

CXR











Exhalation port

No valve

Allows room air entry if the
O₂ inflow is accidentally
interrupted

Exhalation port

One-way valve

Allows egress of expired gas
Prevents room air entry

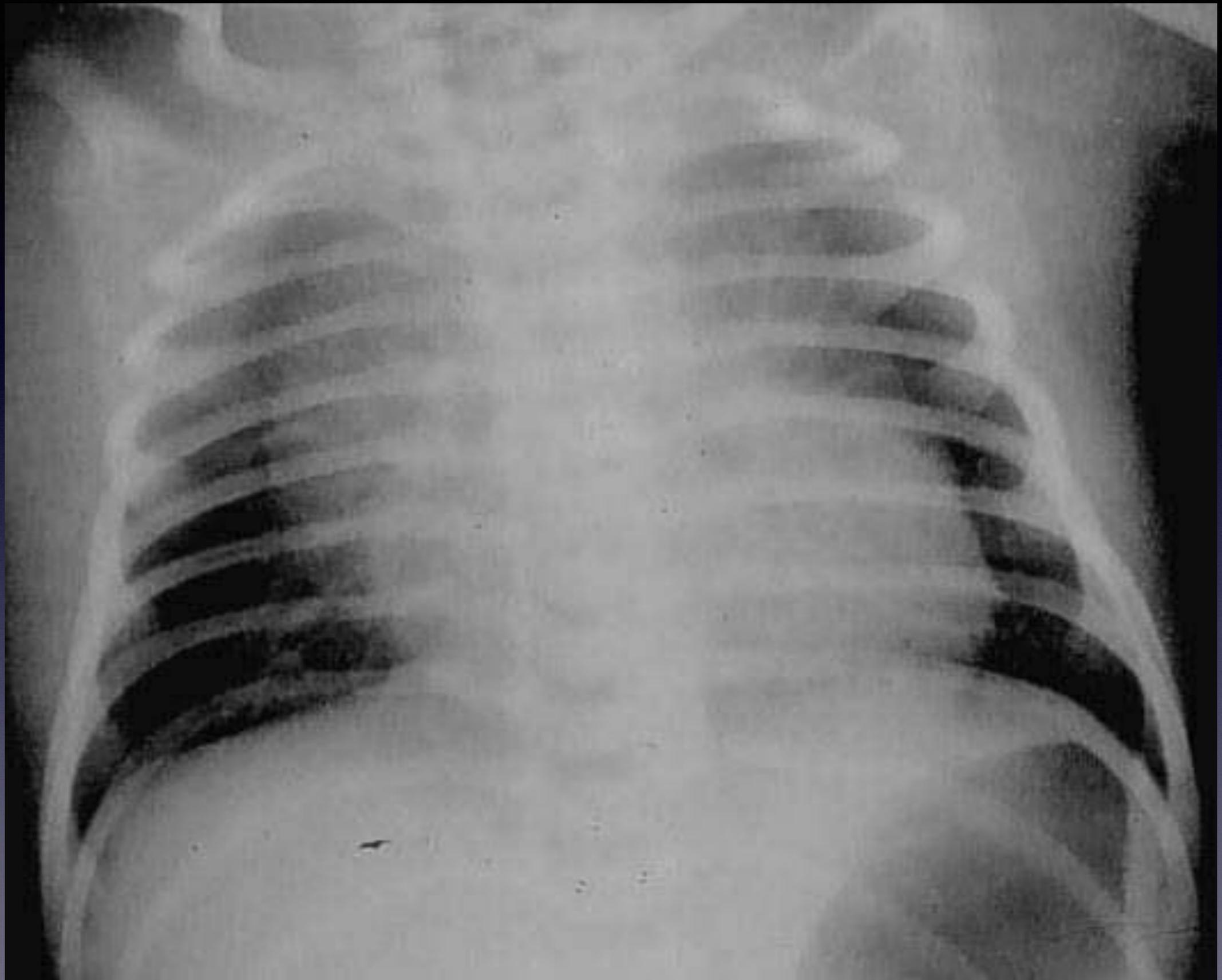
One-way valve

Prevents flow of exhaled
gas into the reservoir

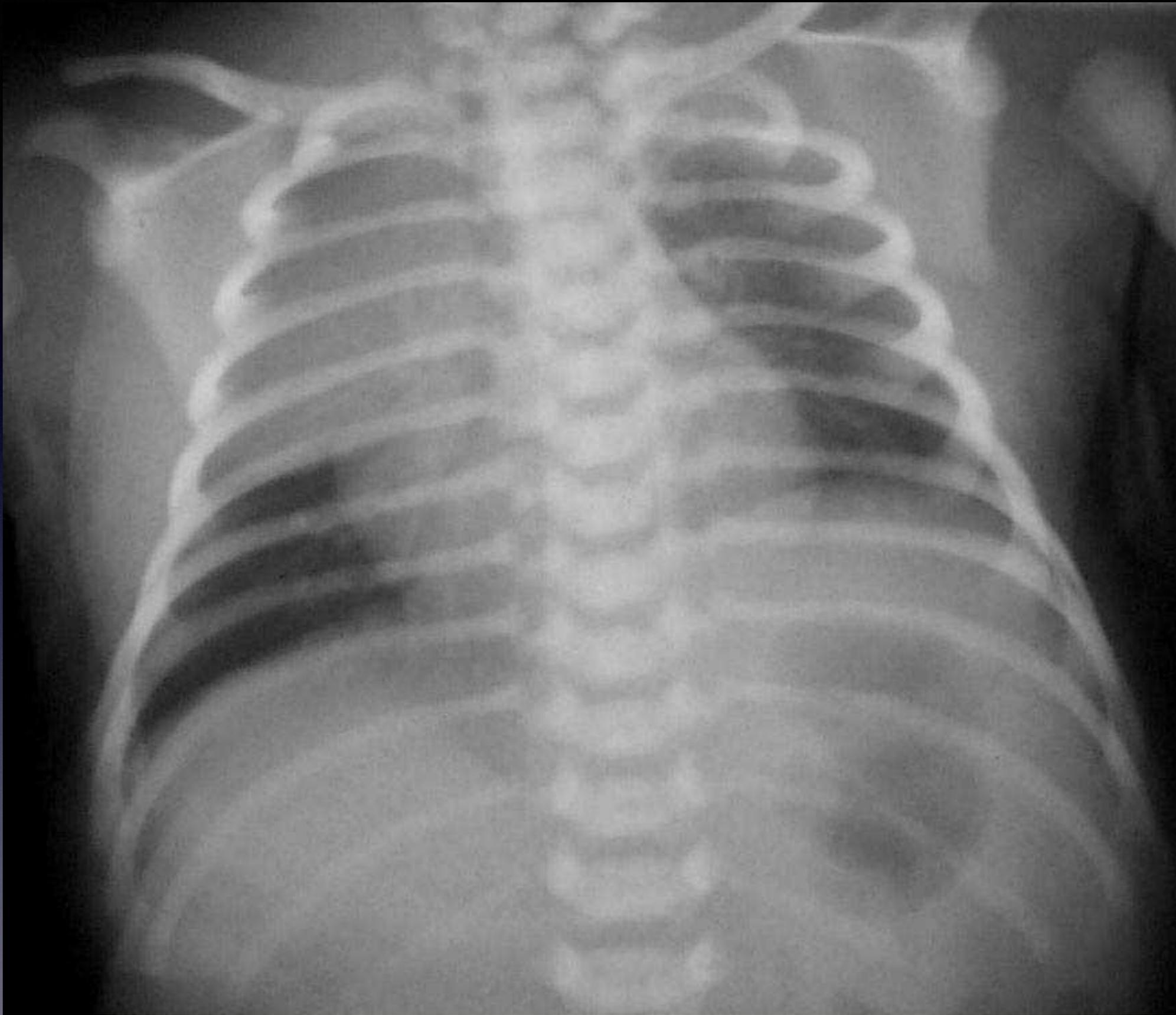


Not just small adults

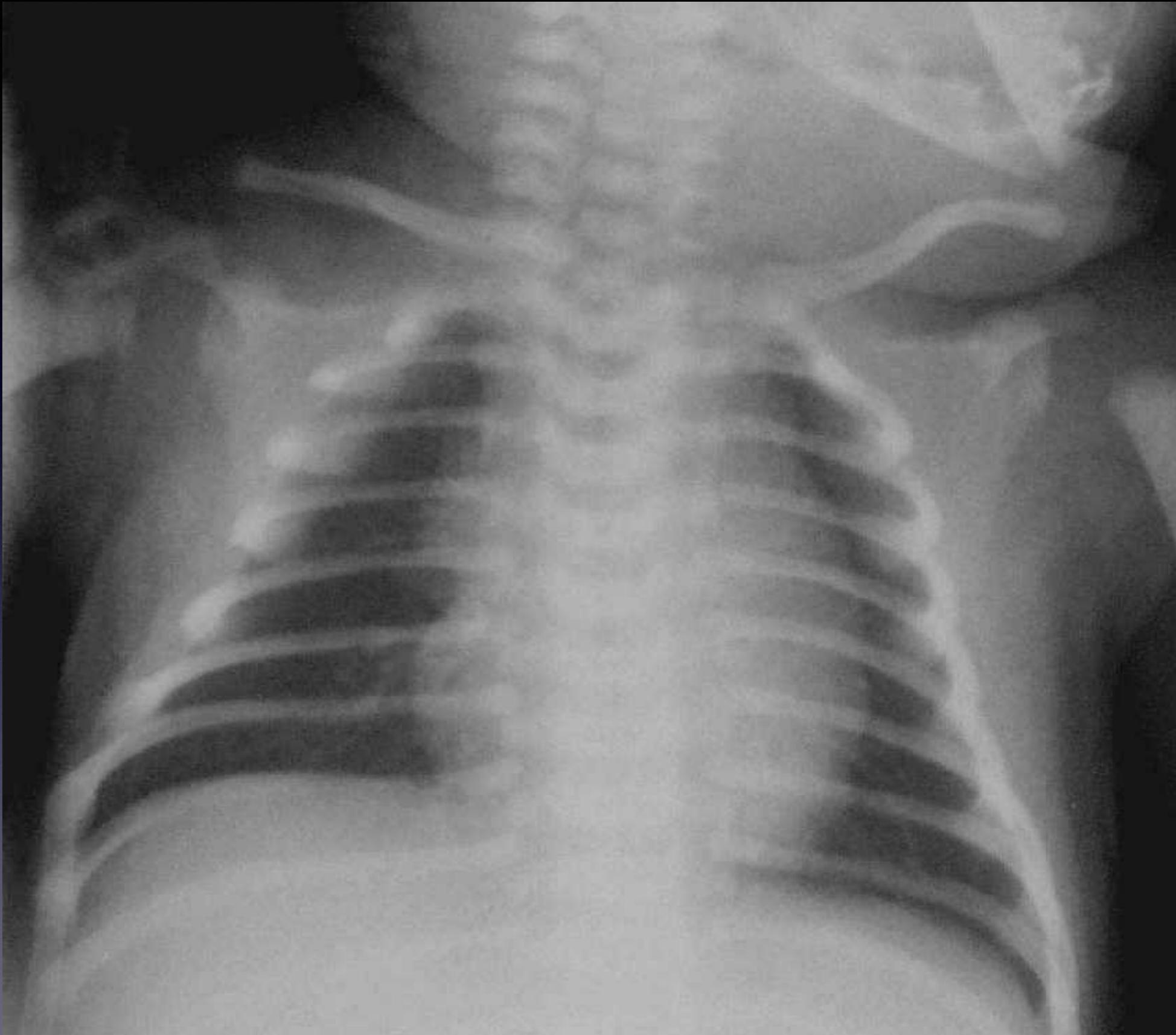
- What's different about the pediatric CXR?
 - Thymus
 - Occult FB aspiration
 - Congenital anomalies
 - Smaller airways; more subtle disease findings
 - Infectious etiologies & presentations



Normal newborn chest



prominent right thymic lobe because of rotation.

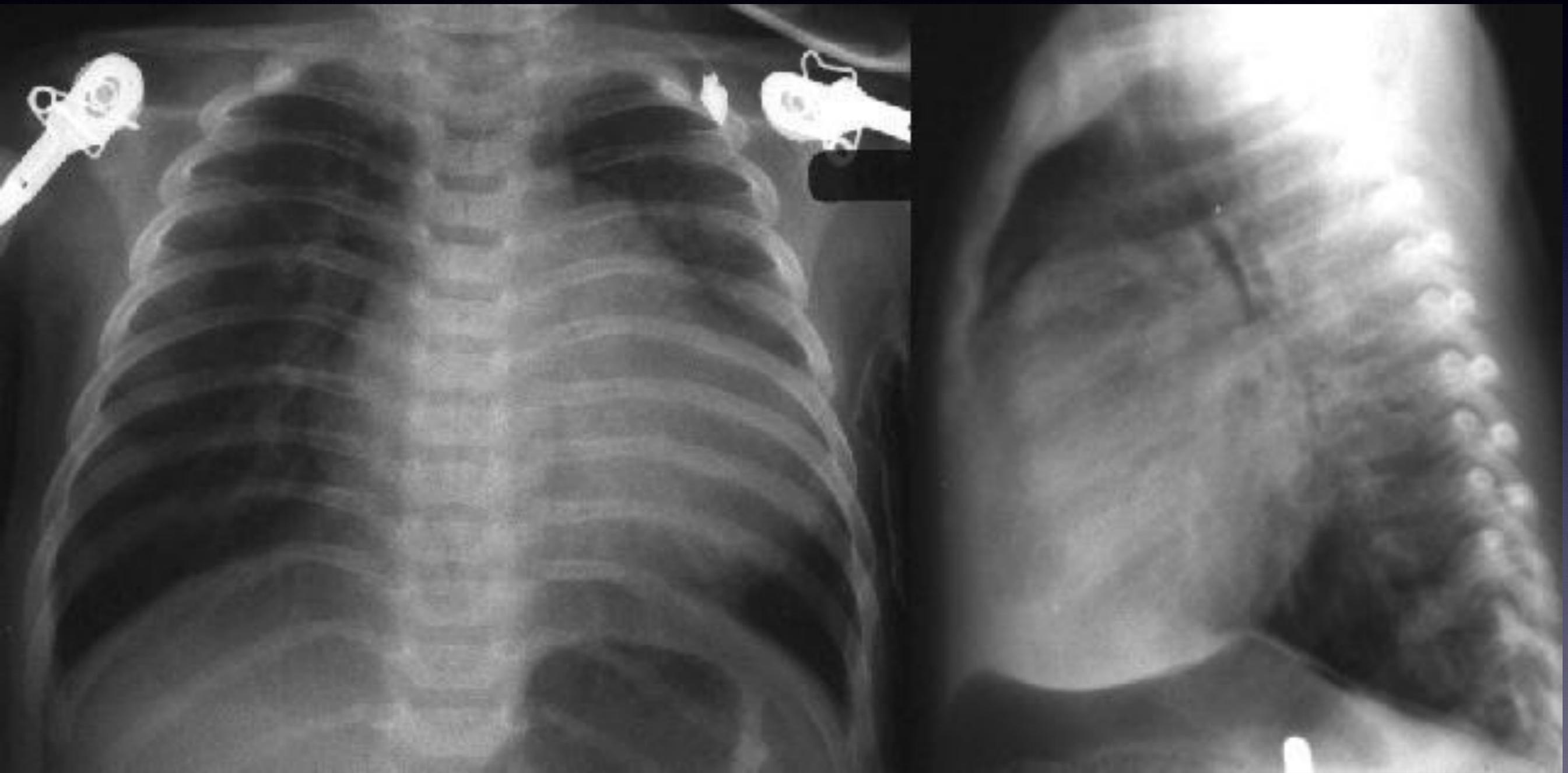


wavy thymic sign on the left

Thymus

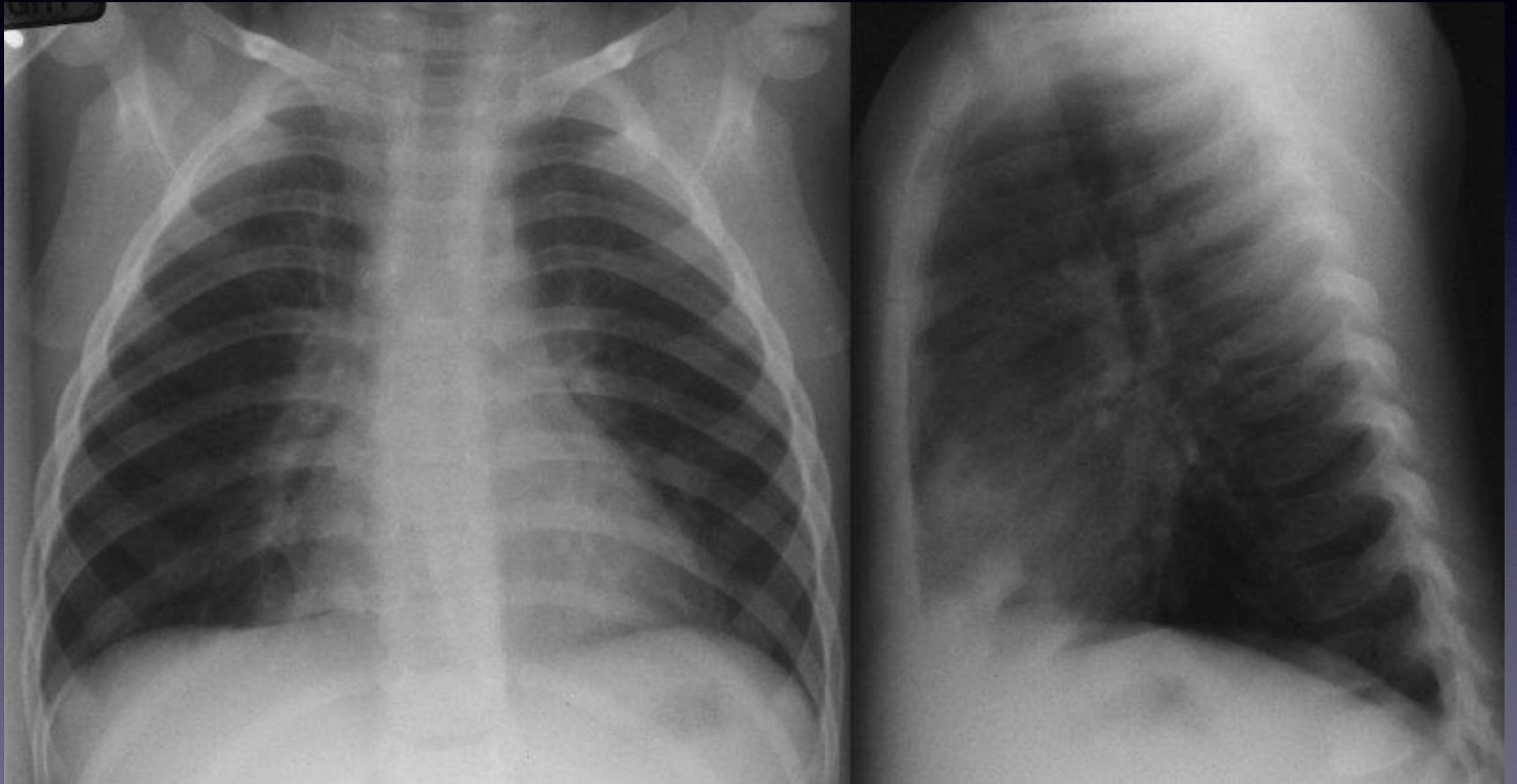
- Anterior upper mediastinal structure
- Low density – should be able to see pulmonary vasculature behind it
- Does not displace trachea posteriorly
- Can increase in size after acute illness
- Does not decrease in size w/ aging – rather stays roughly same size (~3x3 cm) and so becomes smaller in proportion to chest

2 mo w/ VSD now presents with
resp distress and “seizure”



Cardiomegaly and absence of the thymic shadow most consistent with DiGeorge Syndrome (thymic and hypoparathyroid aplasia or hypoplasia).

11-month old female presents with fever and coughing.

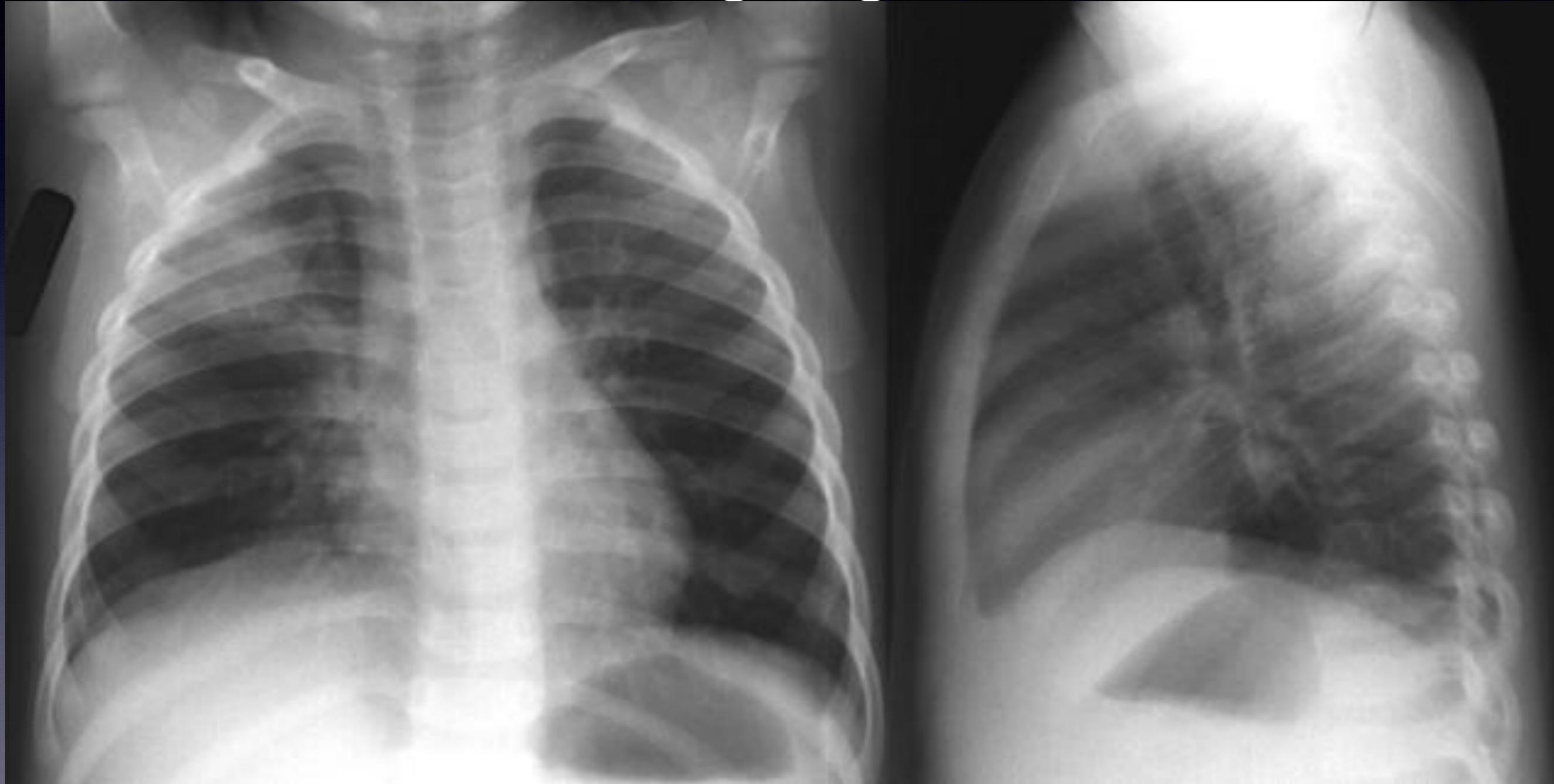


viral pneumonia

Viral Pneumonia

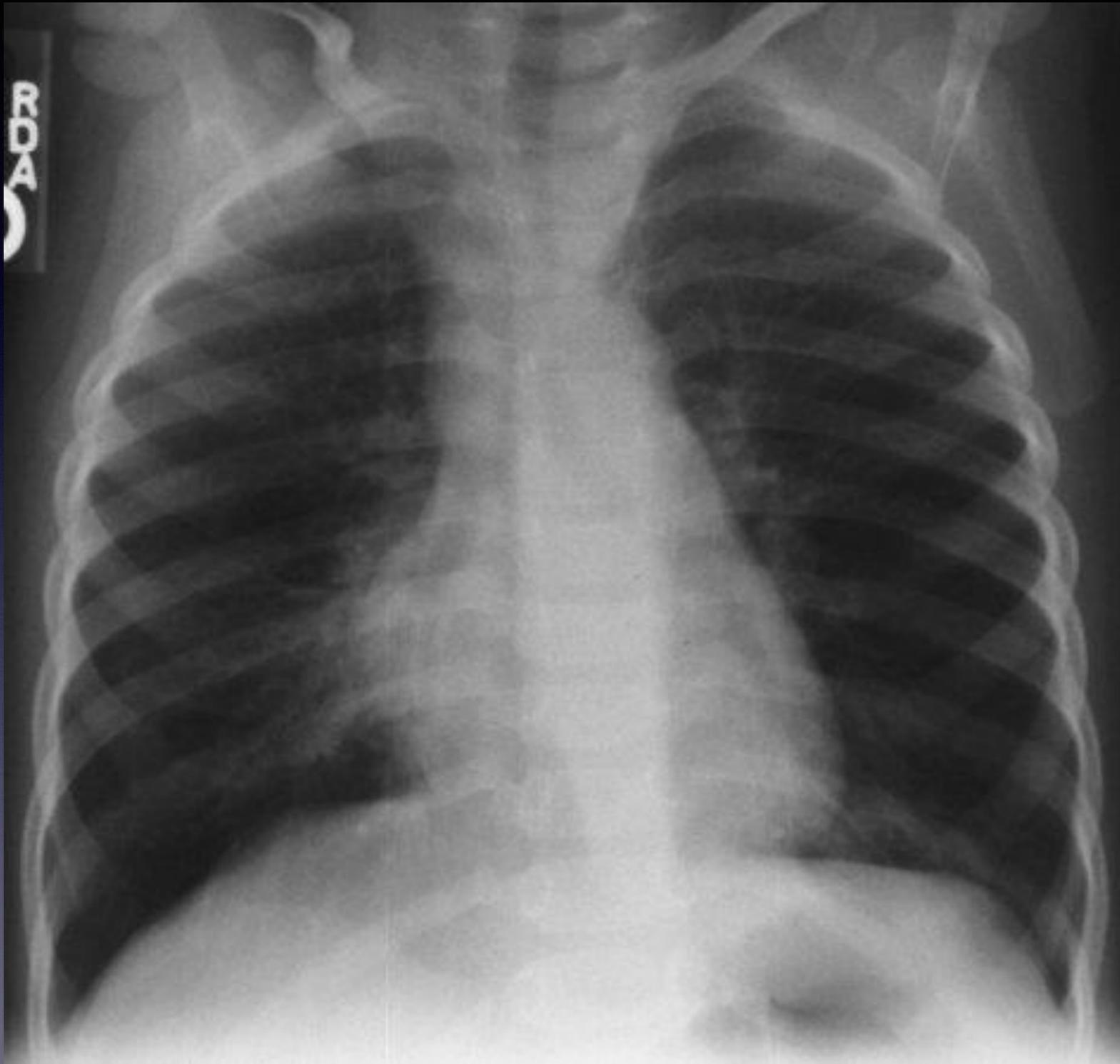
- Far more common than bacterial pneumonia in kids
- Non-specific X-ray findings:
 - Overexpansion
 - Peribronchial thickening
 - Interstitial infiltrates
 - Perihilar flaring

15-month old male with fever and coughing.

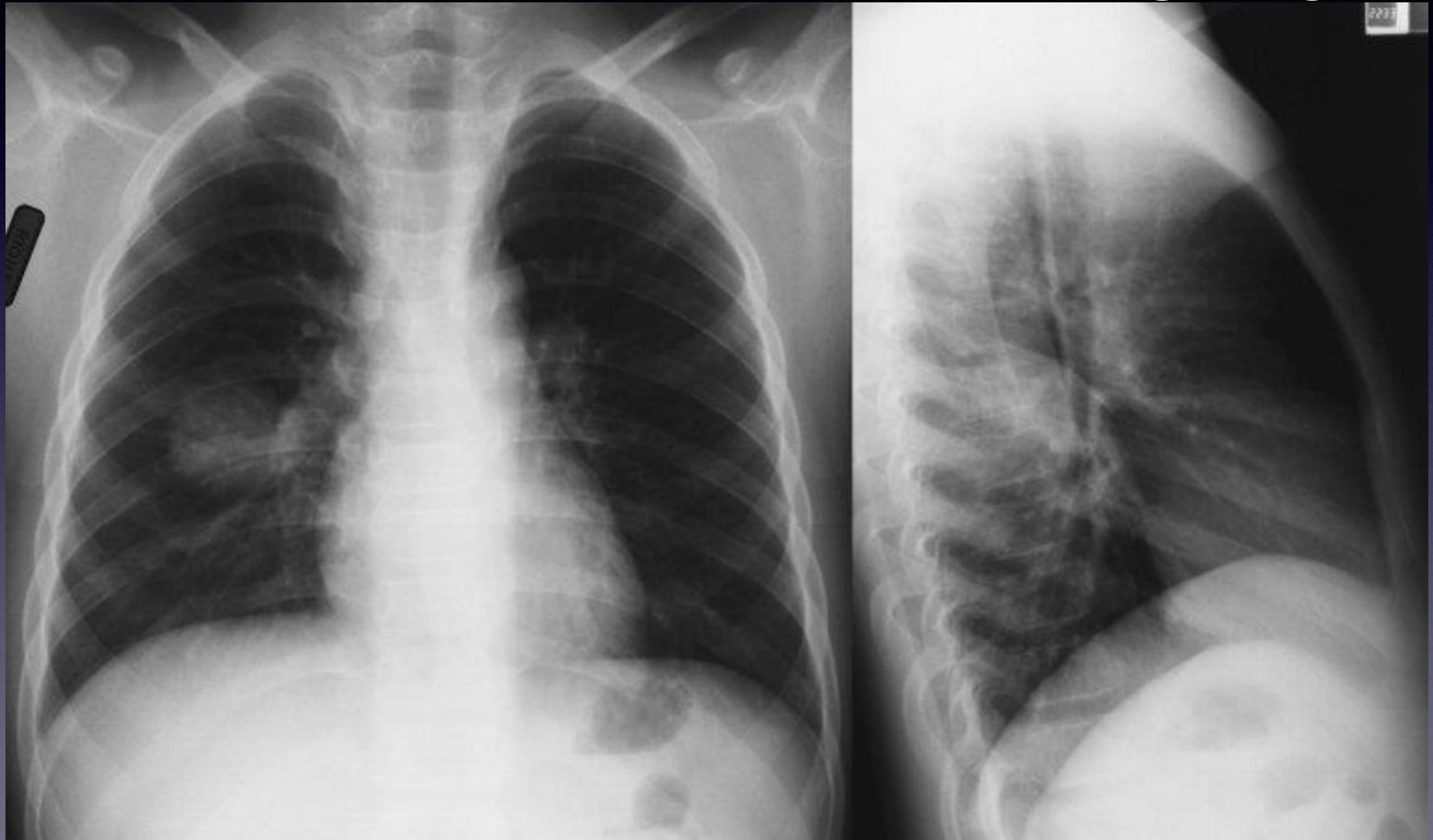


right upper lobe consolidation.

15-month old male with fever, coughing, and tachypnea.



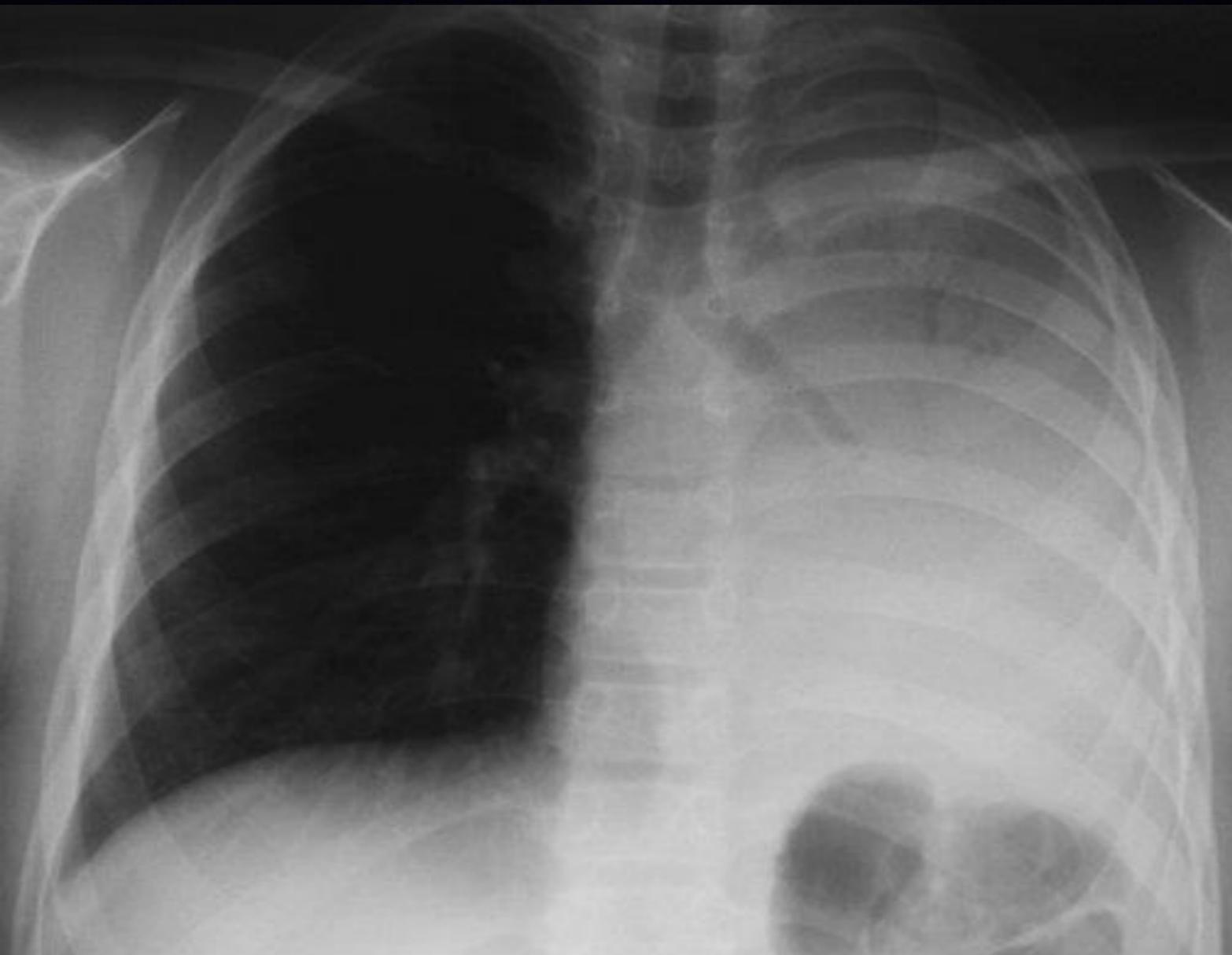
9 year old male with a history of fever,
headache, nausea, and coughing



Round Pneumonia

- Often present w/ pleuritic chest pain
- See spherical opacity with *poorly defined margins* (compared to tumors which have clear margins)
- Usually located posteriorly adjacent to pleura
- Uncommon to see air bronchograms

10 year old male with a history of coughing and fever.



4-month old with respiratory distress and diminished breath sounds on the right

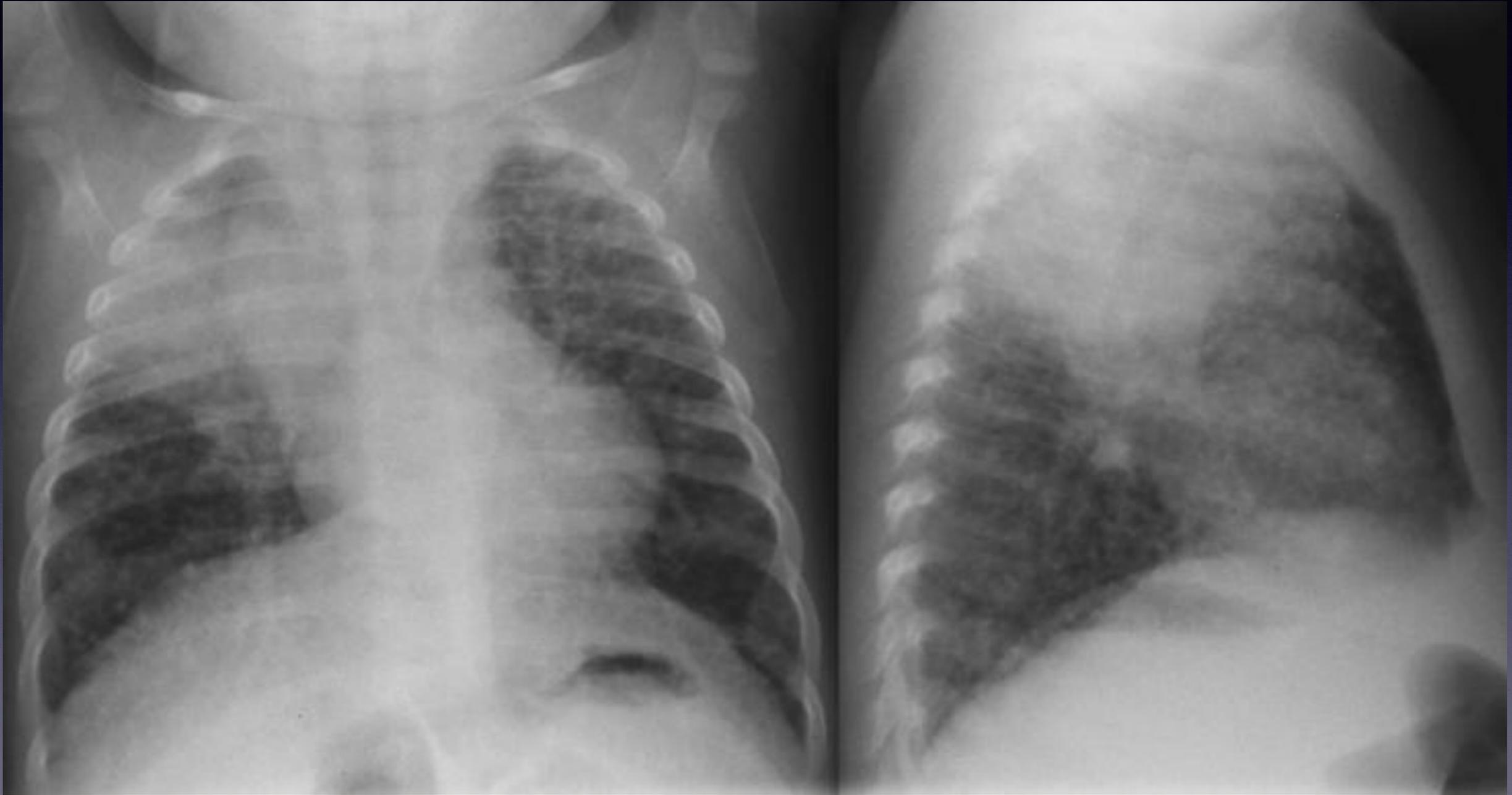


Congenital RML lobar emphysema

Foreign Body Aspiration

- Many FB's are radiolucent
- CXR less than perfect in detecting FB's
- Difficult histories often but if clear history of object in mouth + choking then need bronchoscopy regardless of radiographic results (especially with nuts)
- If unclear and child asymptomatic then reasonable to d/c after informing parents of signs + Sx to be vigilant for

7 mo native child w/ cough & fever



Miliary TB

11-month old female w/ near-drowning episode



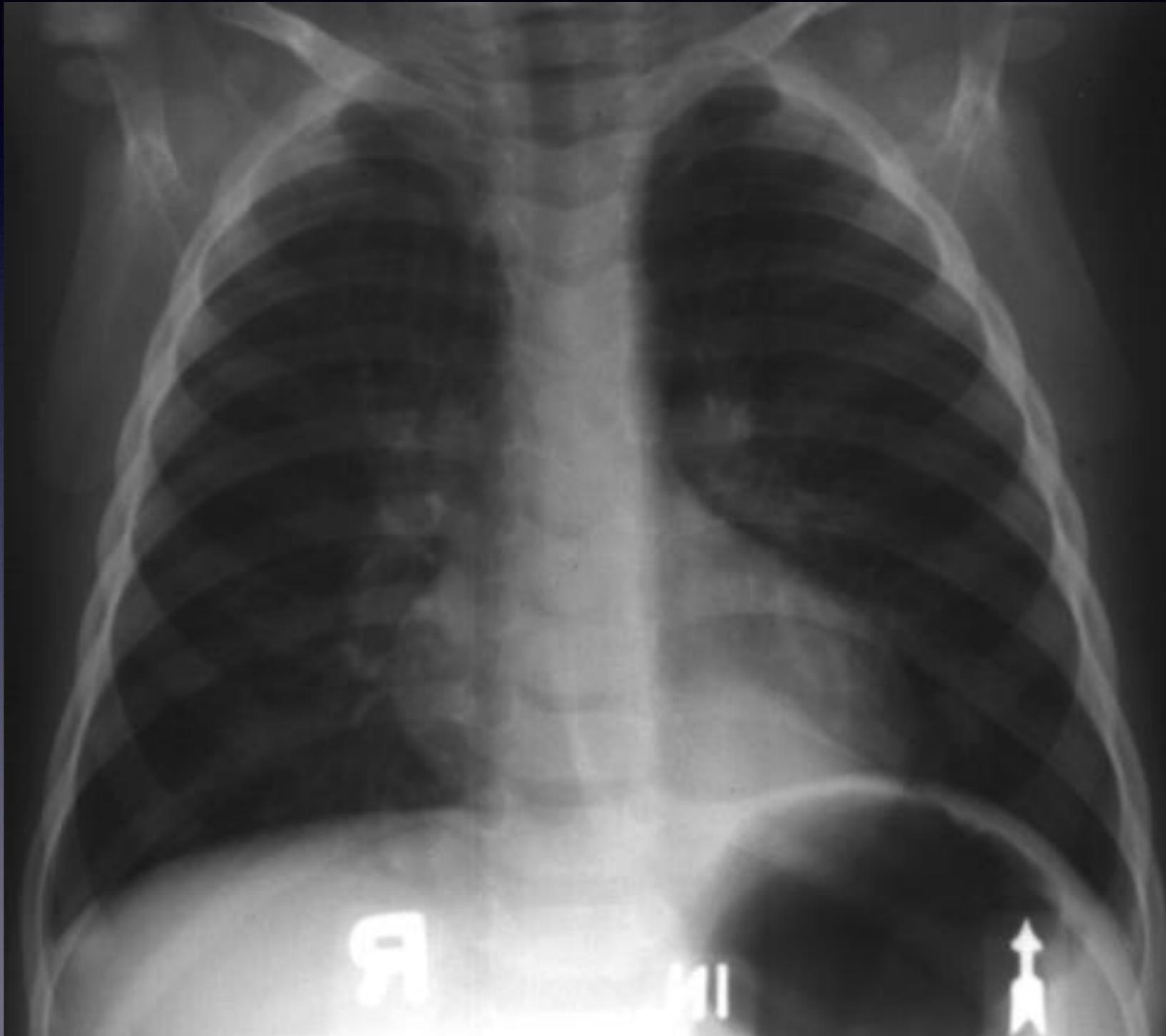
Pulmonary
edema







13 month old male with wheezing, coughing,
and rhinorrhea for the past month. T 37.5, P
138, RR 52, BP 95/40, O2 95% RA



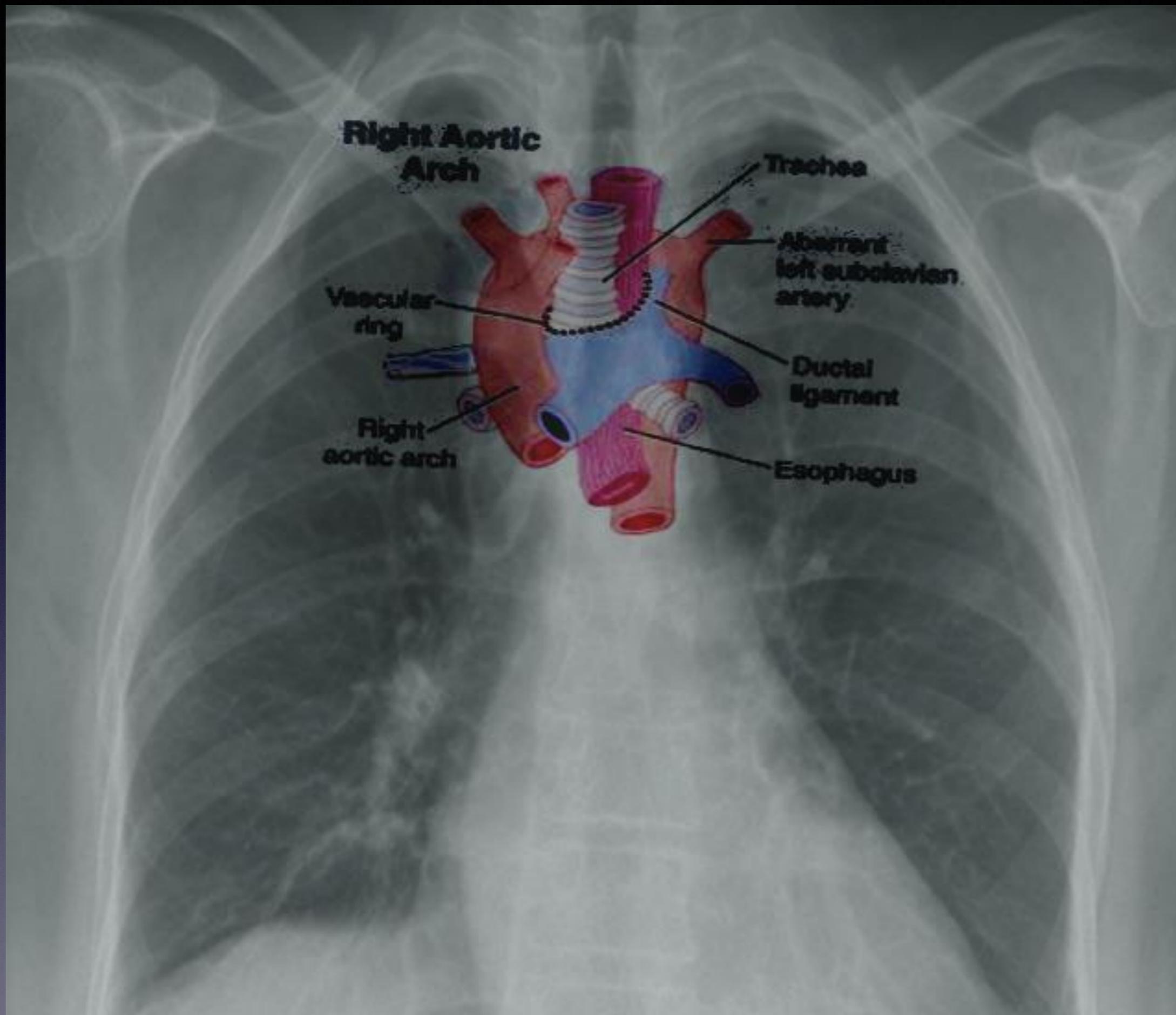




Pulmonary sequestration

Warning: Not for diagnostic use





Vascular Ring

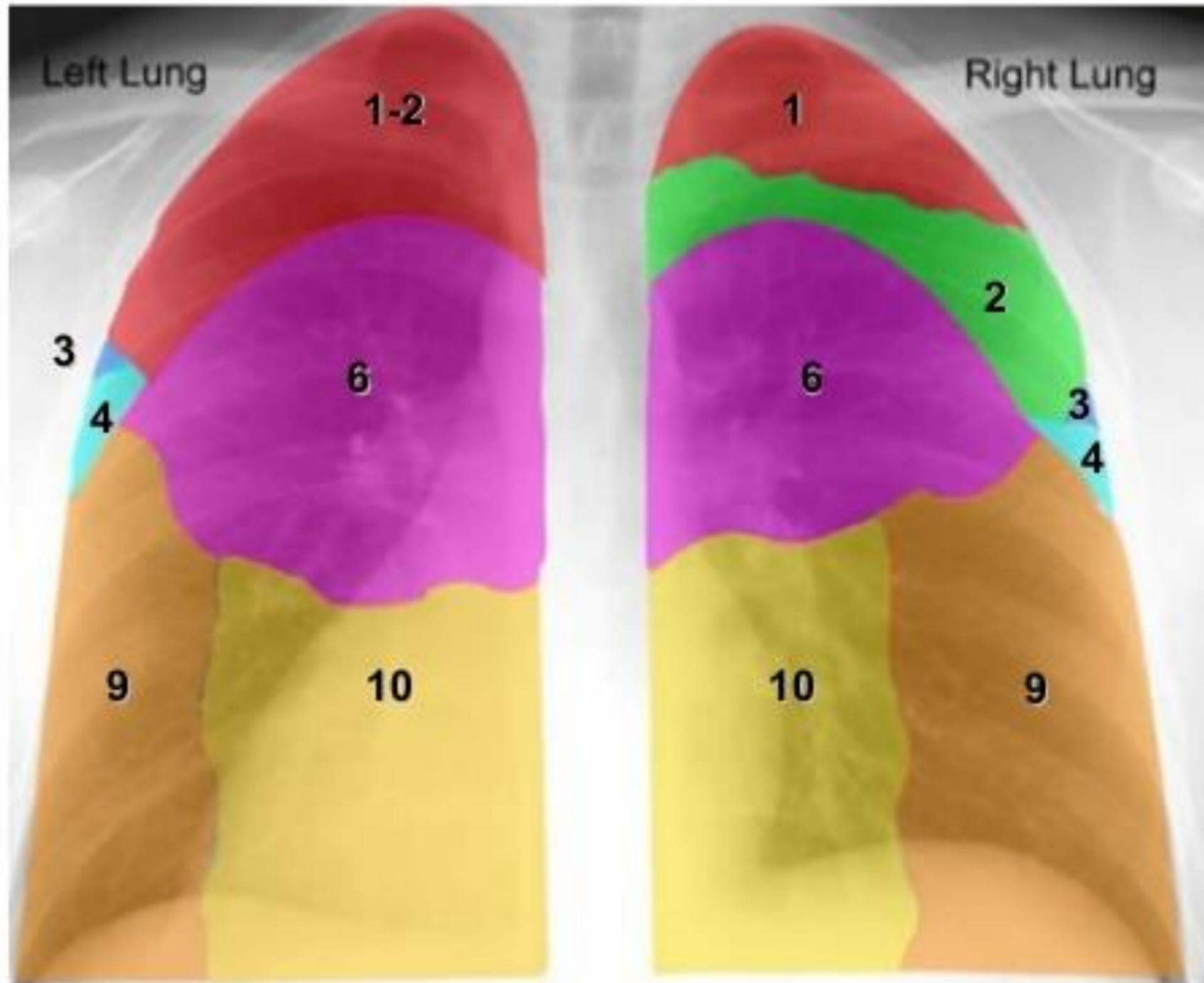
- Aortic arch malformation causing trachea & esophagus to be encircled by major blood vessels or branches thereof
- See a right-sided aortic arch in nearly all cases
 - passes over the R mainstem bronchus rather than the L
 - Pushes carina to L rather than the usual R
 - May see only compression in double arch

5 year old, male w/ fever x 10 d, coughing, sore throat and mild back pain



Lung abscess

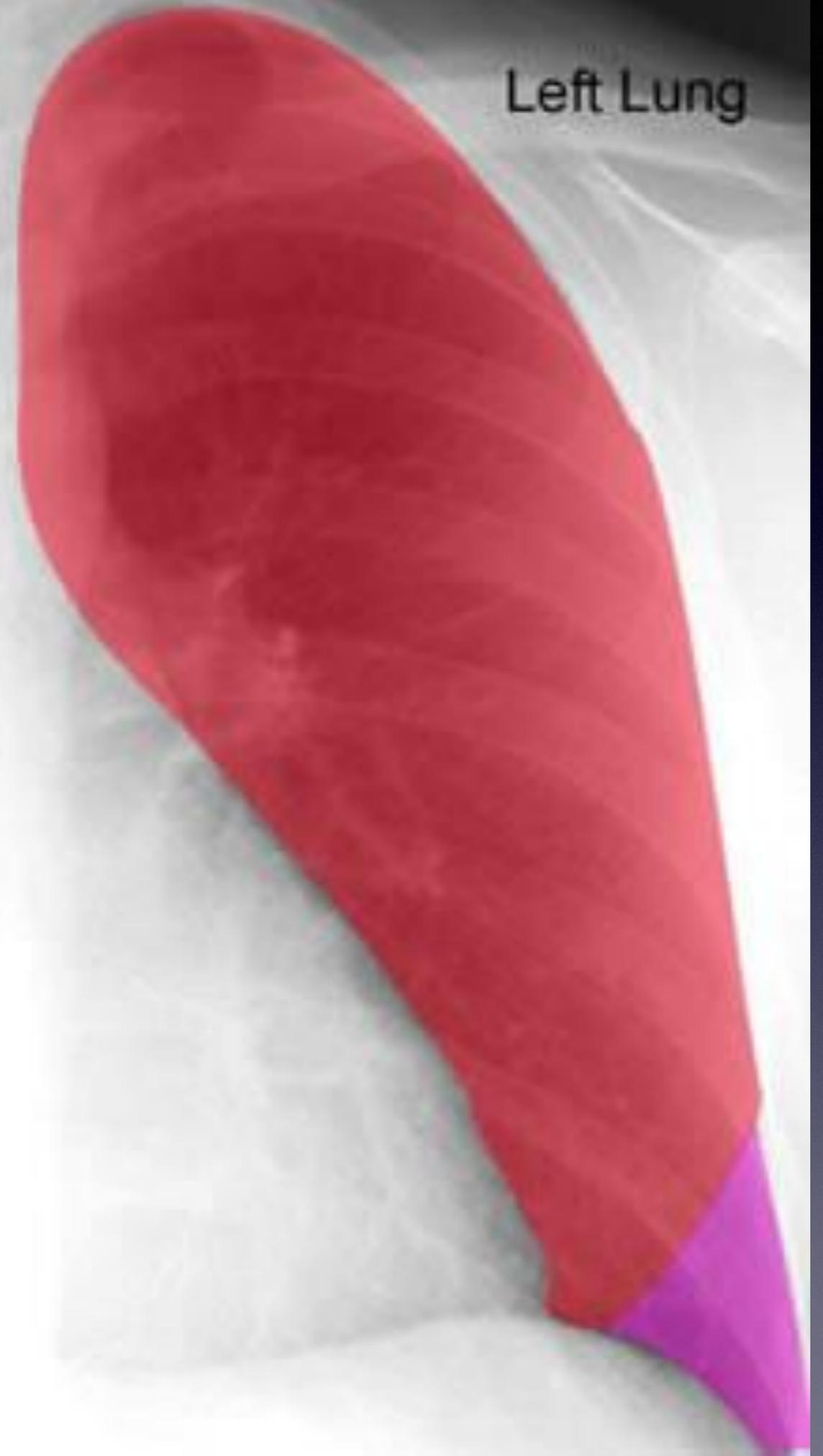
Segmental Bronchi (Posterior)



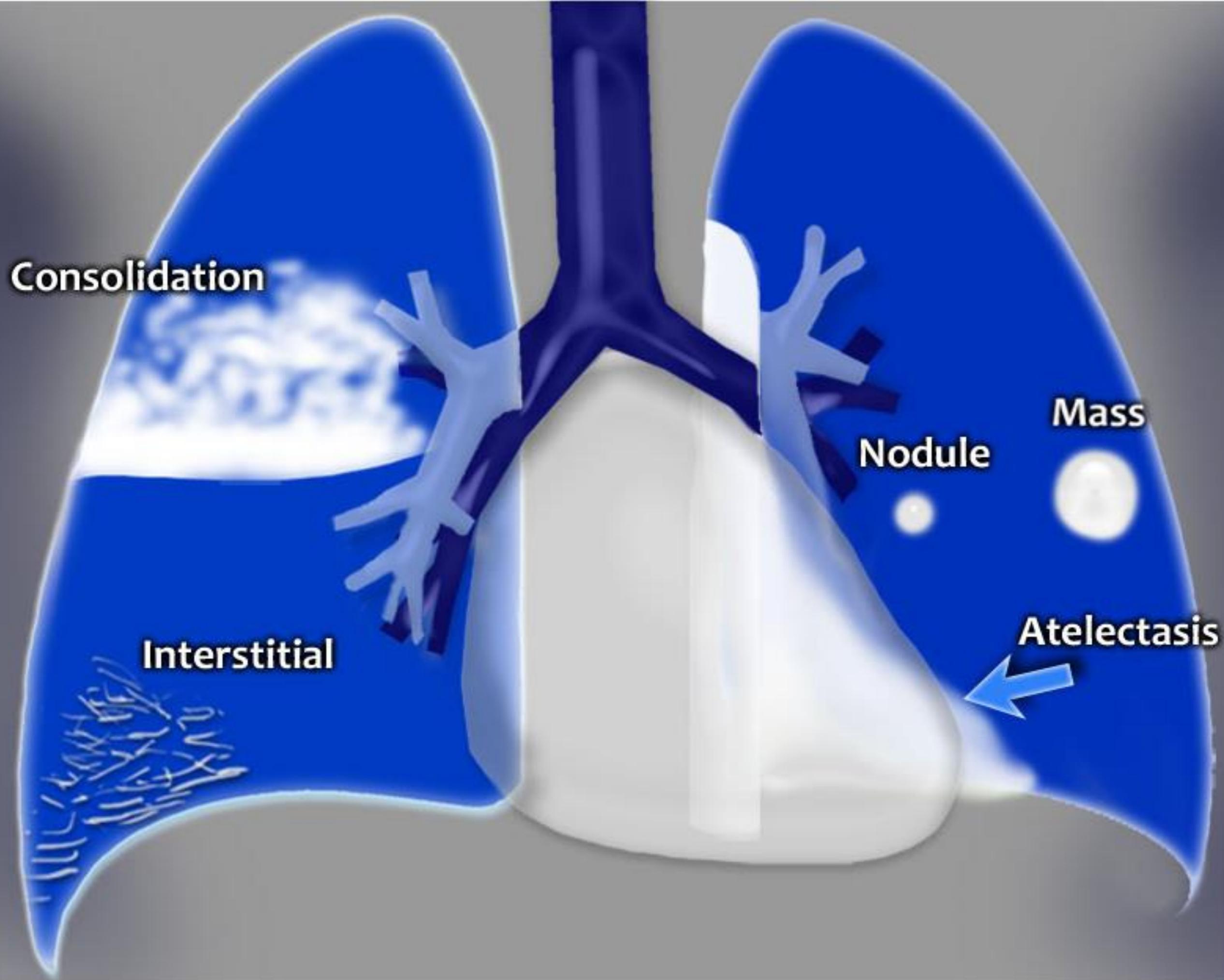
Right Lung



Left Lung



Consolidation



Mass

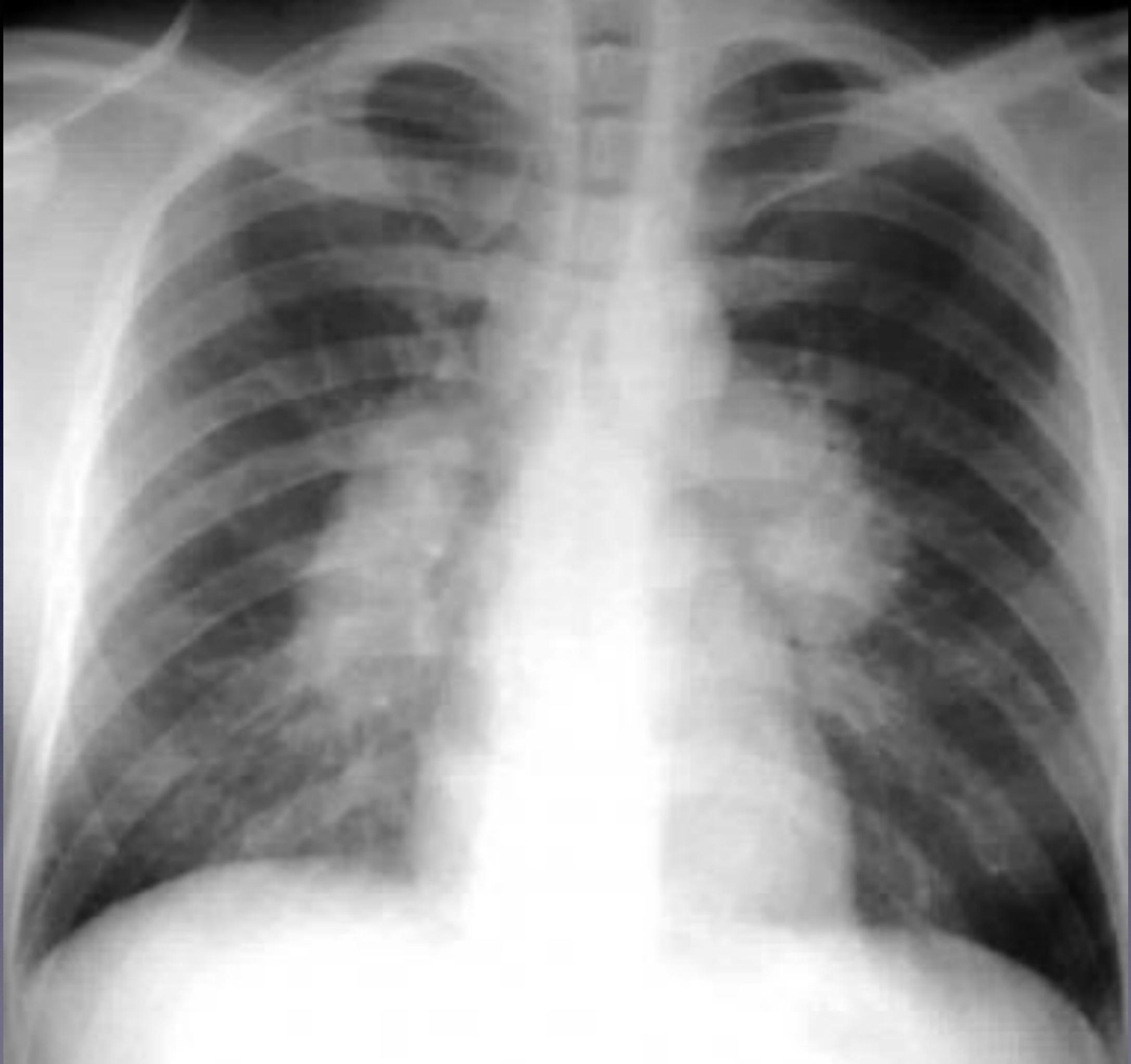
Nodule

Interstitial

Atelectasis



18 OCT 2008







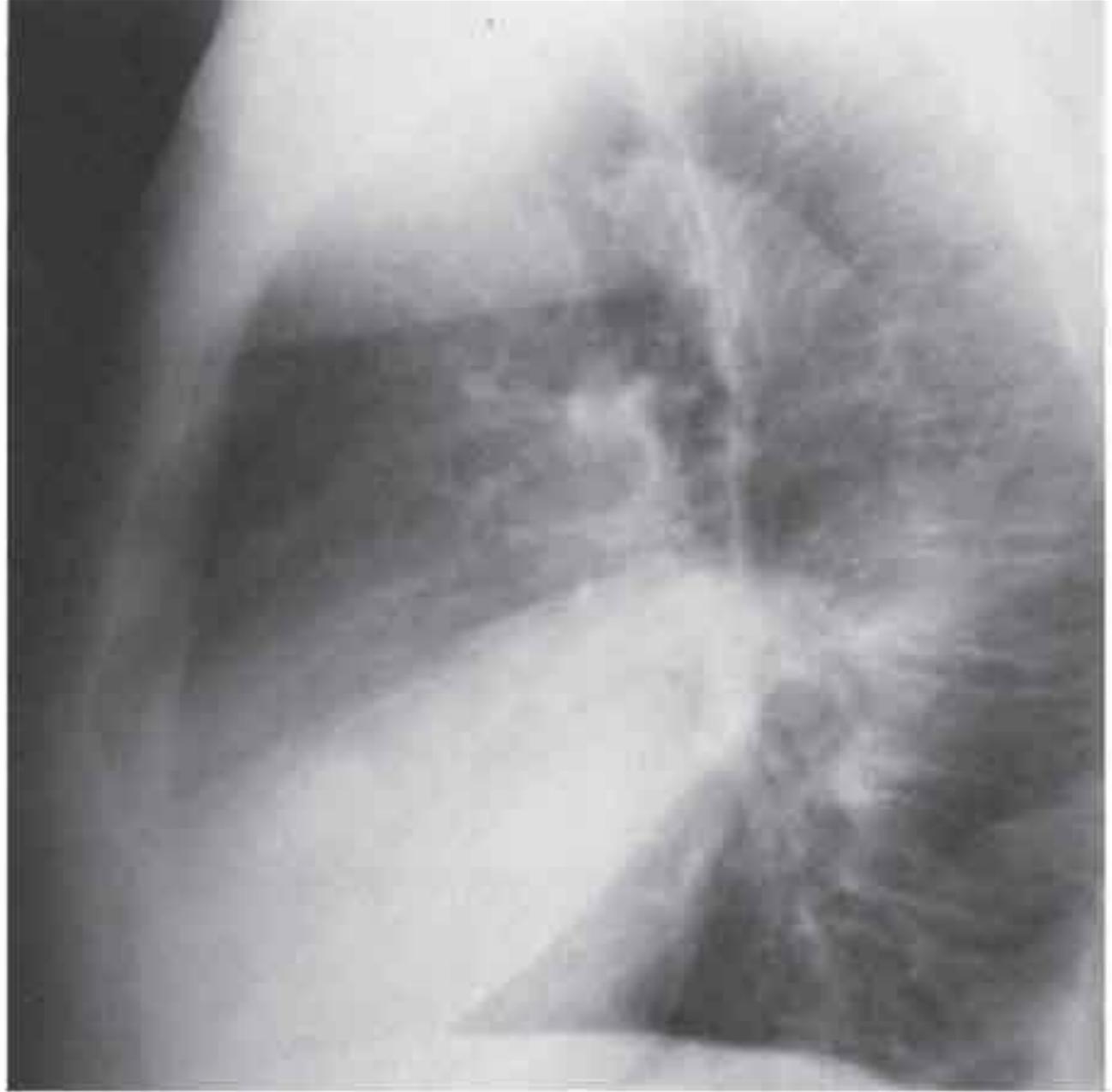
0.5 HOURS



3 HOURS



a



b







