

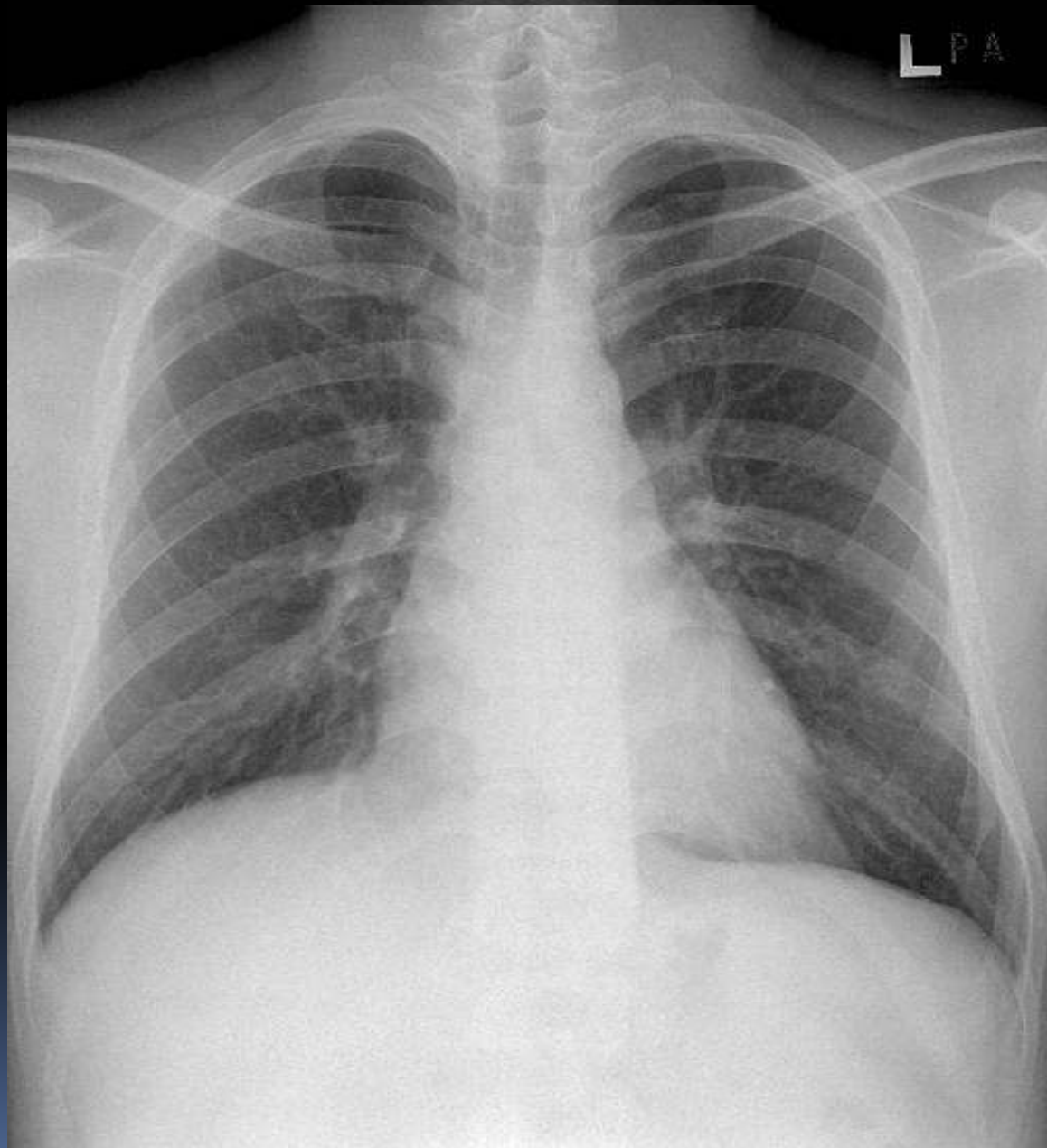
# 흉부외과 의사가 꼭 알아야 할 흉부 영상

건양대학교병원 영상의학과

조 영 준

# 적절한 흉부사진이란?

- 심장후면, 횡격막후면의 폐와 종격동 및 척추의 해부학적 구조물을 분명히 볼 수 있어야 함.
- 겹쳐진 연부조직 이상을 볼 수 있도록 늑골은 너무 분명히 보이지 않아야 함.

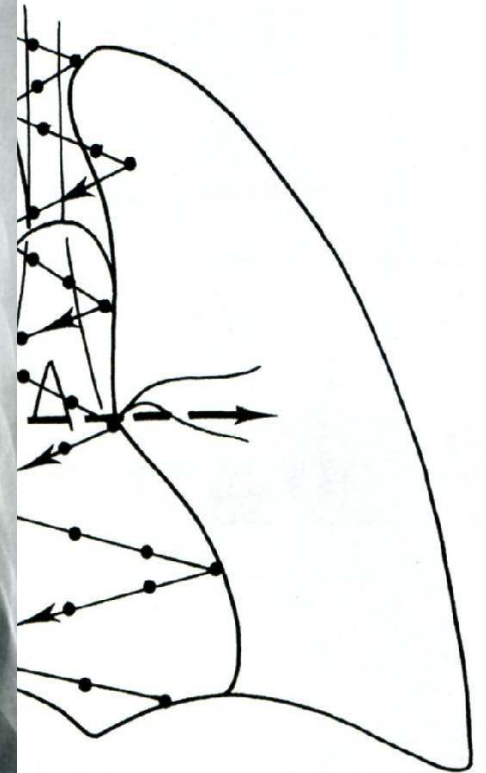
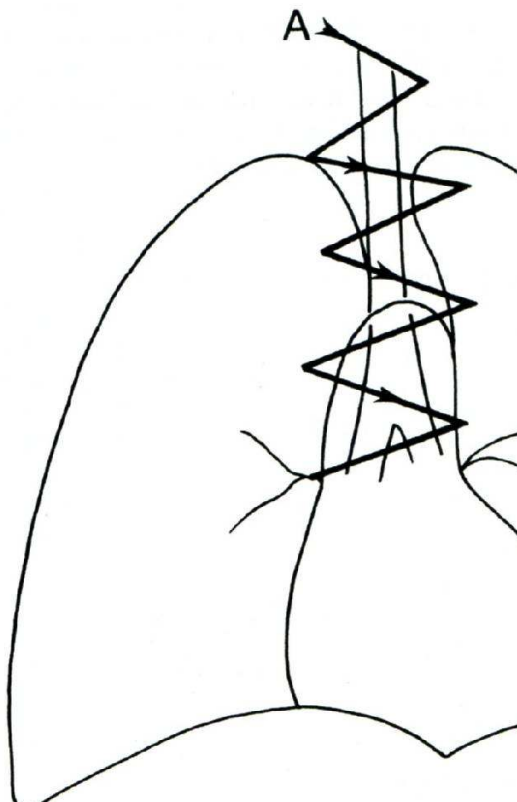
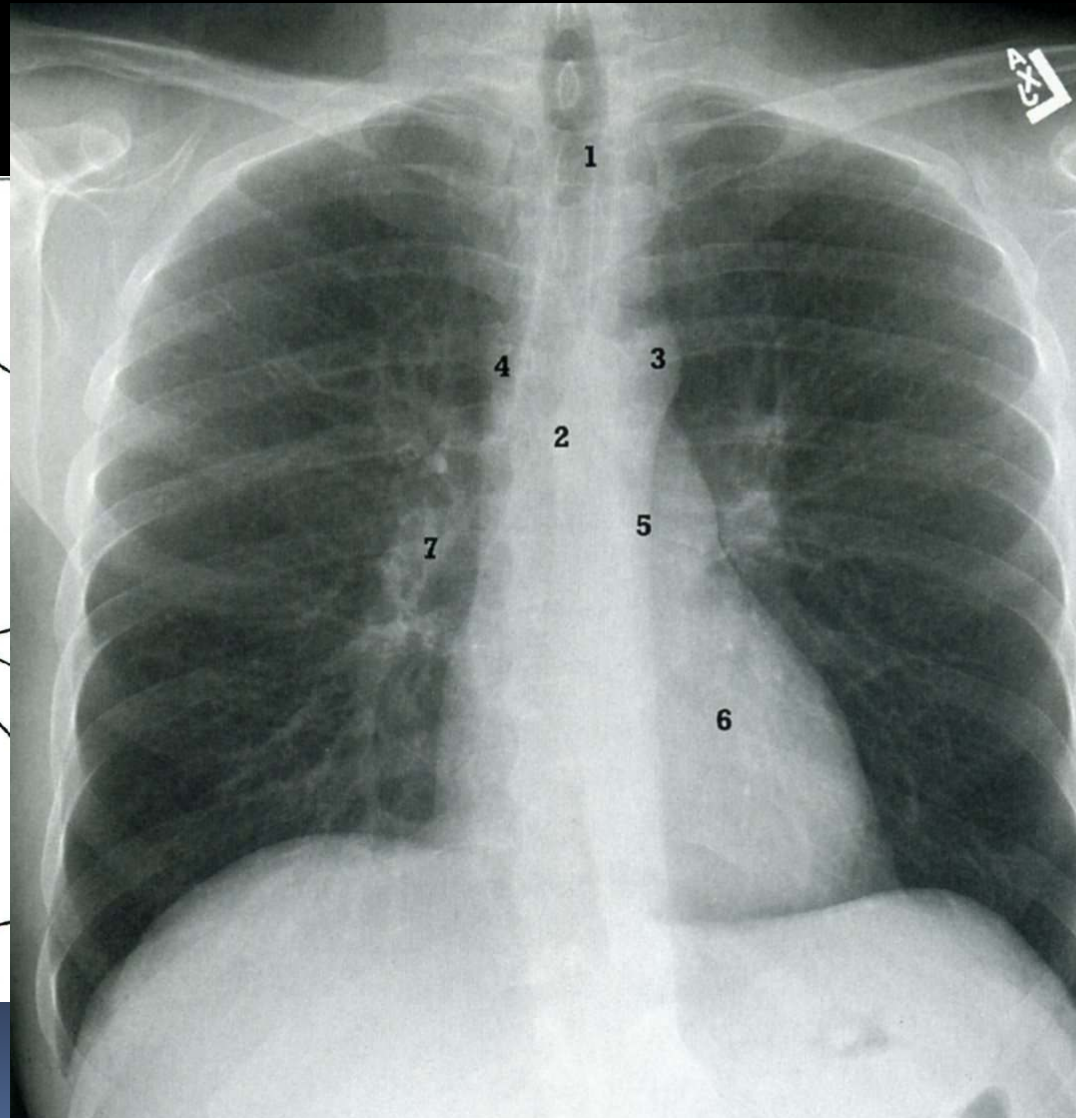


2013년 제6차 신입전공의 워크샵

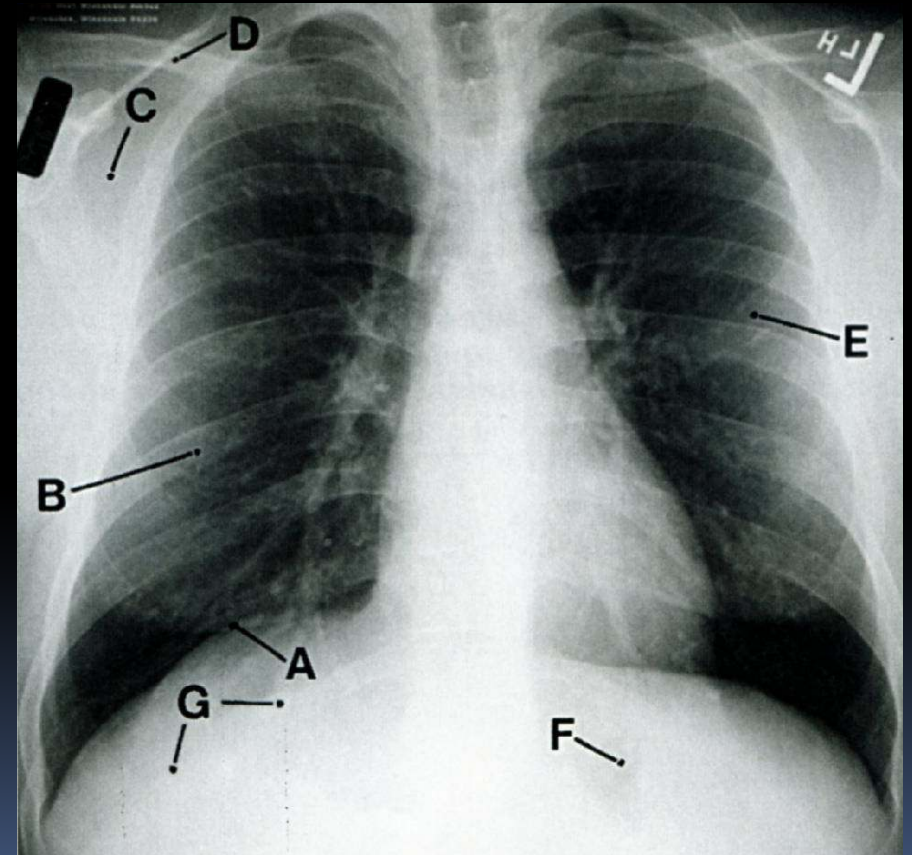
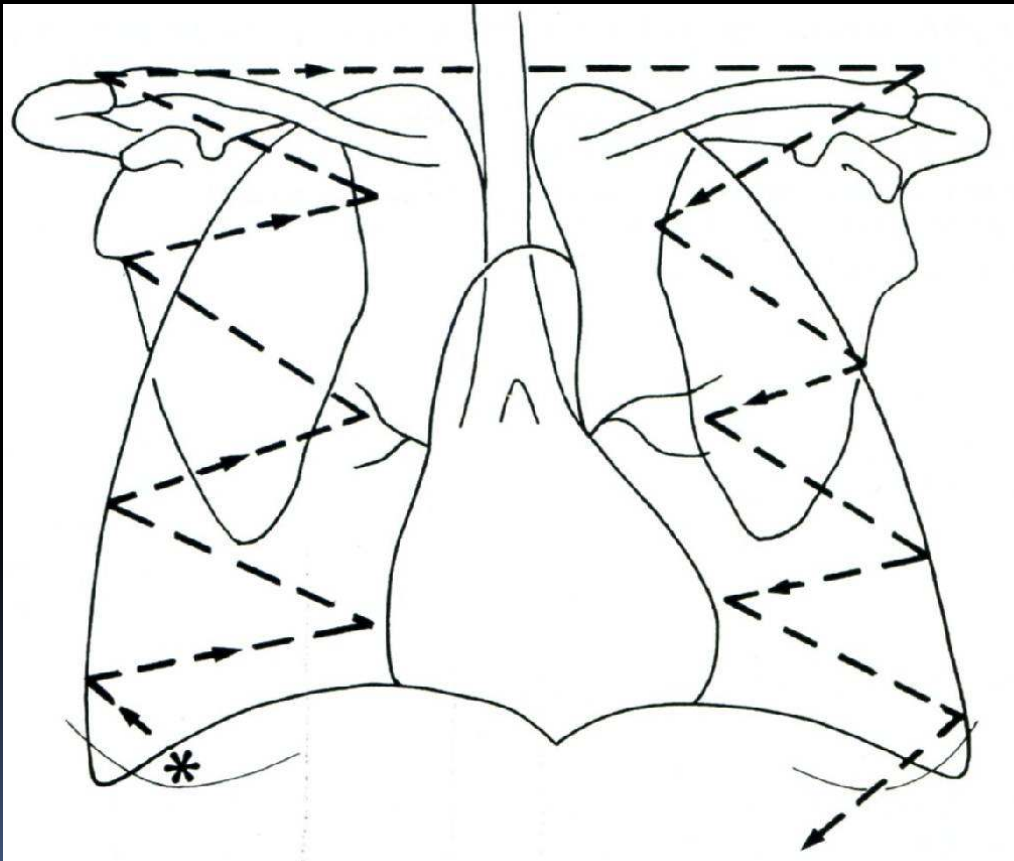
# CHEST Reading 순서

- 환자의 이름을 확인한다.
- 잘 찍은 사진인지 판단한다 (자세, 위치, 노출).
- Mediastinum
- Lung (unilateral / bilateral)
- Thorax (soft tissues & bones)
- Abdomen

# Mediastinum

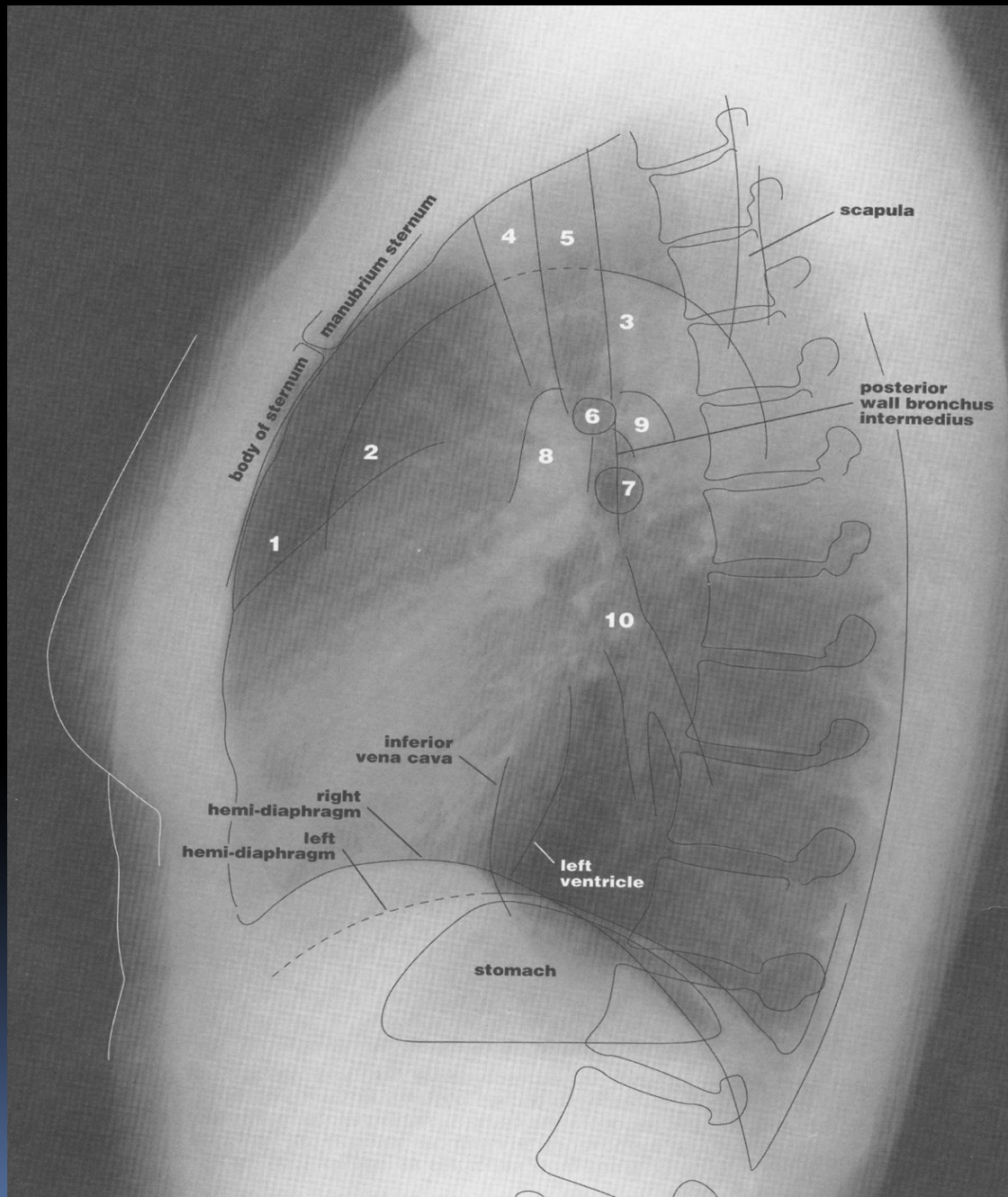


# Thorax (Soft tissues & Bones)



Normal  
Lat. View



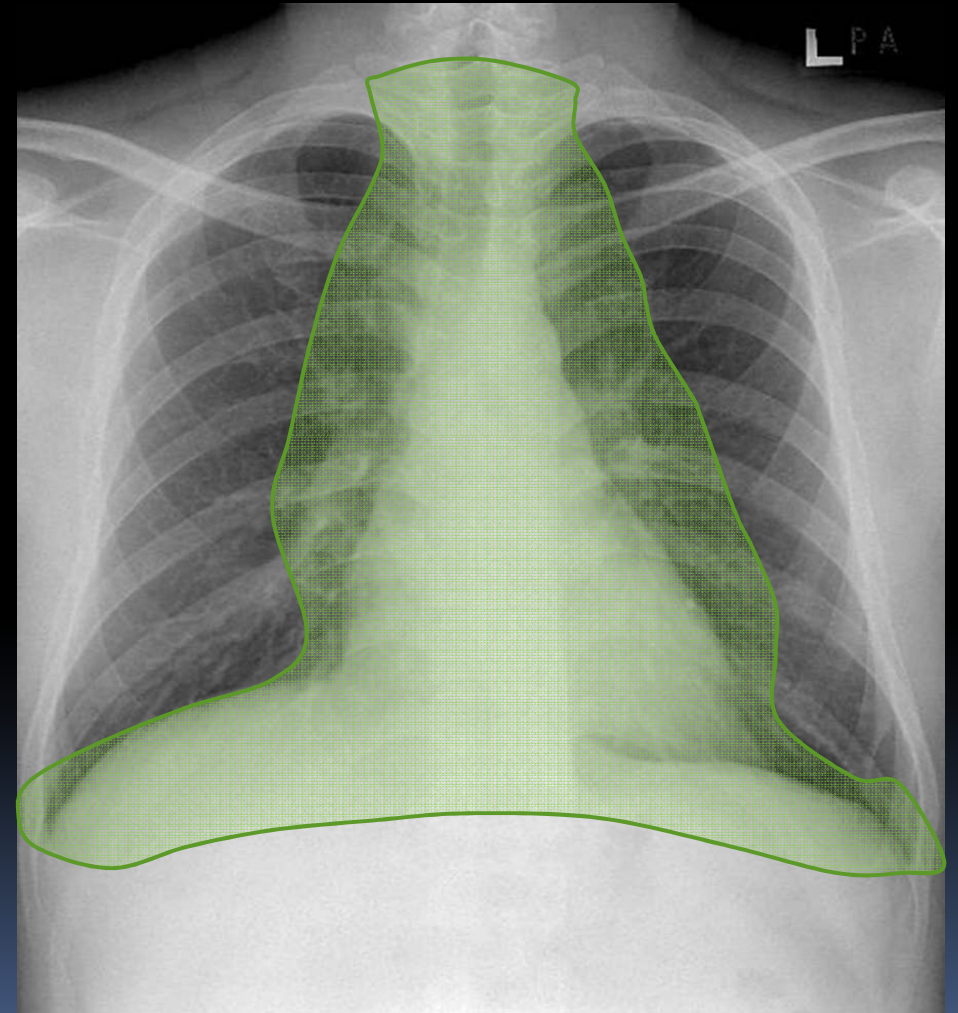


1. Pulmonary outflow tract
2. Ascending aorta
3. Aortic arch
4. Brachiocephalic vessels
5. Trachea
6. RUL bronchus
7. LUL bronchus
8. RPA
9. LPA
10. Confluence of PV



# 놓치기 쉬운 곳들

- Peritracheal area
- Peri aortic area
- Hilar area
- Retrocardiac area
- Retrodiaphragmatic area

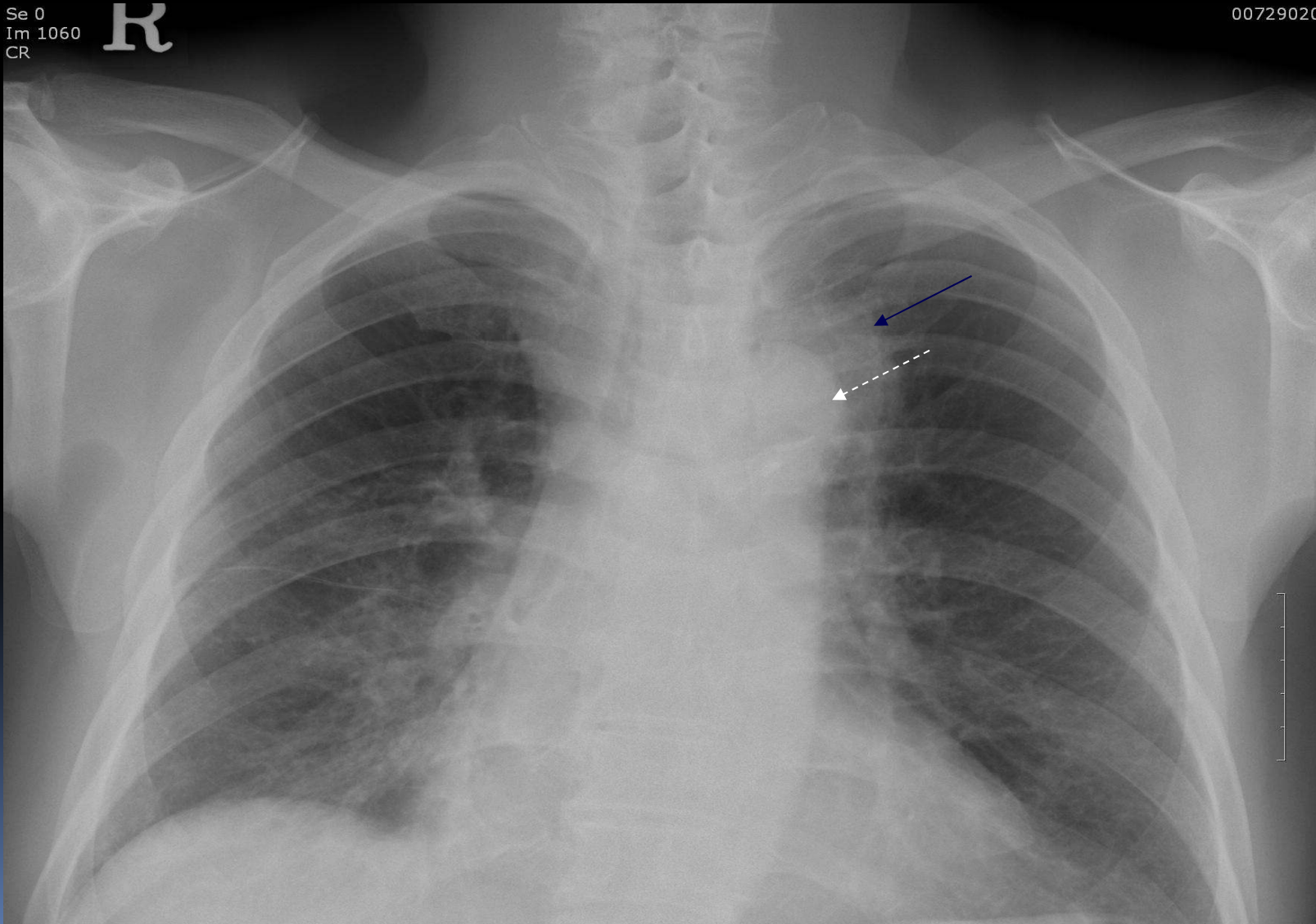


# Periaortic area

Se 0  
Im 1060  
CR

R

00729020



# Hilum

- 구성

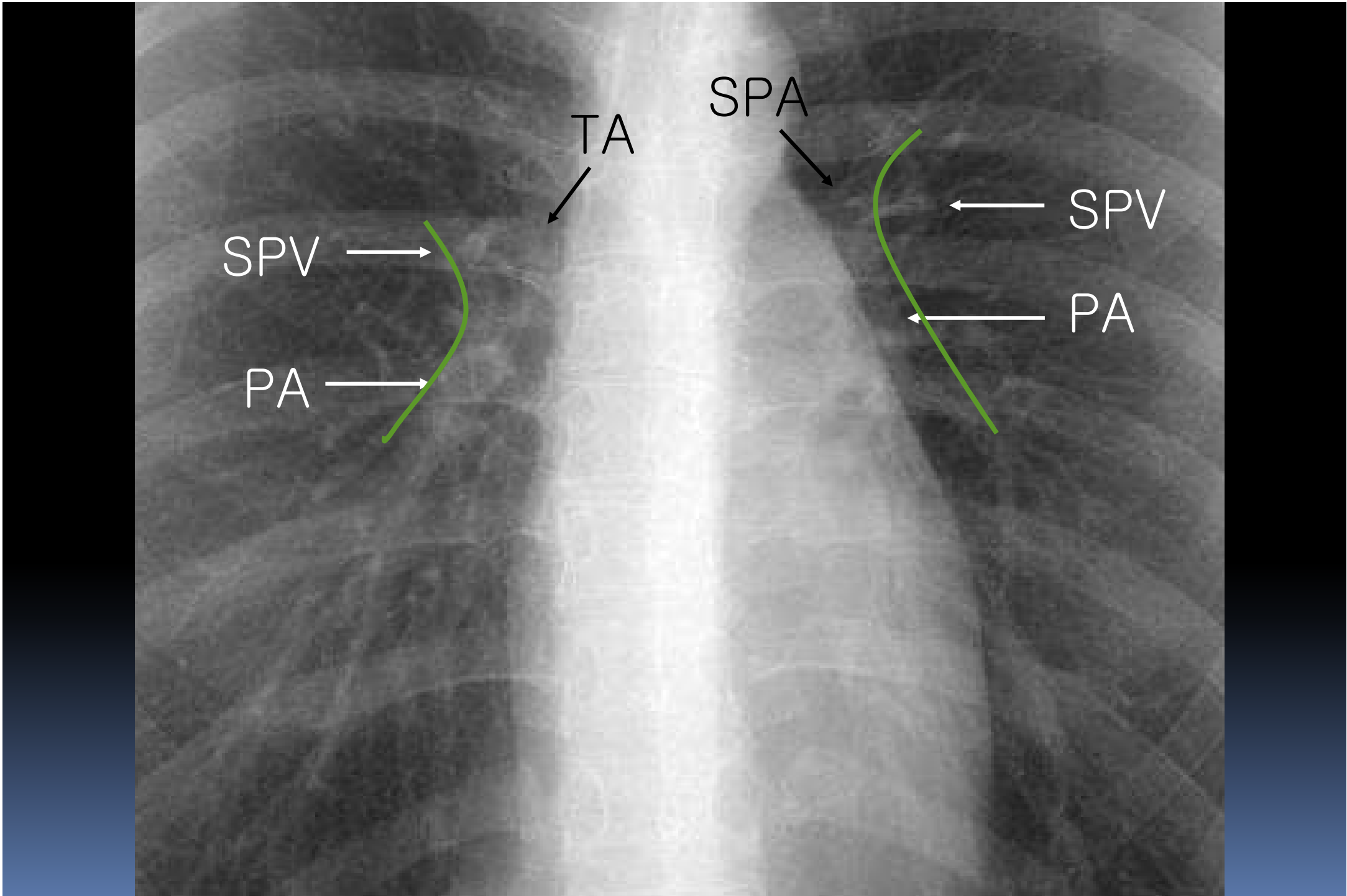
Pulmonary Artery & Vein

Main Bronchus

Lymph Node

- 90% Lt. > Rt. (up to 1 ~ 1.5cm)

10% 좌우 높이가 같거나, 차이 < 0.5cm

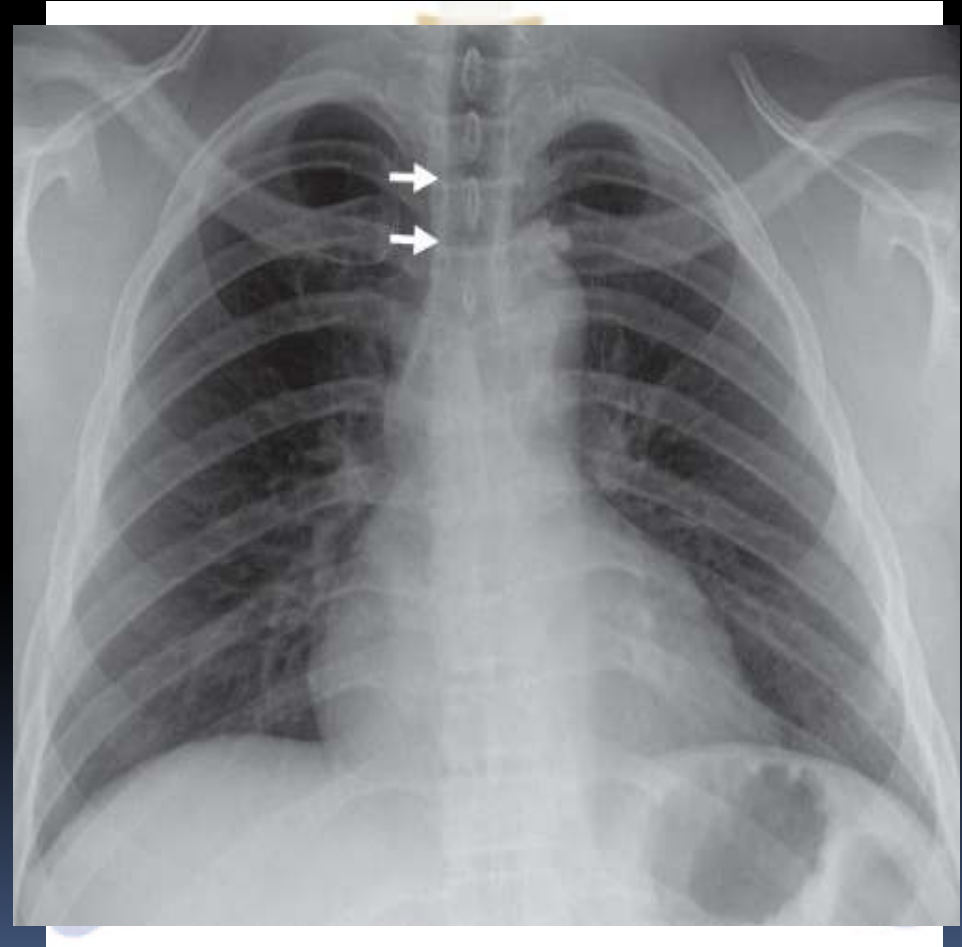




# Line & Stripe

# Right paratracheal stripe

- Pleura of the RUL – Rt. lat. border of the trachea and the mediastinal fat
- Clavicle level
  - ~ above the carina
    - Normal thickness < 4mm



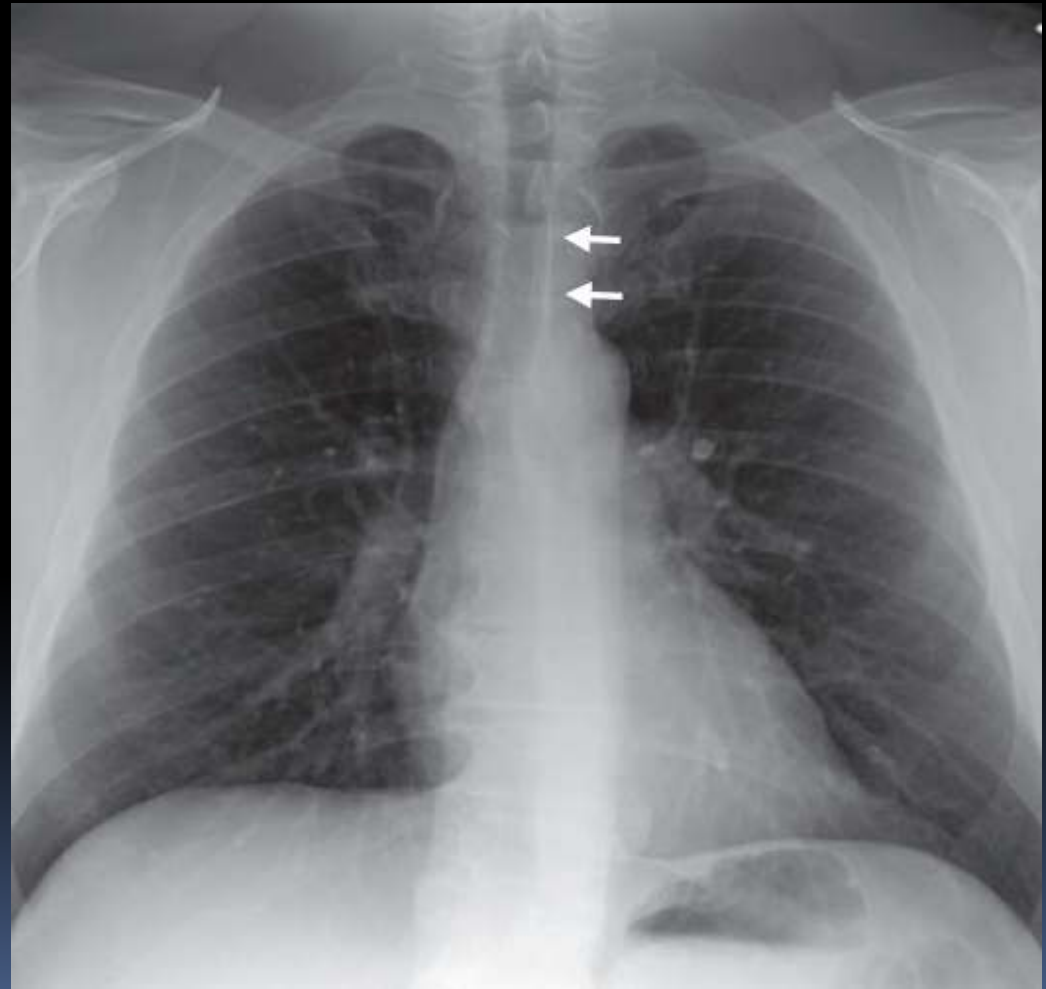


# Right paratracheal stripe

- Widening or abnormal contour
  - Pleural effusion or thickening(m/c)
  - Paratracheal LAP
  - Thyroid or parathyroid neoplasia
  - Tracheal carcinoma or stenosis

# Left paratracheal stripe

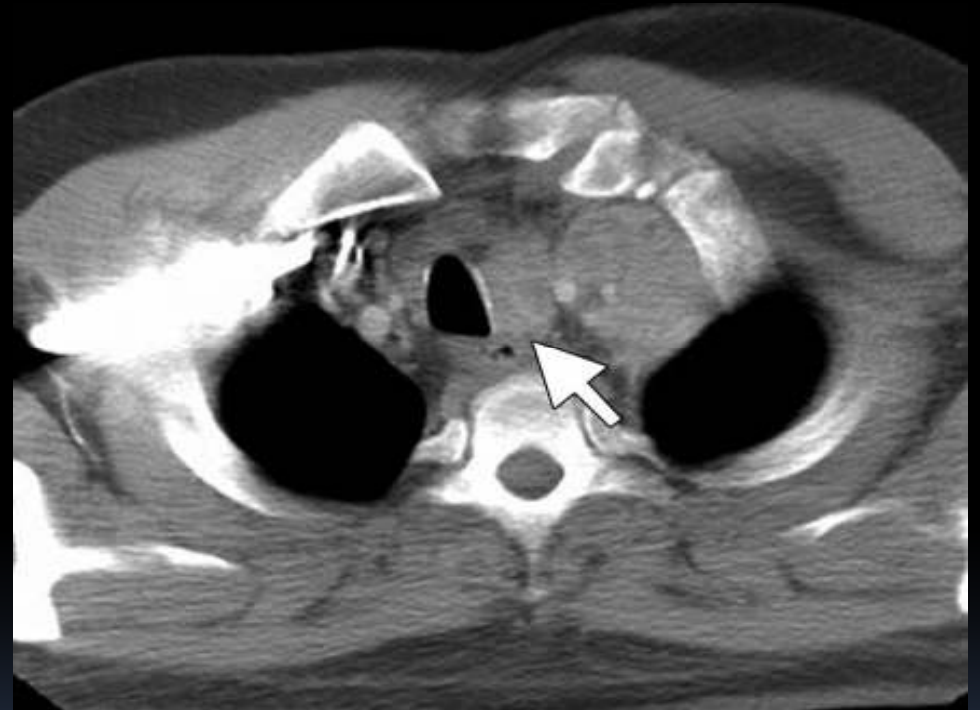
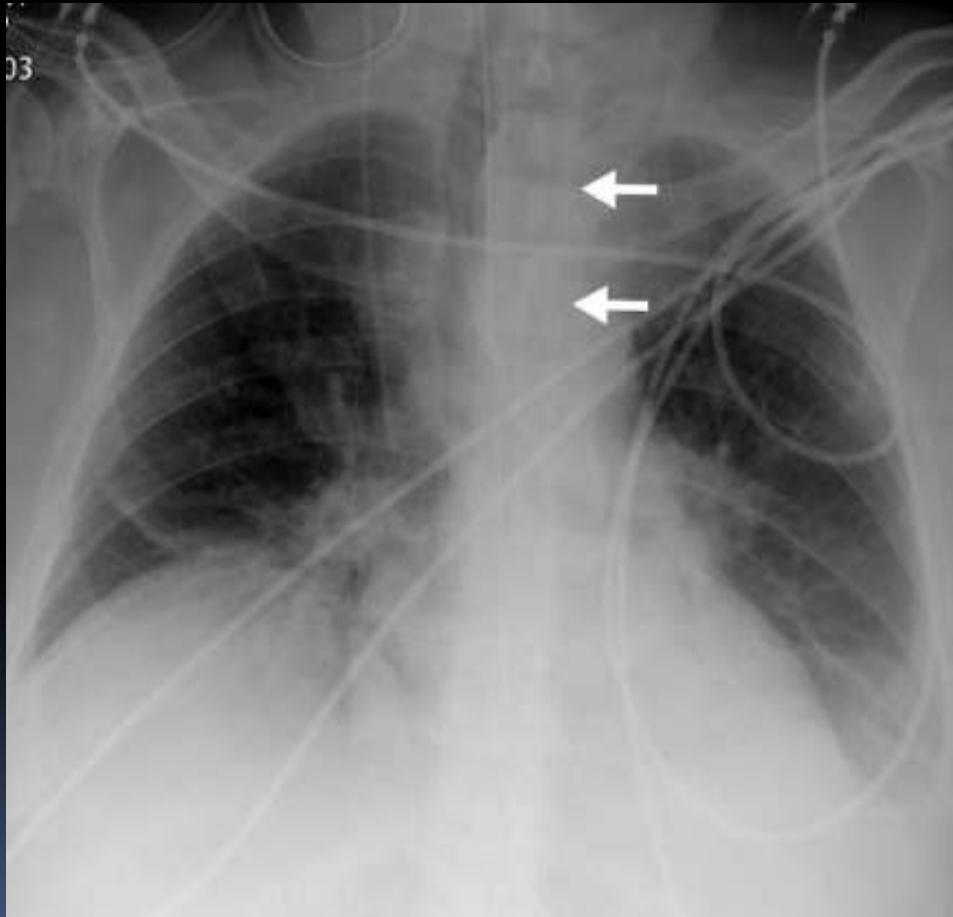
- LUL – mediastinal fat or left tracheal wall
- Aortic arch level ~ carina



# Left paratracheal stripe

- Abnormal contour or widening
  - Large left-sided pleural effusion(m/c)
  - Left paratracheal LAP
  - Neoplasm
  - Mediastinal hematoma

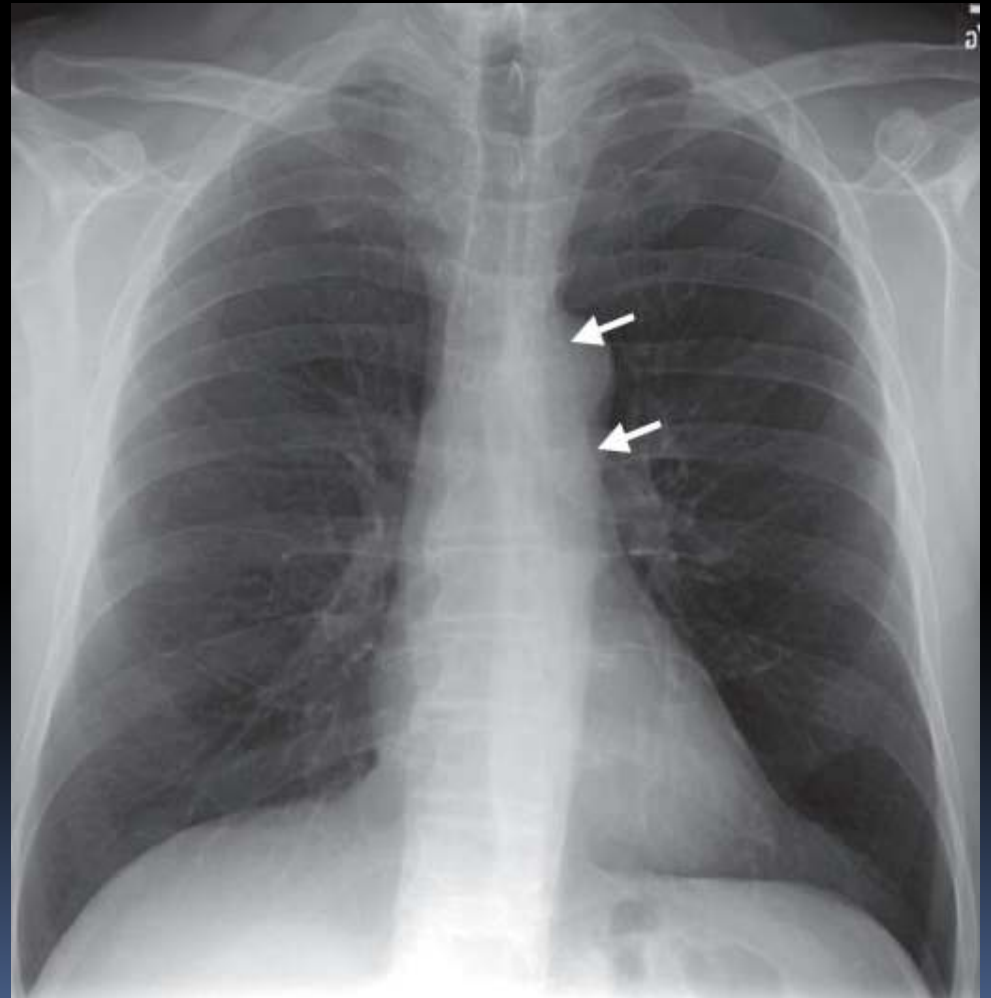
# Left paratracheal stripe



**Metastatic thyroid carcinoma**

# Aortic-pulmonary stripe

- **Ant. Lt. lung pleura - mediastinal fat (anterolat. to Lt. pul. a. and aortic arch)**
- **Straight/mildly convex**
- **Crossing laterally over the aortic arch and the main pulmonary artery**

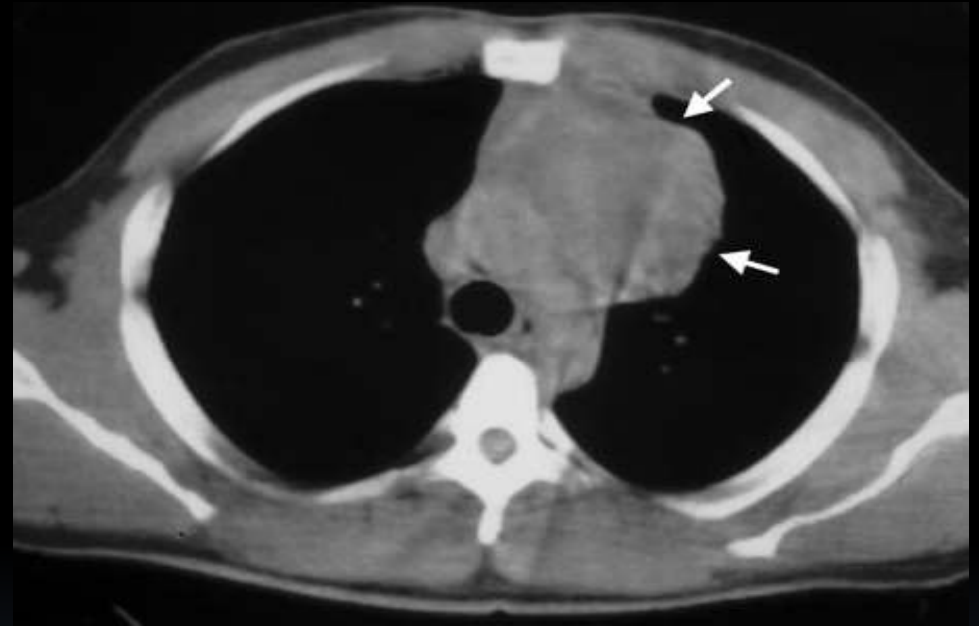
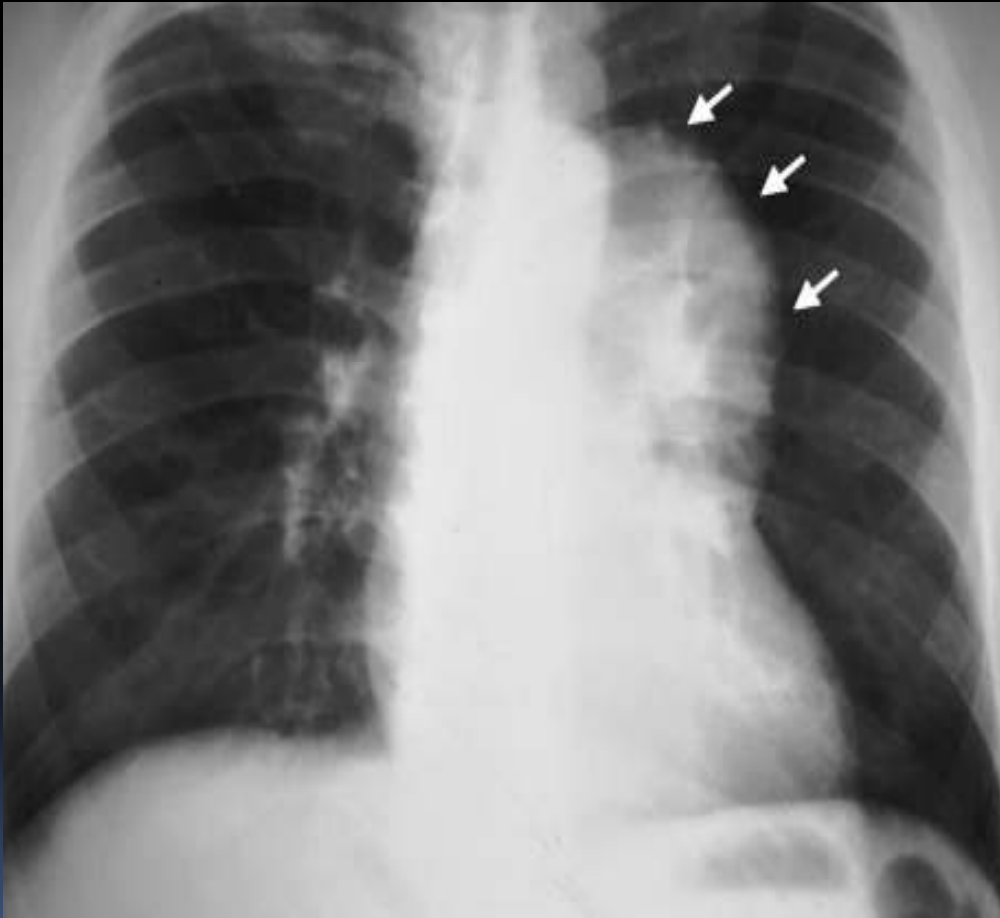


# Aortic-pulmonary stripe

- Increasing convexity laterally
  - Anterior mediastinal disease
    - Thyroid masses
    - Thymic masses
    - Prevascular LAP



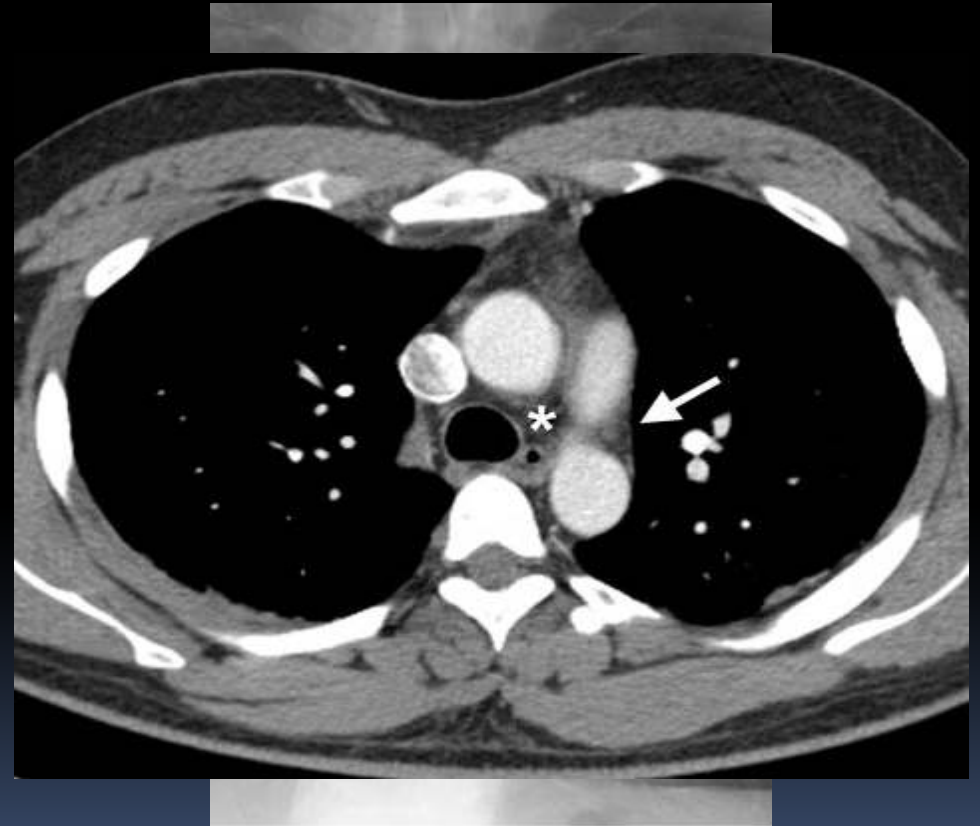
# Aortic-pulmonary stripe



Lymphoma

# Aortopulmonary window

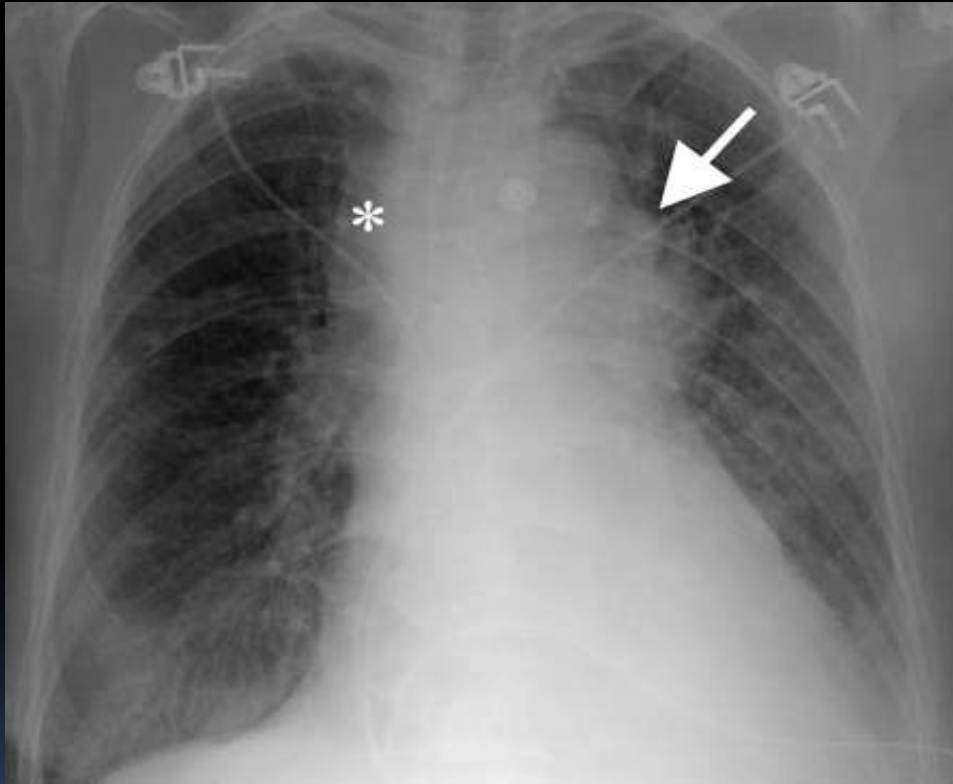
- Boundary
  - Sup. - Inf.
    - Inferior wall of the **aortic arch** ~ superior wall of the **left pulmonary artery**
  - Ant. - Post.
    - Posterior wall of the **ascending aorta** ~ anterior wall of the **descending aorta**
  - Med. - Lat.
    - **Ligamentum arteriosum** ~ **parietal pleura**



# Aortopulmonary window

- Abnormal convexity
  - Prominent mediastinal fat
  - LAP
  - Bronchial artery aneurysm
  - Nerve sheath tumors
  - Paralysis of the left vocal cord or diaphragm
  - Border structure disease

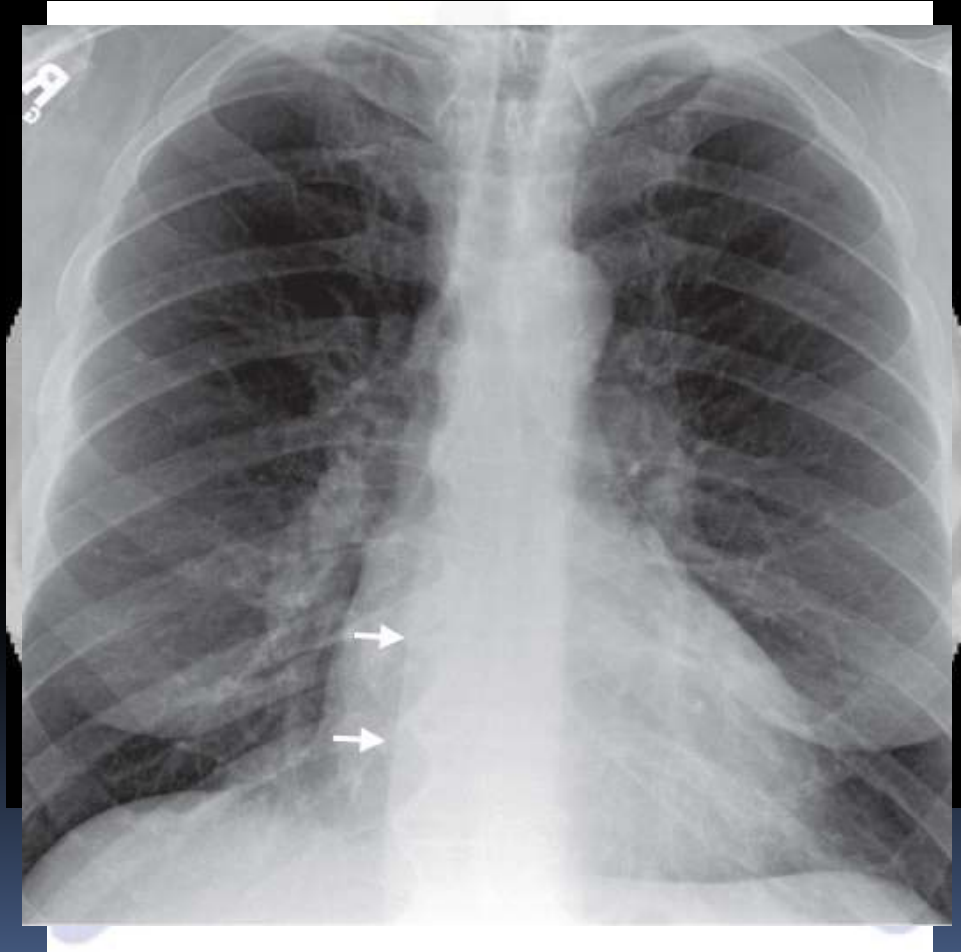
# Aortopulmonary window



**Bronchogenic carcinoma, metastatic LAP**

# Right paraspinal line

- Right lung ~ Post. mediastinal soft tissues
- Straight, T8~T12



# Right paraspinal line

- Lateral displacement of abnormal contour
  - Osteophyte or prominent mediastinal fat
  - Posterior mediastinal abnormality
    - Mediastinal hematoma
    - Mediastinal mass
    - Extramedullary hematopoiesis

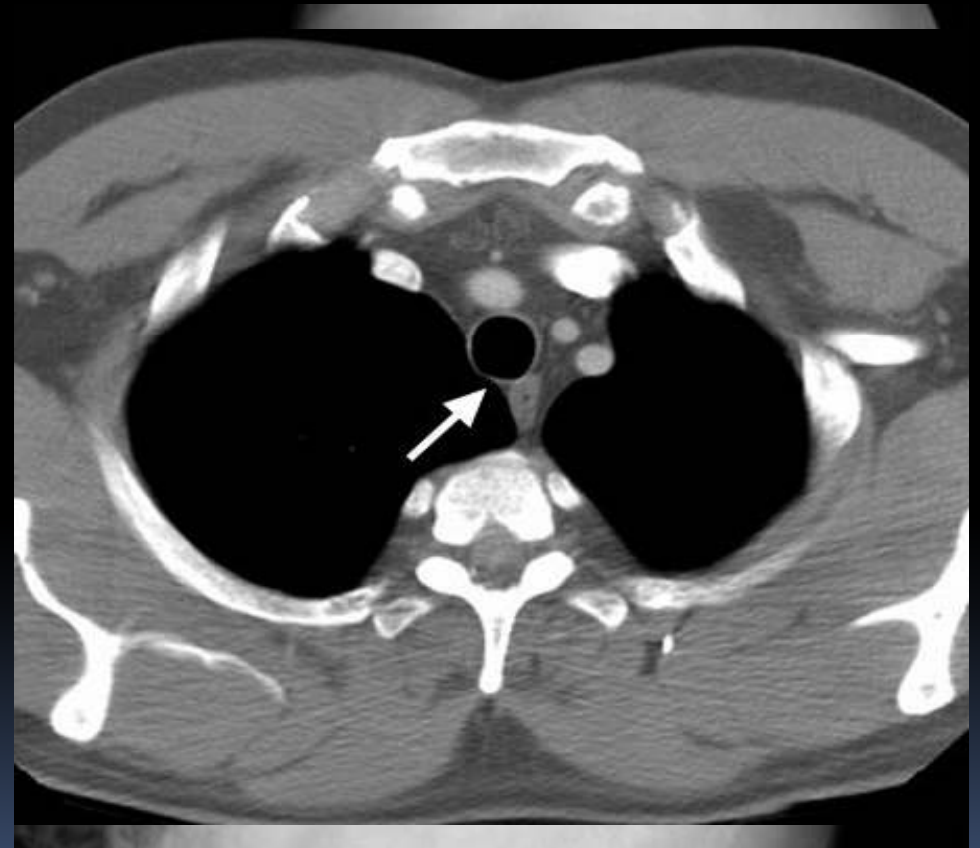


# Left paraspinal line

- Abnormal contour or displacement
  - Osteophytes or prominent mediastinal fat
  - Tortuosity of the descending thoracic aorta
  - Posterior mediastinal abnormalities
    - Mediastinal hematoma
    - Mediastinal mass
    - Extramedullary hematopoiesis
    - Esophageal varices

# Posterior tracheal stripe (= Tracheoesophageal Stripe)

- In lateral chest radiograph
  - Outlining the **posterior tracheal wall** and **intervening soft tissues**
    - Normal < 2.5mm
  - **Posterior tracheal wall, intervening soft tissues, anterior wall of esophagus**
    - Normal < 5.5mm
  - Forms the anterior border of the retrotracheal space

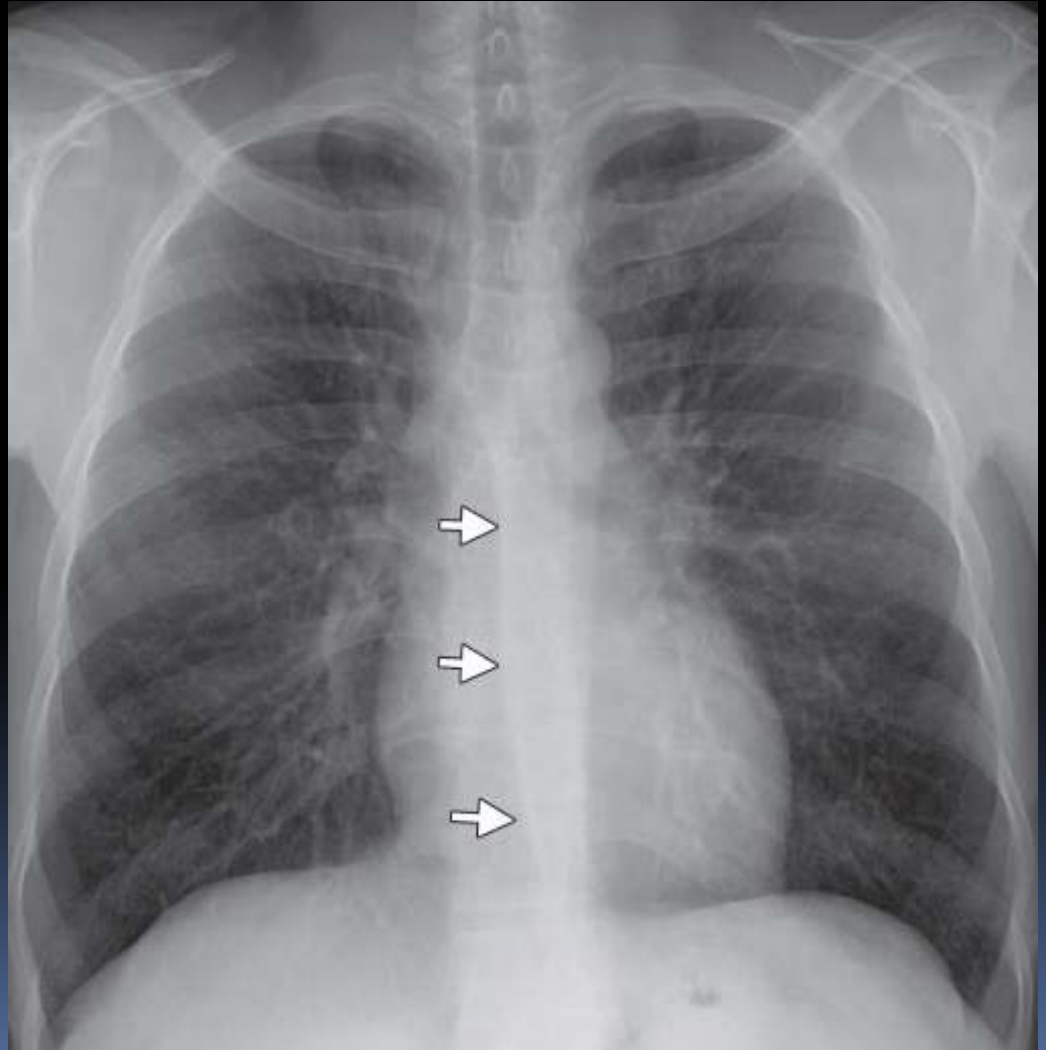


# Posterior tracheal stripe

- Abnormal thickening
  - Vascular lesions (aortic arch abnormality;m/c)
  - Esophageal lesion
  - Lymphatic malformation
  - Mediastinitis
  - Post-traumatic hematoma

# Azygoesophageal recess

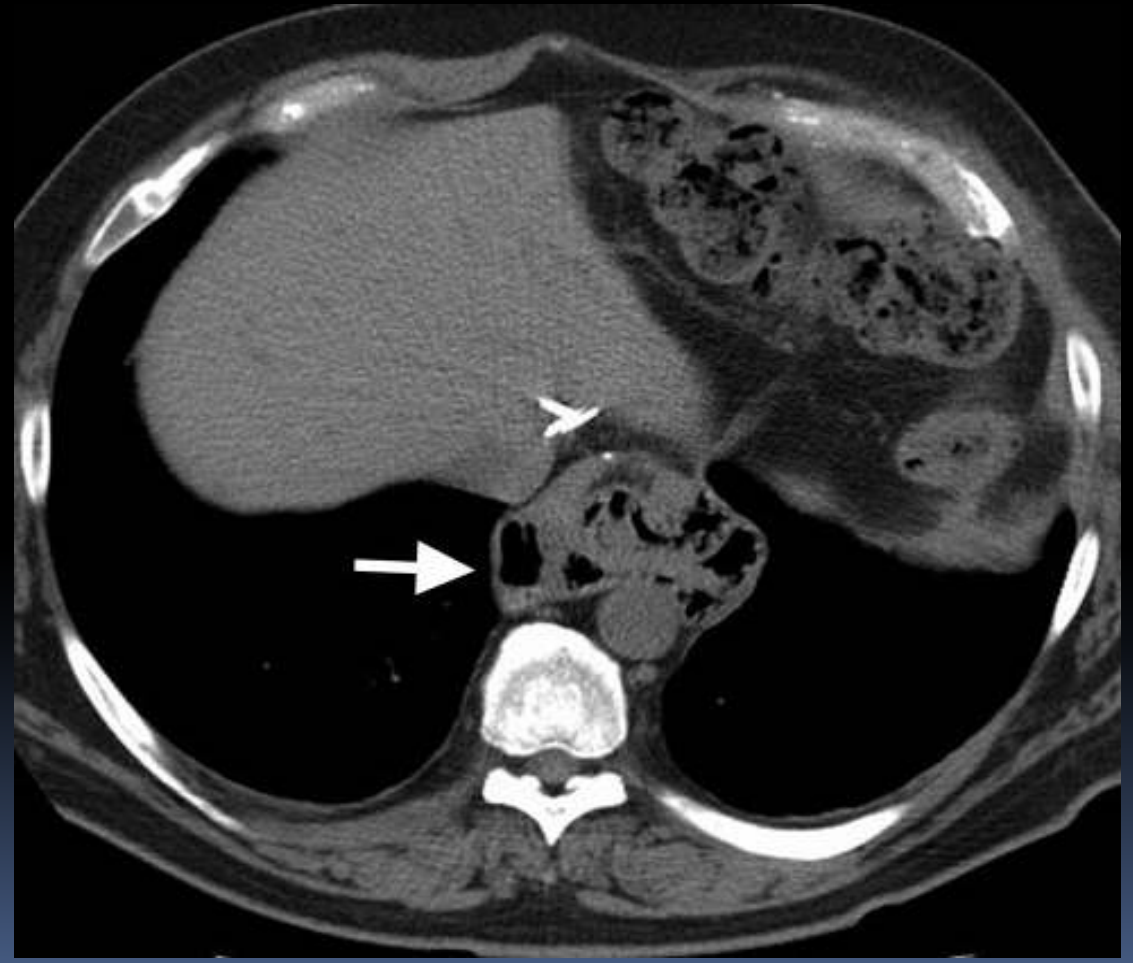
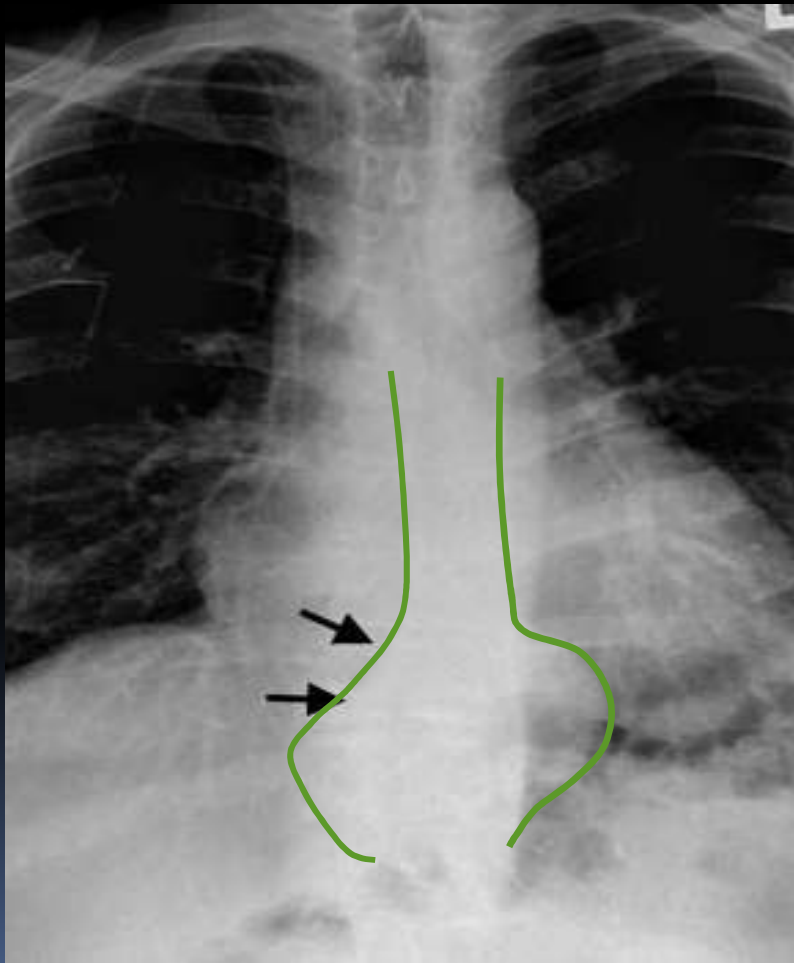
- Differences in density between the **mediastinum** and the **posteromedial portion of the RLL**
  - Lateral or posterior to the **esophagus** ~ Anterior to the **spine**
  - Anterior turn of the **azygos vein** level ~ **Aortic hiatus** level



# Azygoesophageal recess

- Right superior convexity
  - May be normally seen in children, younger adults
- Abnormal in elderly
  - LAP
  - Hiatal hernia
  - Bronchopulmonary-foregut malformation
  - Esophageal neoplasm
  - Pleural abnormality
  - Cardiomegaly with LA enlargement

# Azygoesophageal recess

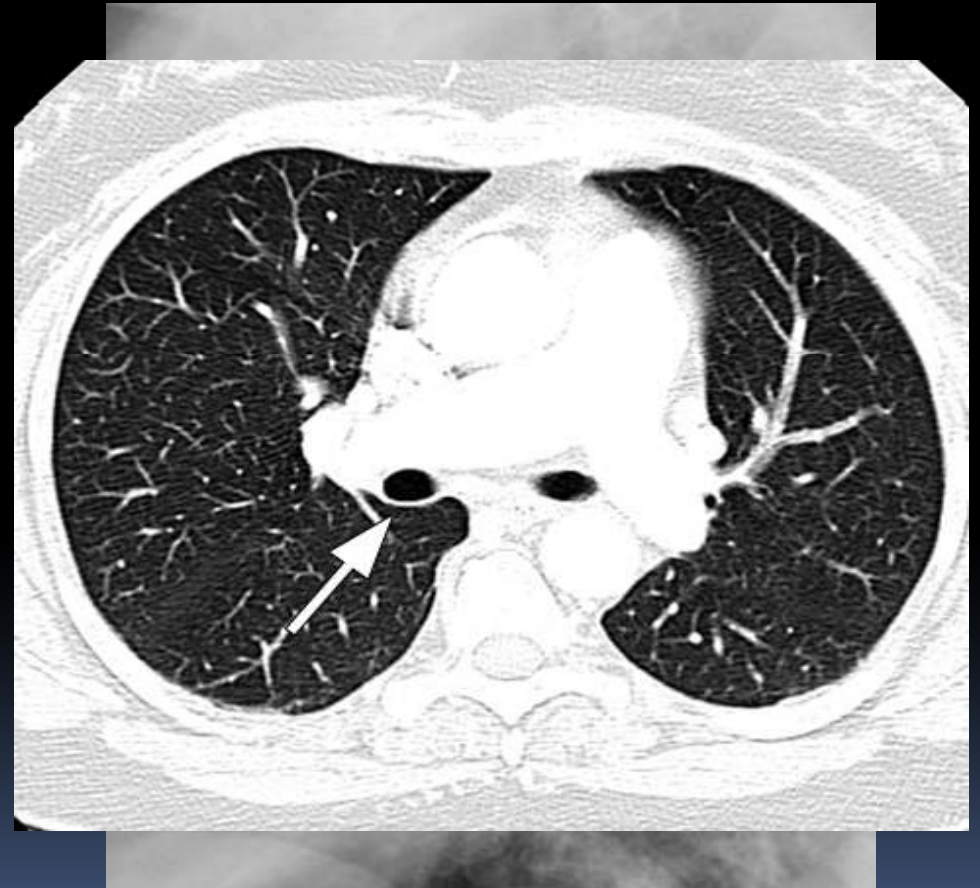


Hiatal hernia



# Posterior wall of the bronchus intermedius

- Important in evaluating mediastinal disease
- Thin, vertical or slightly oblique stripe
  - Posterior wall of the **bronchus intermedius** ~ **right lung** within the azygoesophageal recess
  - Continues to descend for about 3~4cm
  - Normal : 0.5~3.0mm



# Summary

- Chest X-ray 판독시 놓치기 쉬운 부위는 다시 한번 확인을 한다
- Line and stripe
  - Rt paratracheal stripe
  - Aortopulmonary window
  - Paraspinal line
  - Azygoesophageal recess
  - Posterior wall of the bronchus intermedius (PWBI)