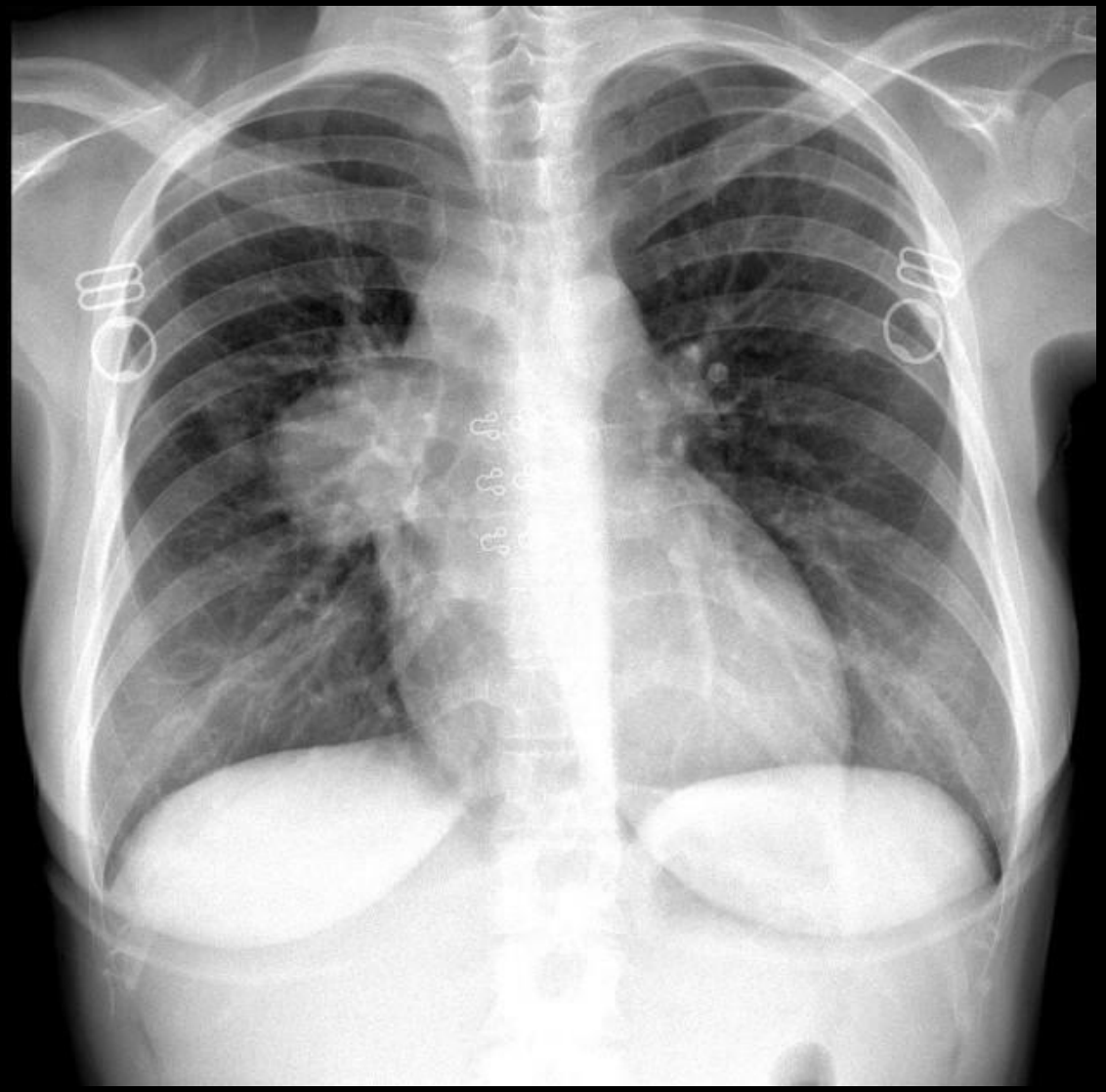
Signs of Chest Radiograph

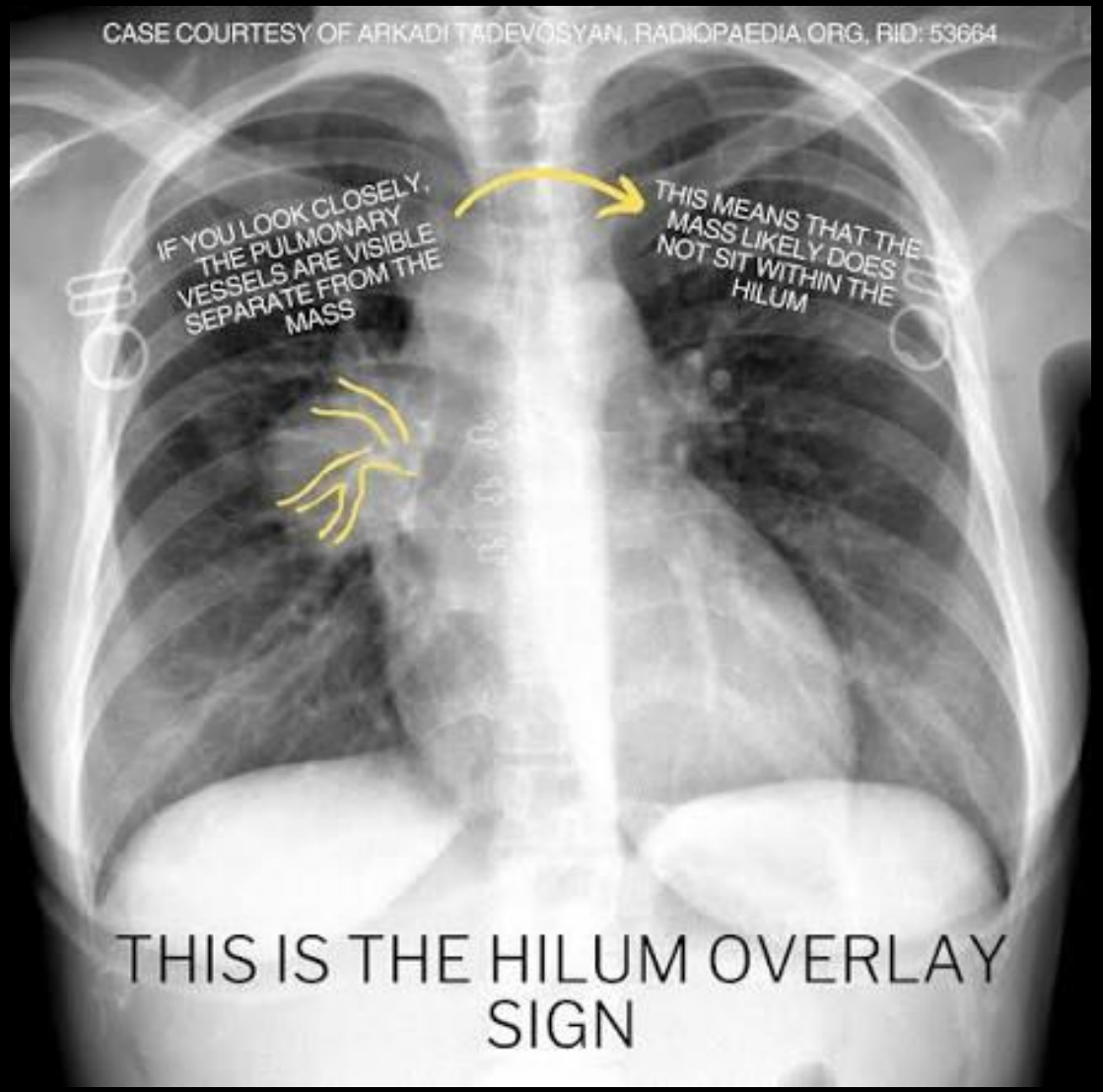
- Pulmonary artery的分叉點，常在心臟邊緣外或邊緣內1公分內，即使病人有cardiomegaly or pericardial effusion (key point !)
- 任何腫大的影像必需先排除血管膨大之可能，以免冒然進行穿刺或切片造成大出血

- Hilum Overlay Sign (肺動脈前或後的腫瘤與淋巴結)
- 若血管進入hilum超過一公分仍未消失，代表肺門變大是因前縱膈腔腫瘤、肺門淋巴結或B3、B6之肺腫瘤所造成。
- (+) hilar vessels血管沒有被病灶遮住，可能是肺動脈前或後的腫瘤與淋巴結

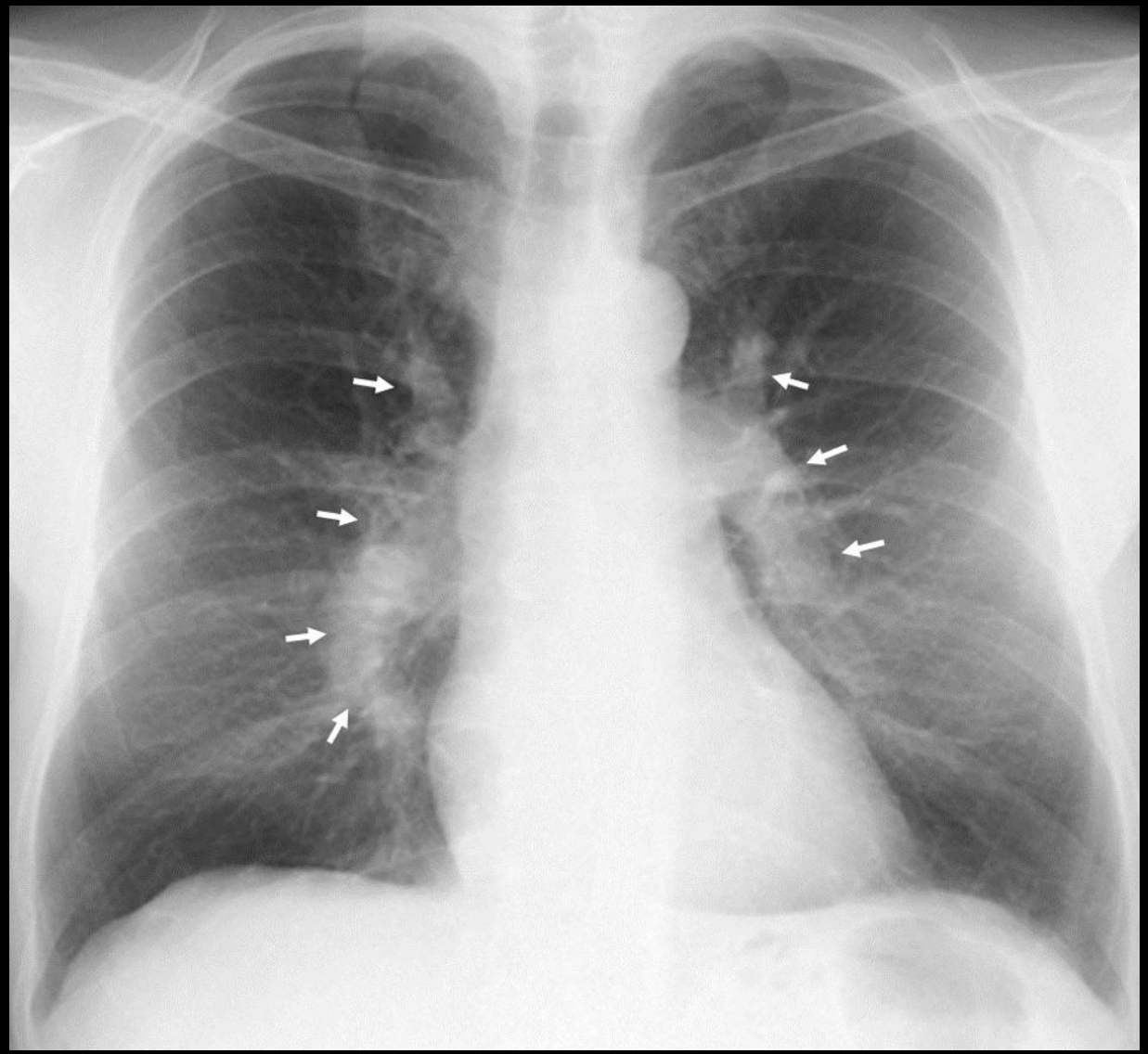
- Hilum Convergence Sign (肺血管變大)
- 假如血管進入肺門即消失，則代表hilar變大是因pulmonary artery引起，ex pulmonary hypertension。
- (+)陰影其實就是擴大的 pulmonary artery

Hilum Overlay Sign





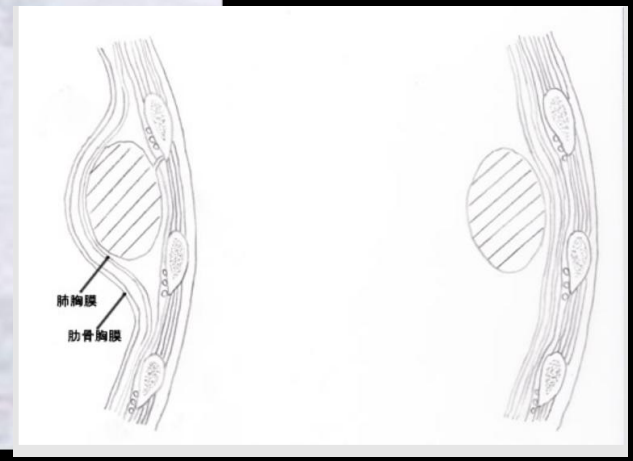
Hilum Convergence Sign



https://epos.myesr.org/posterimage/esr/ecr2015/127030/mediagallery/606120

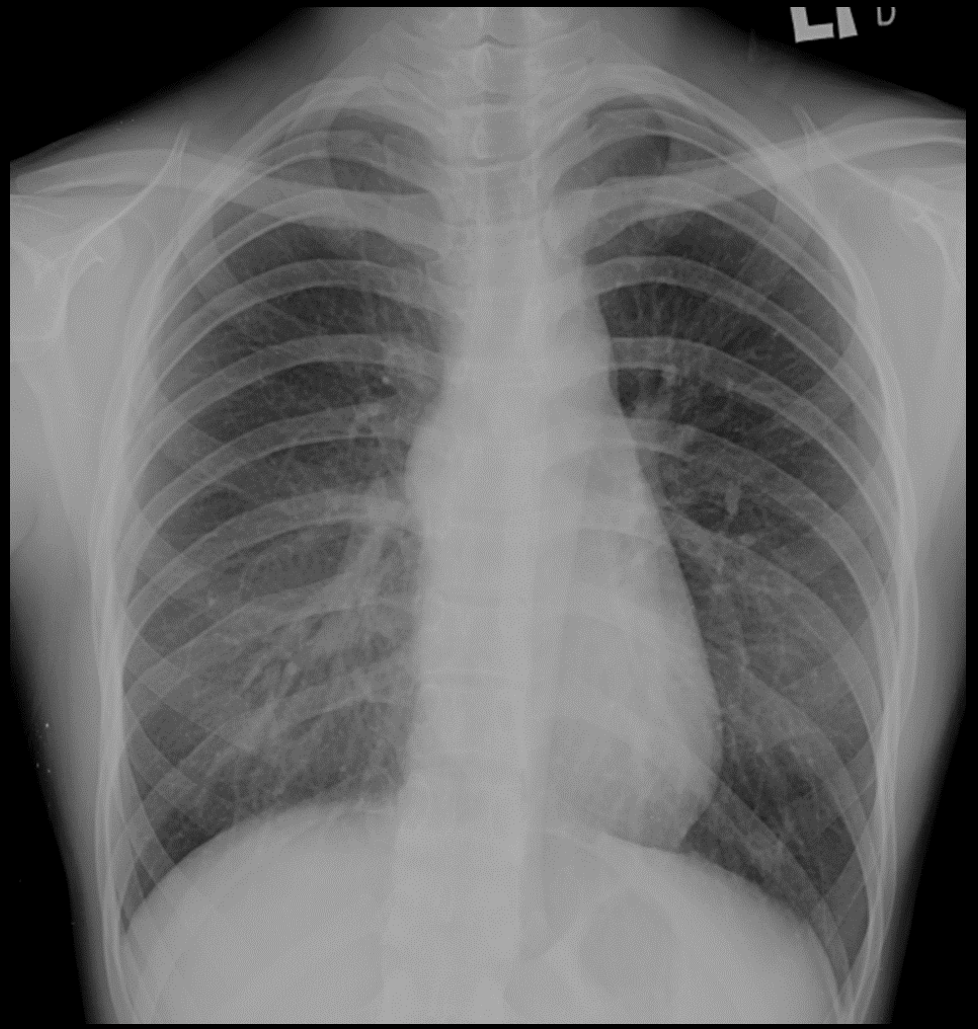
Signs of Chest Radiograph

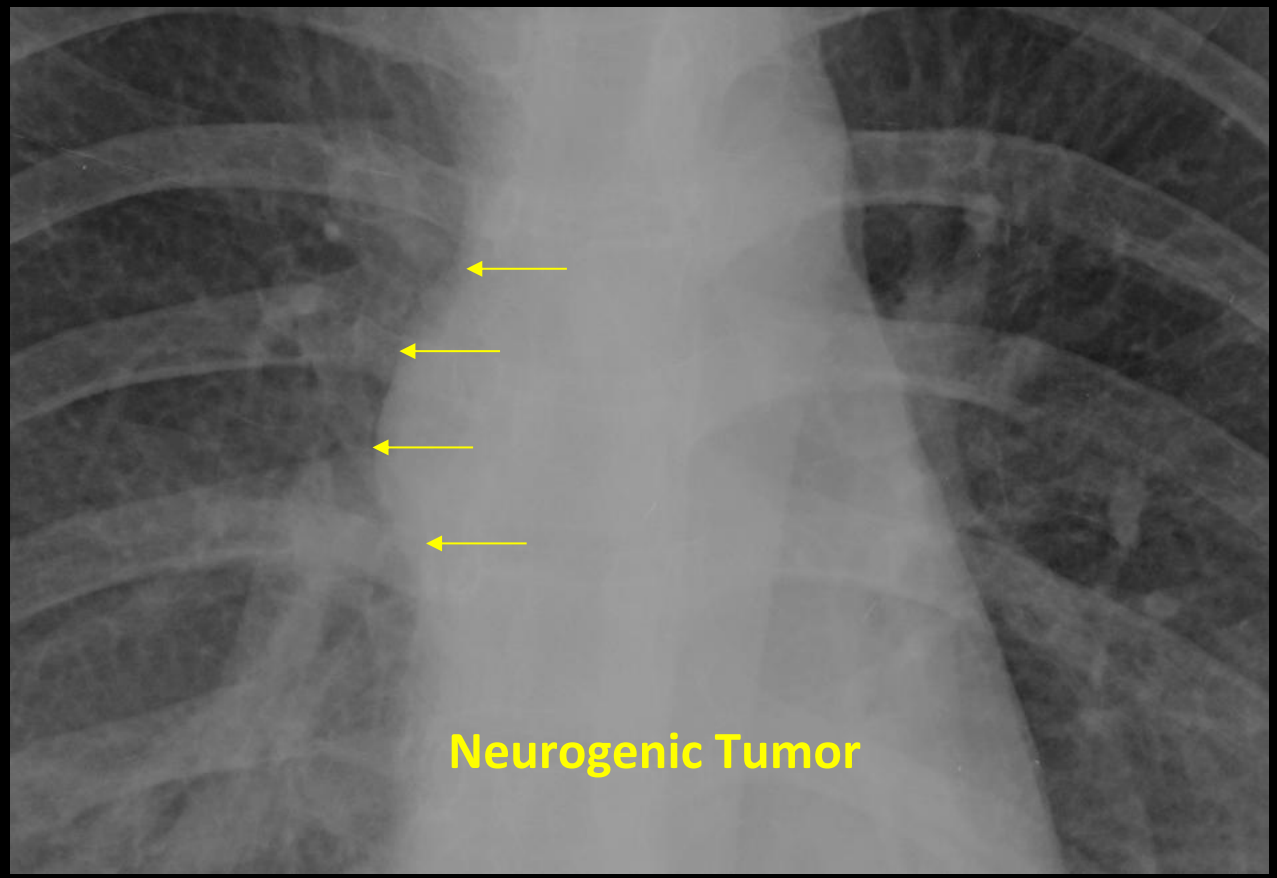
- **肋膜外病灶徵 (Extrapleural sign)**
- 肋膜外的病灶往肺內突入,但因其外圍有兩層肋膜包被,故有下列三個特徵:
  (1)病灶外緣界限清晰
  (2)影像的基底部較寬, 與胸廓或橫隔或縱膈之交角為鈍角
  (3)convex border朝向肺



Signs of Chest Radiograph

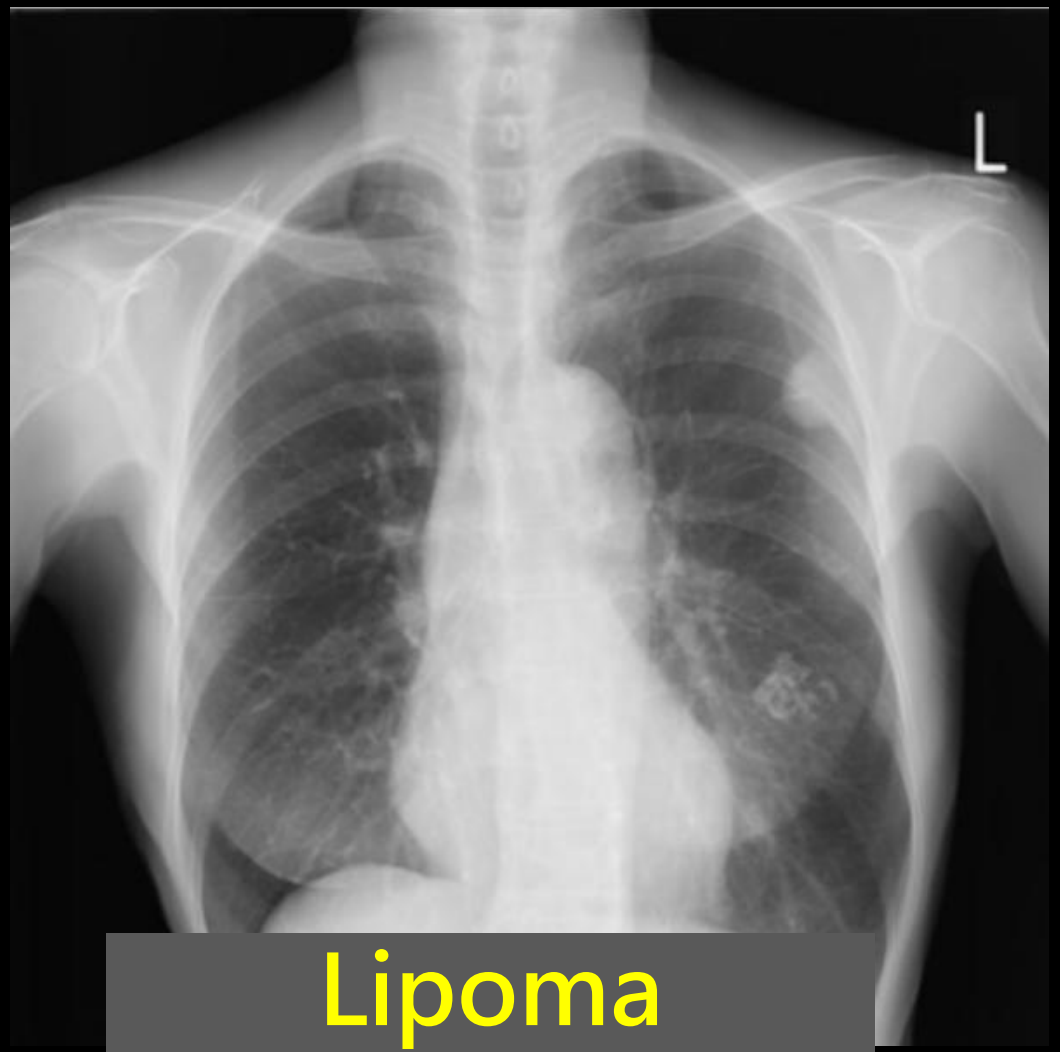
- 肋膜外病灶徵 (Extrapleural sign)



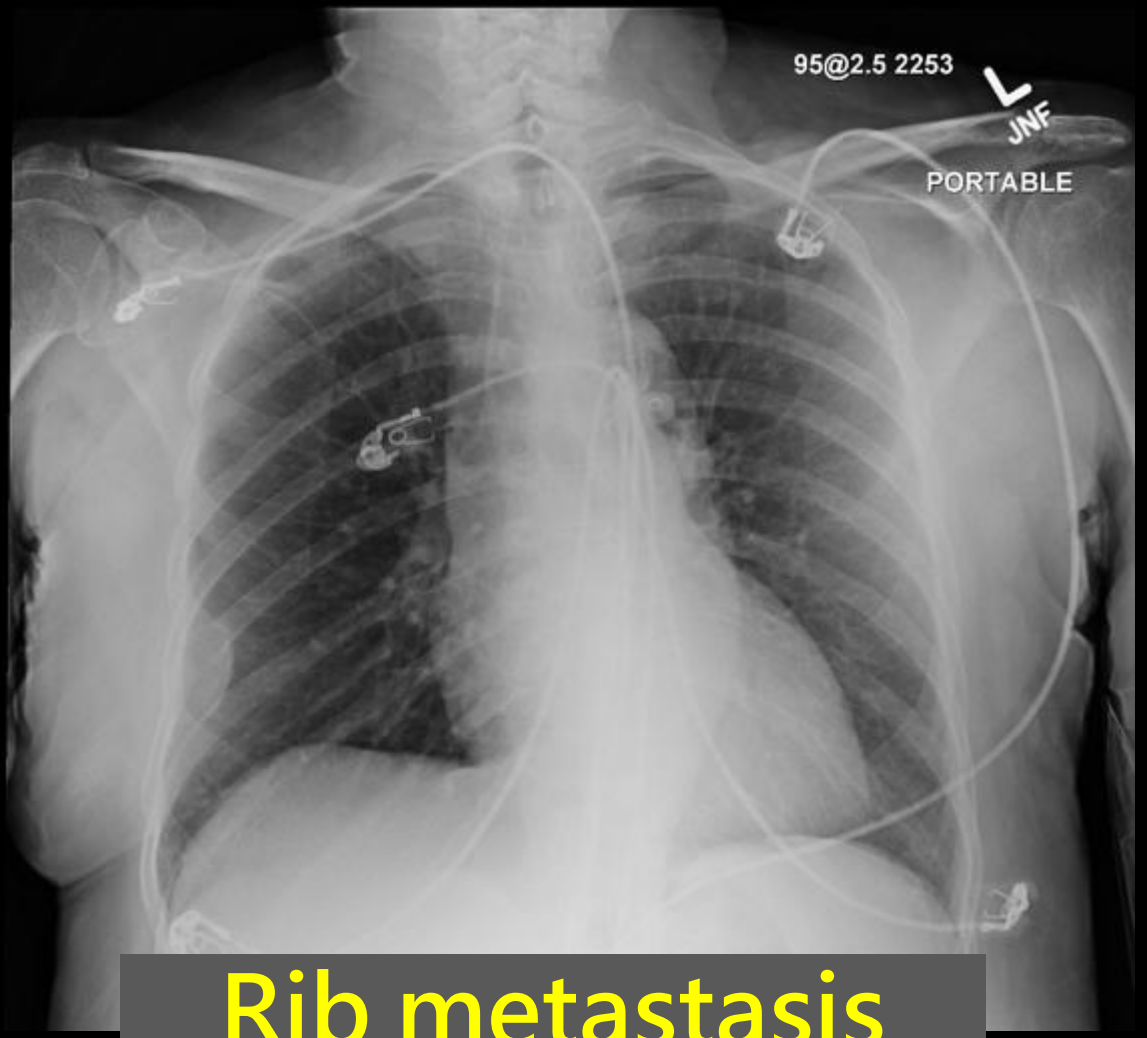


Signs of Chest Radiograph

- 肋膜外病灶徵 (Extrapleural sign)



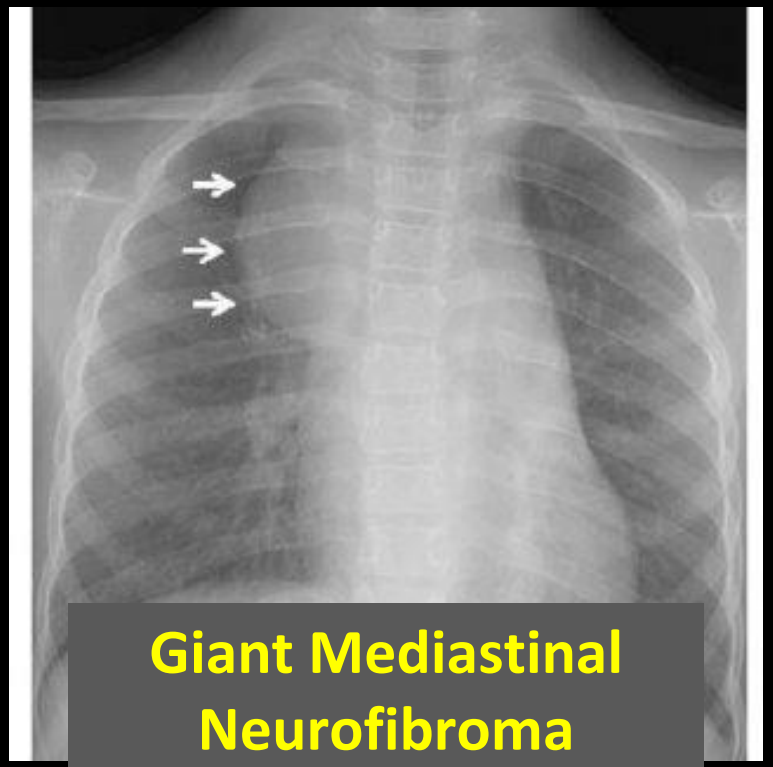
Lipoma



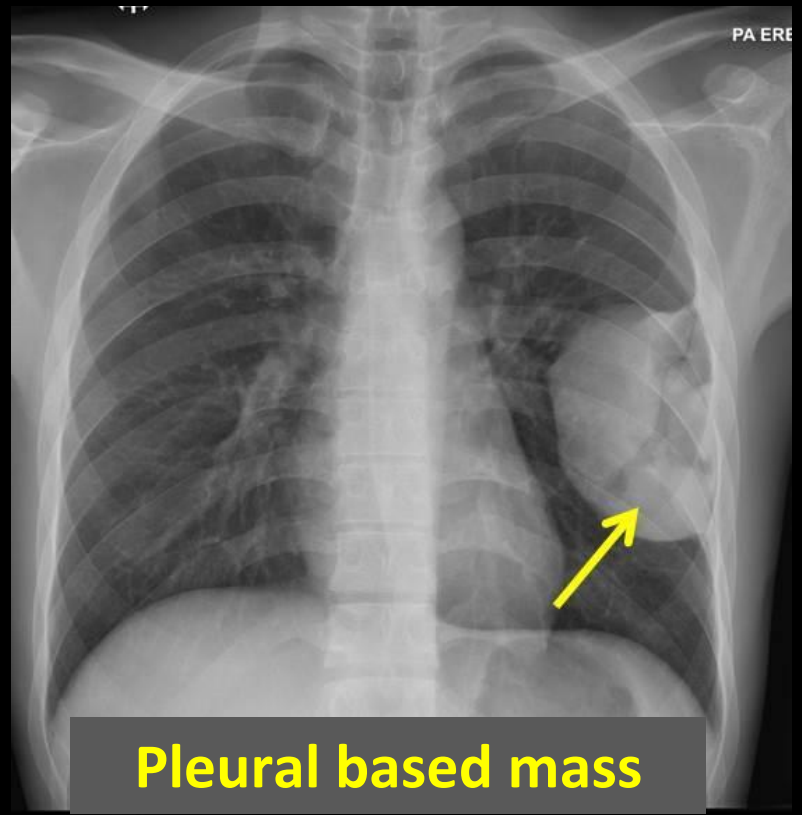
Rib metastasis

Signs of Chest Radiograph

- **不完全邊緣徵 (Incomplete border sign)**
- 肋膜外病灶只有在突入肺內的部分與肺內空氣產生對比,故可見該突入部分的邊緣,而病灶位於縱膈或橫膈或胸壁內的部分則因positive silhouette sign的緣故,因此看不到該部分的border



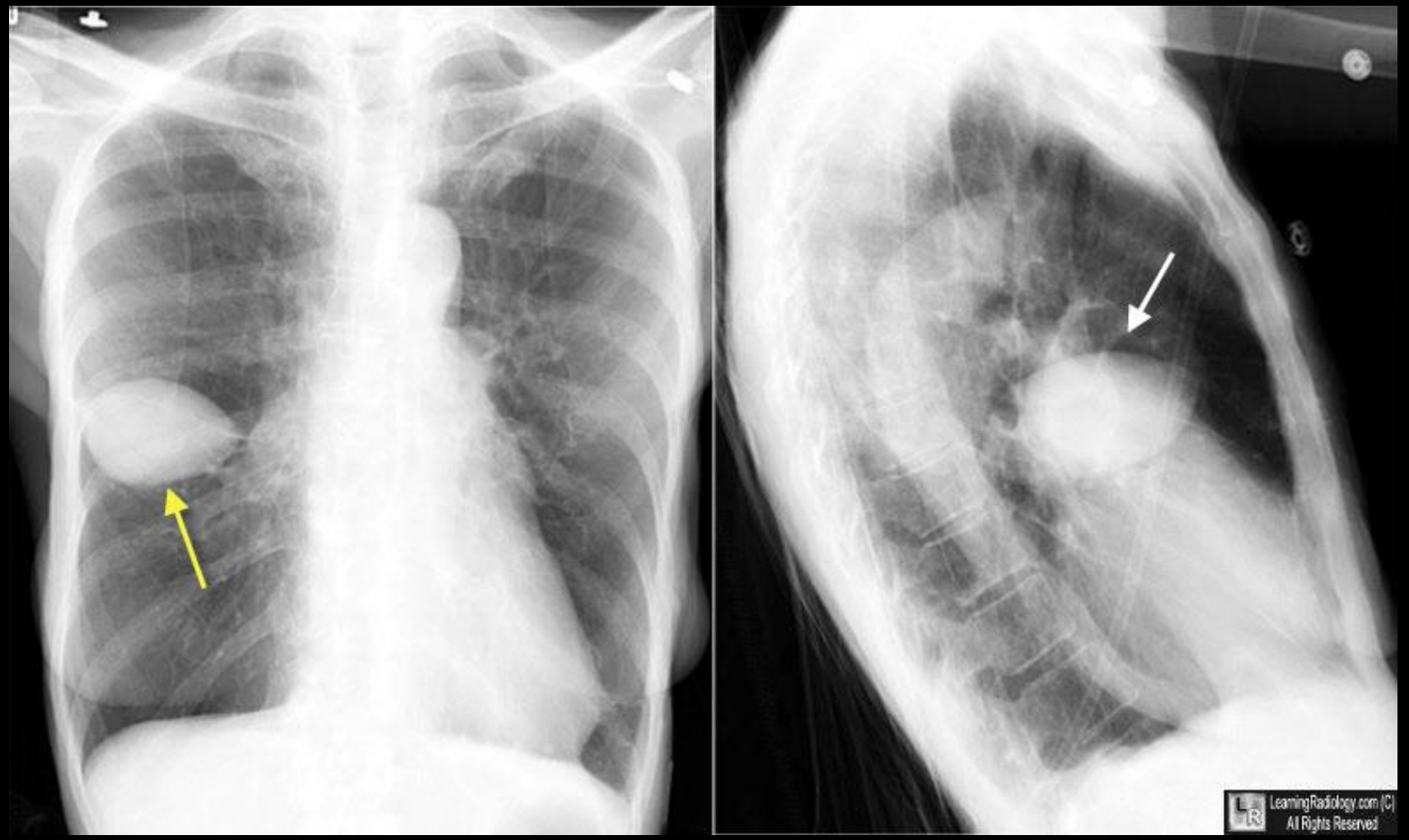
Giant Mediastinal Neurofibroma



Pleural based mass

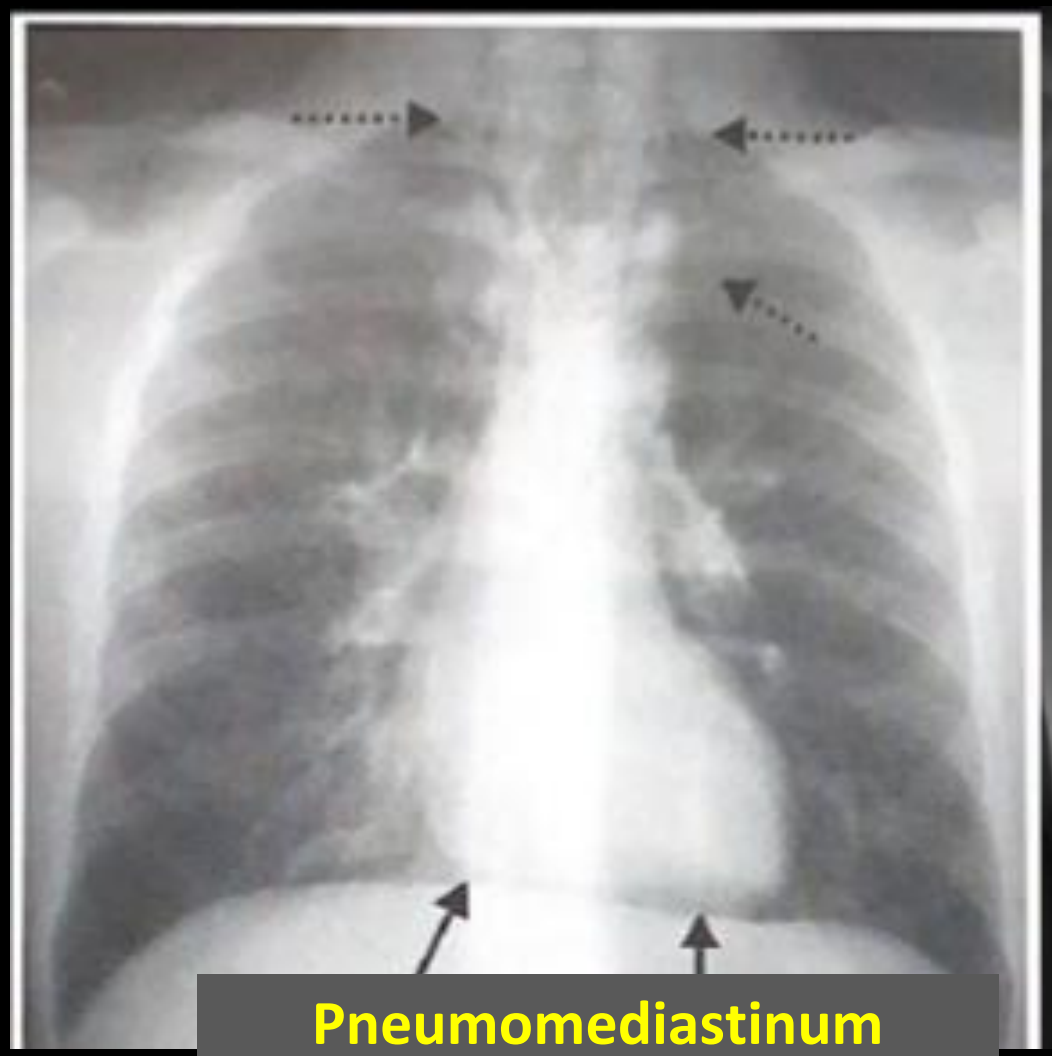
Signs of Chest Radiograph

- **Pseudotumor of Lung**

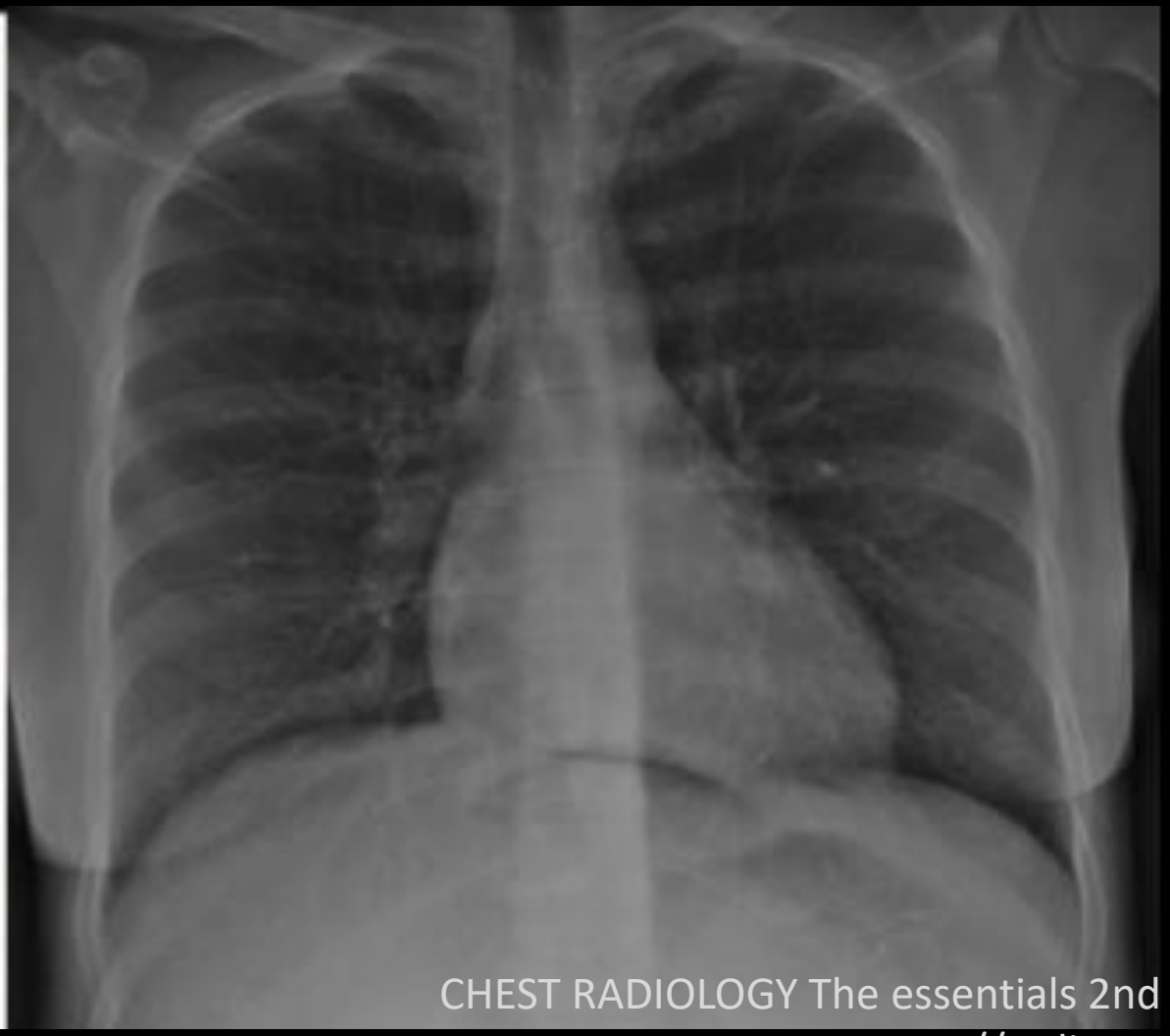


Signs of Chest Radiograph

- **Continuous diaphragm sign**



Pneumomediastinum



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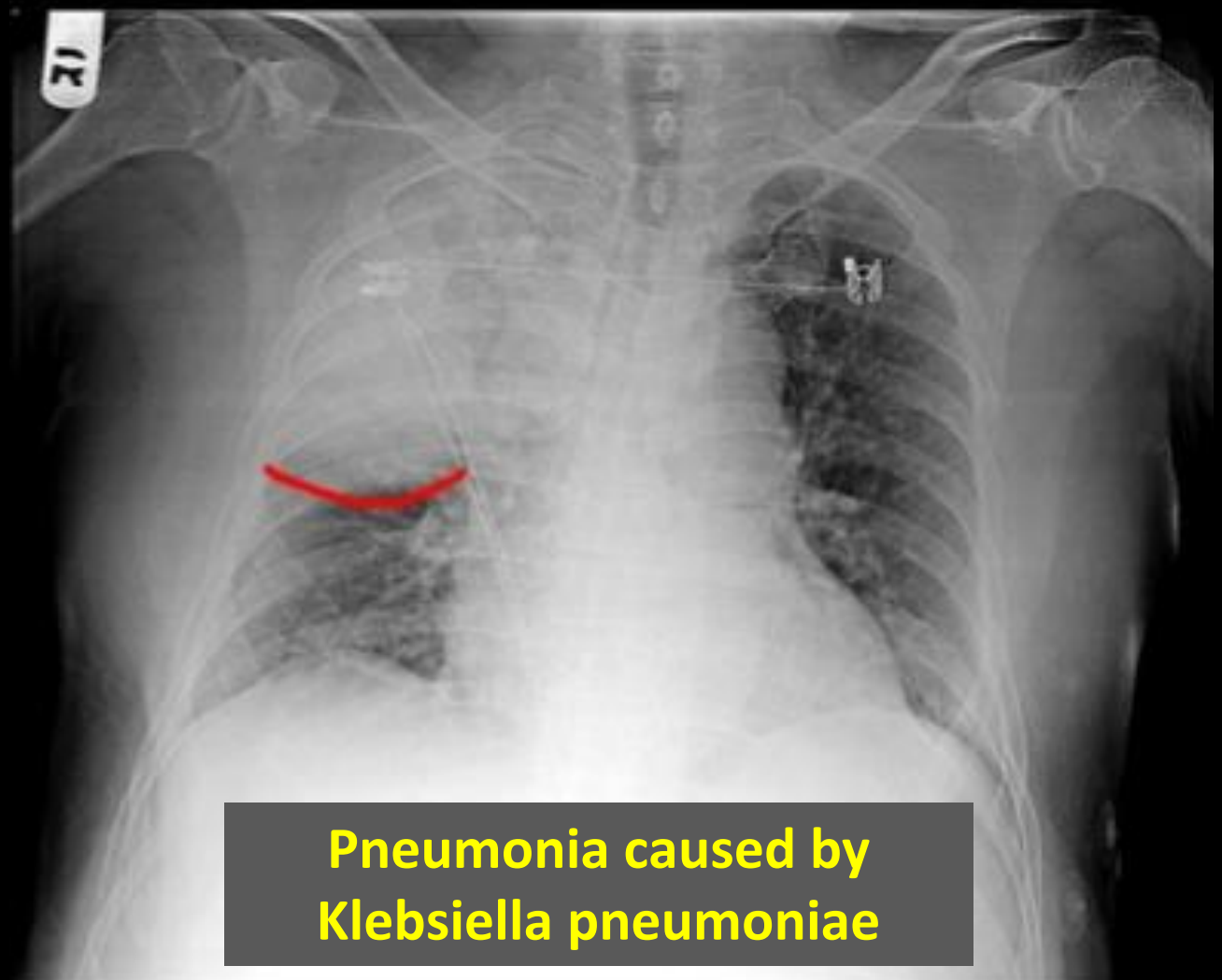
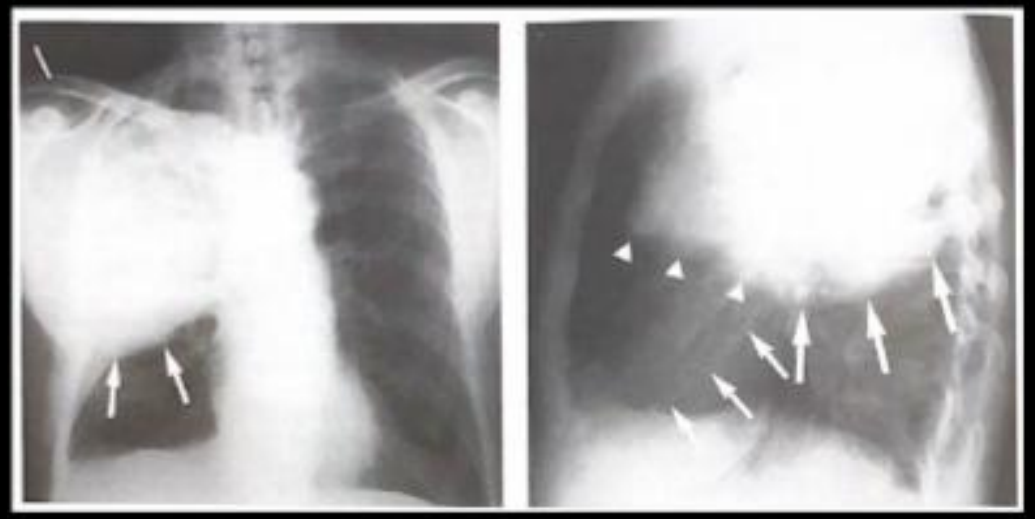
Signs of Chest Radiograph

- **Bulging fissure sign**



Pneumonia caused by Klebsiella pneumoniae



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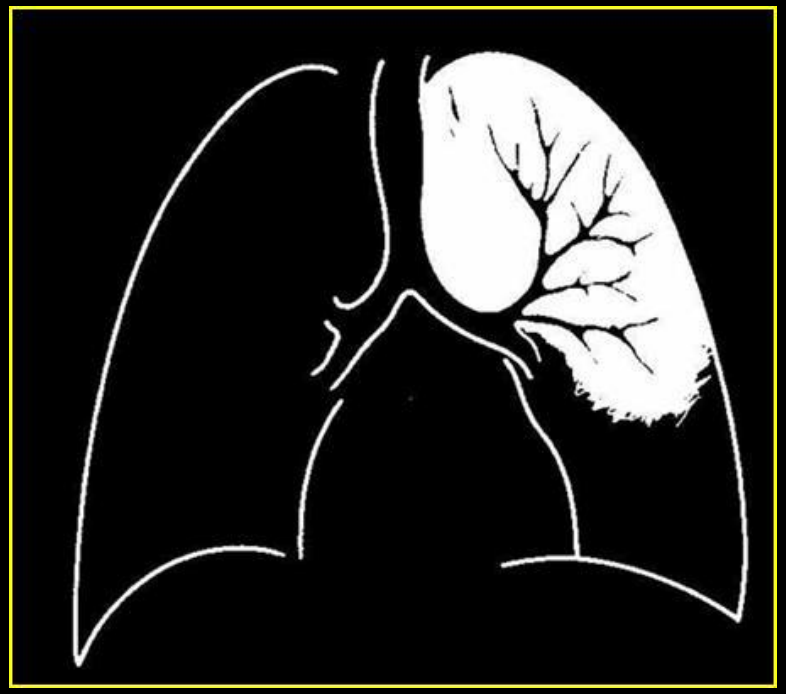
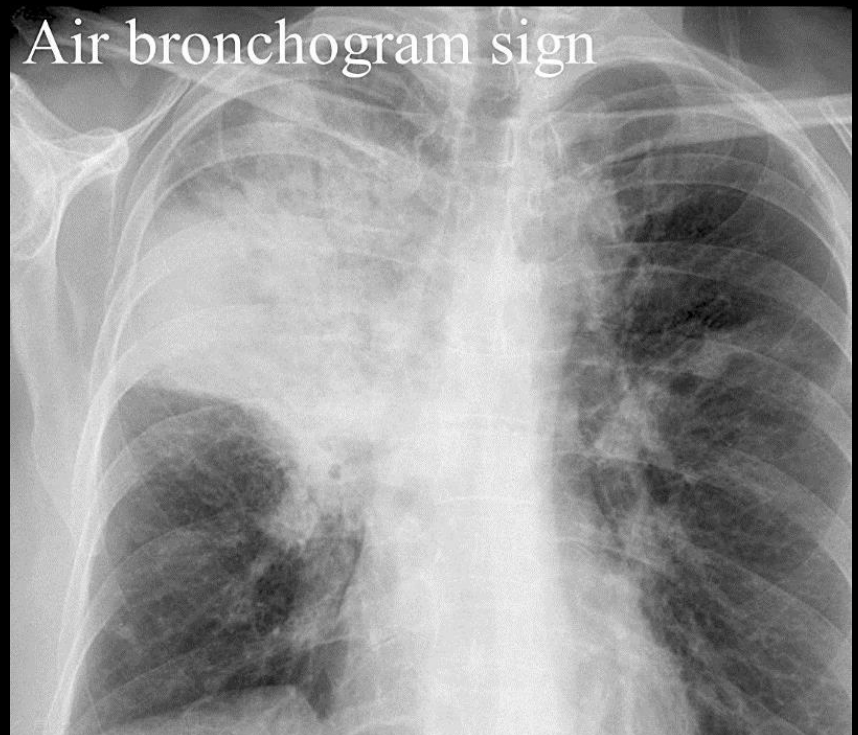
Signs of Chest Radiograph

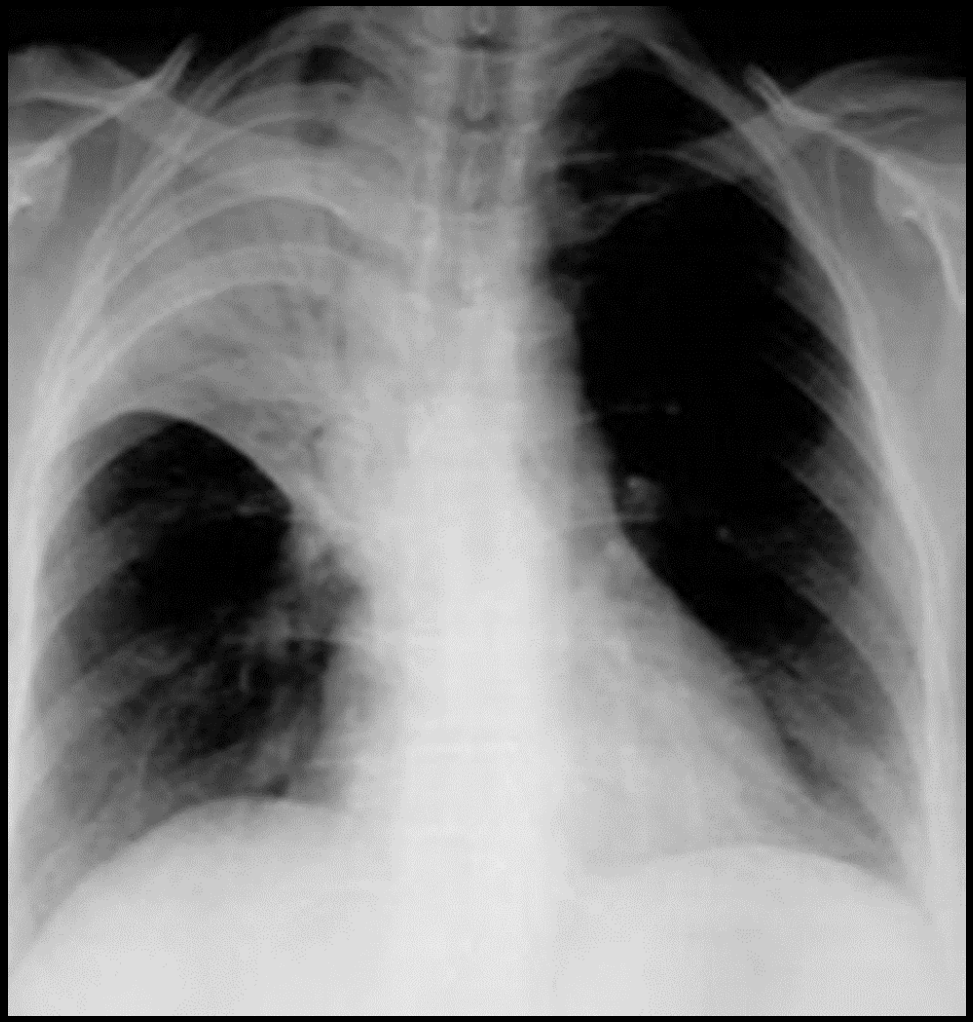
- **Air bronchogram sign**
- 正常胸部X光像中,支氣管因管壁很薄且支氣管壁內外兩側都是空氣,故支氣管的影像無法顯現。而**當包圍支氣管的肺泡產生實變化(consolidation),此時支氣管內仍充滿空氣,故一條條分支的支氣管影像會被實變化的肺襯托出來**。看到air bronchogram sign表示**病變在肺內**。





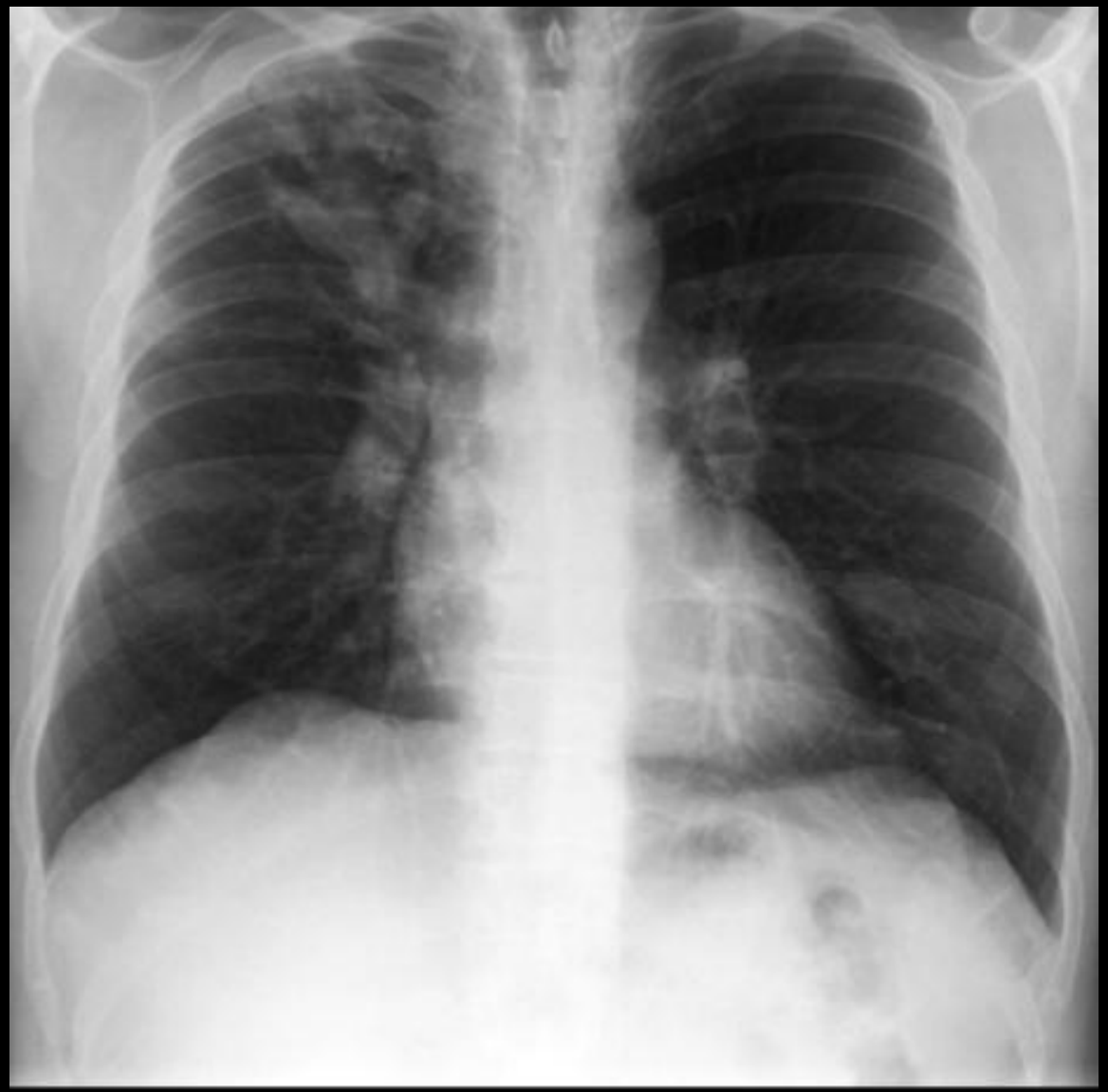
Signs of Chest Radiograph

- **Air bronchogram sign**
- Bronchi normally invisible as they are thin-walled, filled with air, and surrounded by air
- Except when alveoli fill with substance with the density of fluid e.g.
  - Pulmonary edema
  - Blood
  - Gastric aspirate
  - Inflammatory exudate
- **Bronchi visible when surrounded by diseased lung**



Signs of Chest Radiograph

- **Finger-In-Glove sign**
- ABPA
- Gloved finger, Y, V, inverted V, tooth paste



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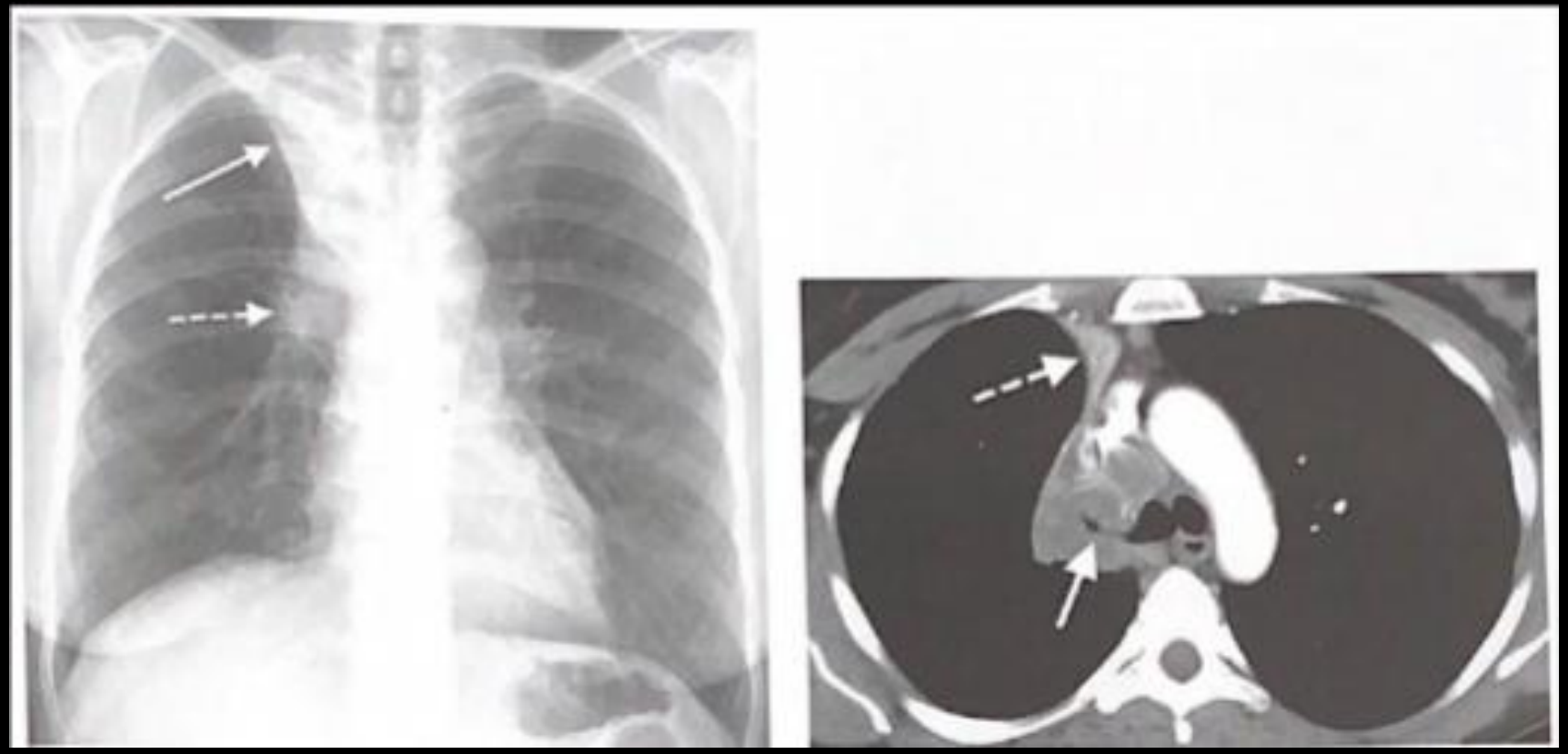
Signs of Chest Radiograph

- **Golden S sign**
- Lobar collapse around a large central mass



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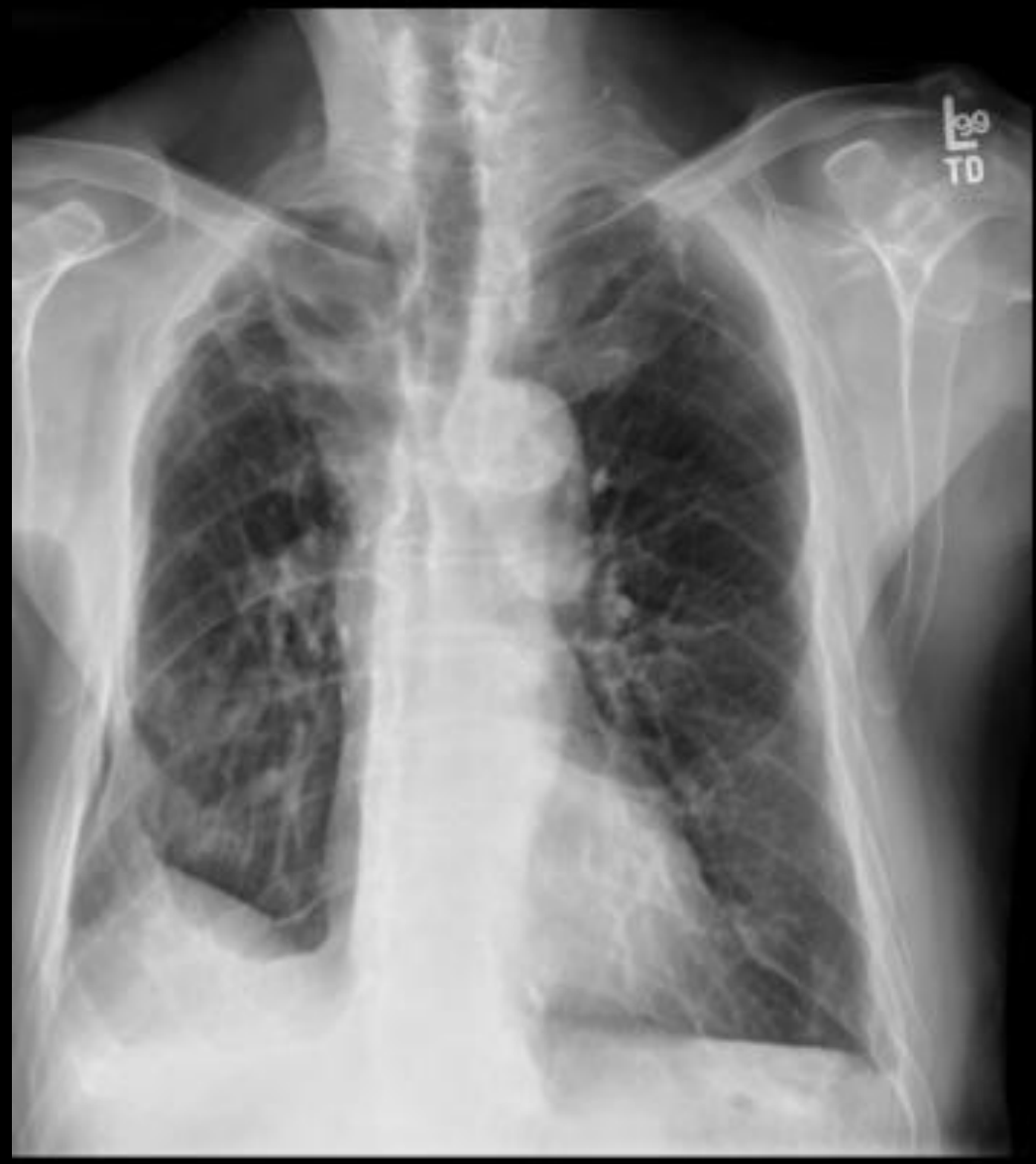
Signs of Chest Radiograph

- **Juxtaphrenic Peak sign**
- Small triangular shadow that obscures the dome of the diaphragm
- Traction on the lower end of the major fissure, the inferior accessory fissure, or the inferior pulmonary ligament



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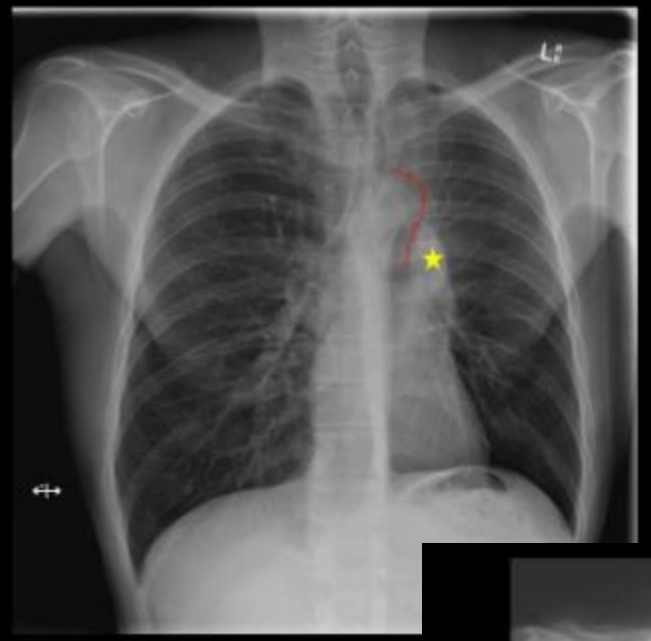
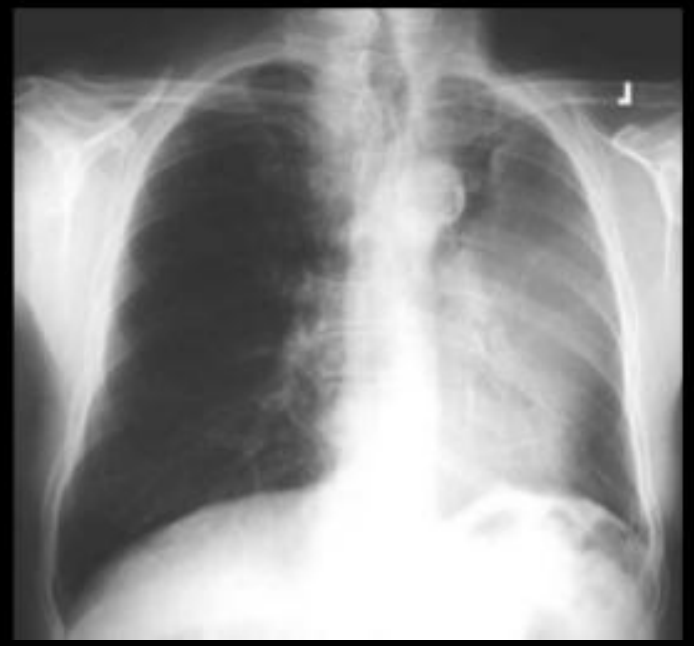
Signs of Chest Radiograph

- **Luftsichel sign**
- LUL collapse
- The sup. Segment of the LLL (hyperinflated), is positioned between the aortic arch and the collapsed LUL
- This aerated segment of LLL is hyperlucent and shaped like a sickle
- Luft (air), sichel (sickle)





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提醒注意

Pitfalls in Chest X-Ray Interpretation

一、吸氣不良或照射條件不佳
二、誤認正常影像為空洞或結節
三、肺外假影
四、肺外病變誤認為肺實質病變
五、可消失的假影誤認為腫瘤
六、假性透光性增加
七、病灶在縱膈腔？肺實質？或血管影像？

常見的判讀陷阱(四大死角)

- **Bilateral Apex**
- **Large Airway**
- **Retrocardiac region**
- **Bilateral lung bases (especially sub-diaphragm)**

Normal CXR ?? 記得要先排除這些問題

1. Cervical rib, fork rib
2. 左右放反 (Dextrocardia, Situs inversus)
3. Mastectomy
4. Endotracheal or endobronchial lesion
5. Extrapulmonary soft tissue
6. 四個死角（ apex, retrocardia, subdiaphragm, retrocardiac)
7. Artifact (nipple, hair braid)
8. Pneumothorax
9. Malposition of medical device (NG, CVP, endotracheal tube…)

義大醫療財團法人
E-DA HEALTHCARE GROUP

115年影像判讀繼續教育課程(南區)

胸部X-ray影像判讀原則與常用徵象

THANKS!

實實在在關心您健康的好厝邊