Differential Diagnosis of CHD

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Nine Lesions Which Produce 75% of All Severe Congenital Heart Lesions In the Neonate

- **Decreased flow**
  1. Tetralogy of Fallot
  2. Tricuspid Atresia
  3. Severe Pulmonic Stenosis
  4. Ebstein's
- **Increased Flow**
  5. Transposition
  6. VSD

Nine Lesions Which Produce 75% of All Severe Congenital Heart Lesions In the Neonate

- **Pulmonary venous hypertension**
  7. Hypoplastic left heart
  8. Coarctation of the aorta
  9. TAPVR with infradiaphragmatic obstruction
- **What's left**
  - Left-to-right shunts
    - ASD
    - PDA
  - Truncus arteriosus

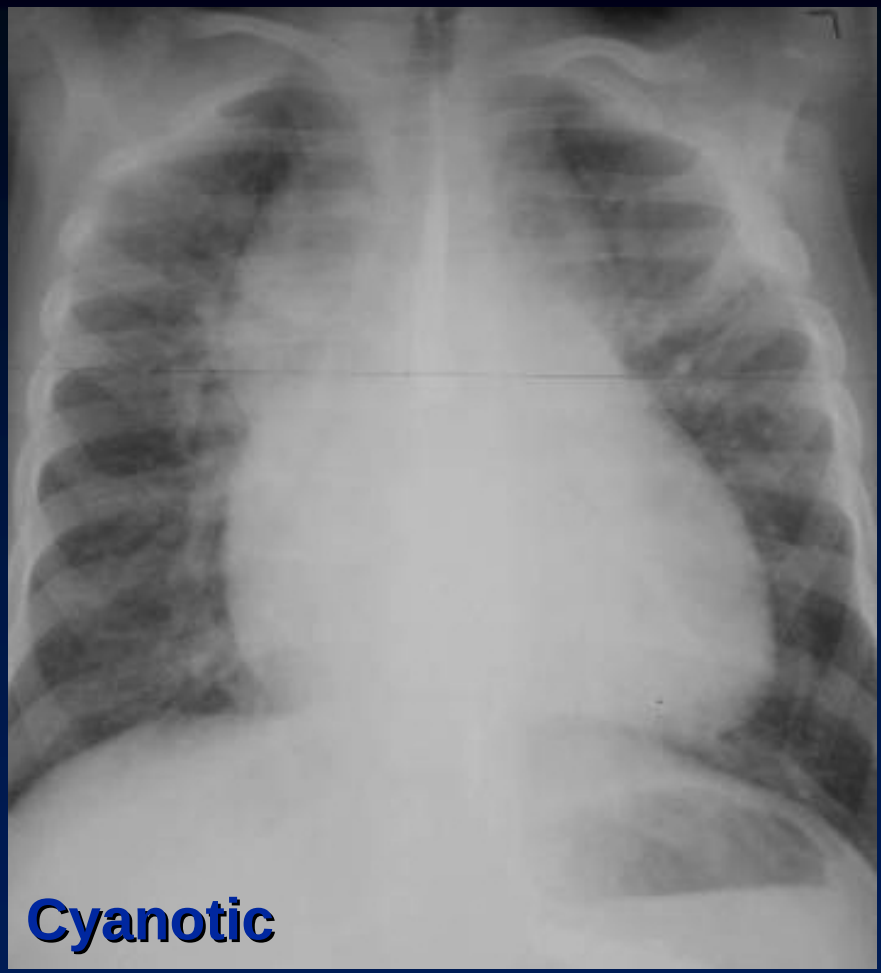

Cyanotic

Cyanosis With Decreased Vascularity

- Tetralogy
- Truncus-type IV
- Tricuspid atresia*
- Transposition*
- Ebstein's

* Also appears on DDx of Cyanosis with ↑ Vascularity

Ebstein's Anomaly

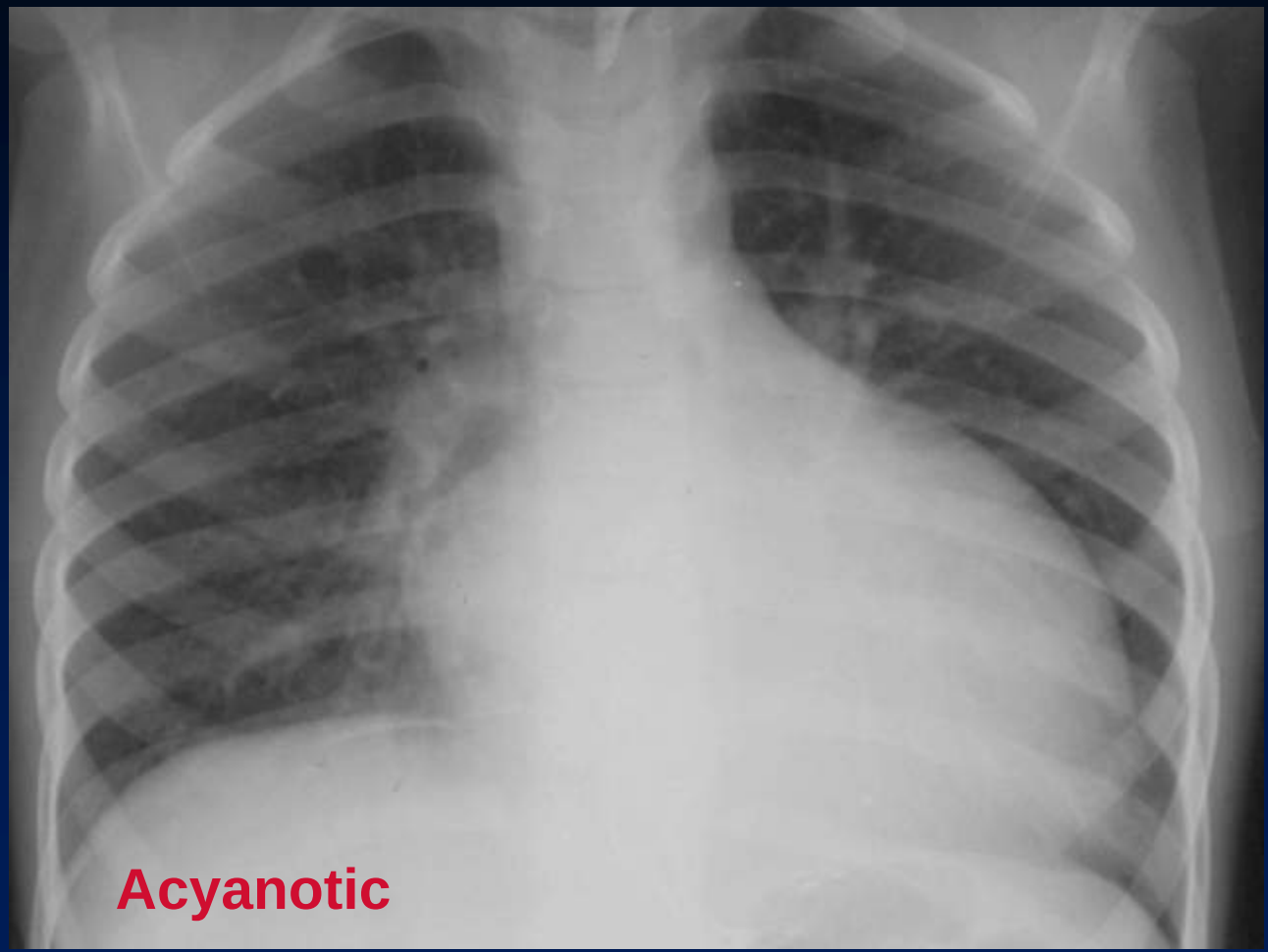

Cyanotic

Cyanosis With Increased Vascularity

- Truncus types I, II, III
- TAPVR
- Tricuspid atresia*
- Transposition*
- Single ventricle

* Also appears on DDx of Cyanosis with ↓ Vascularity

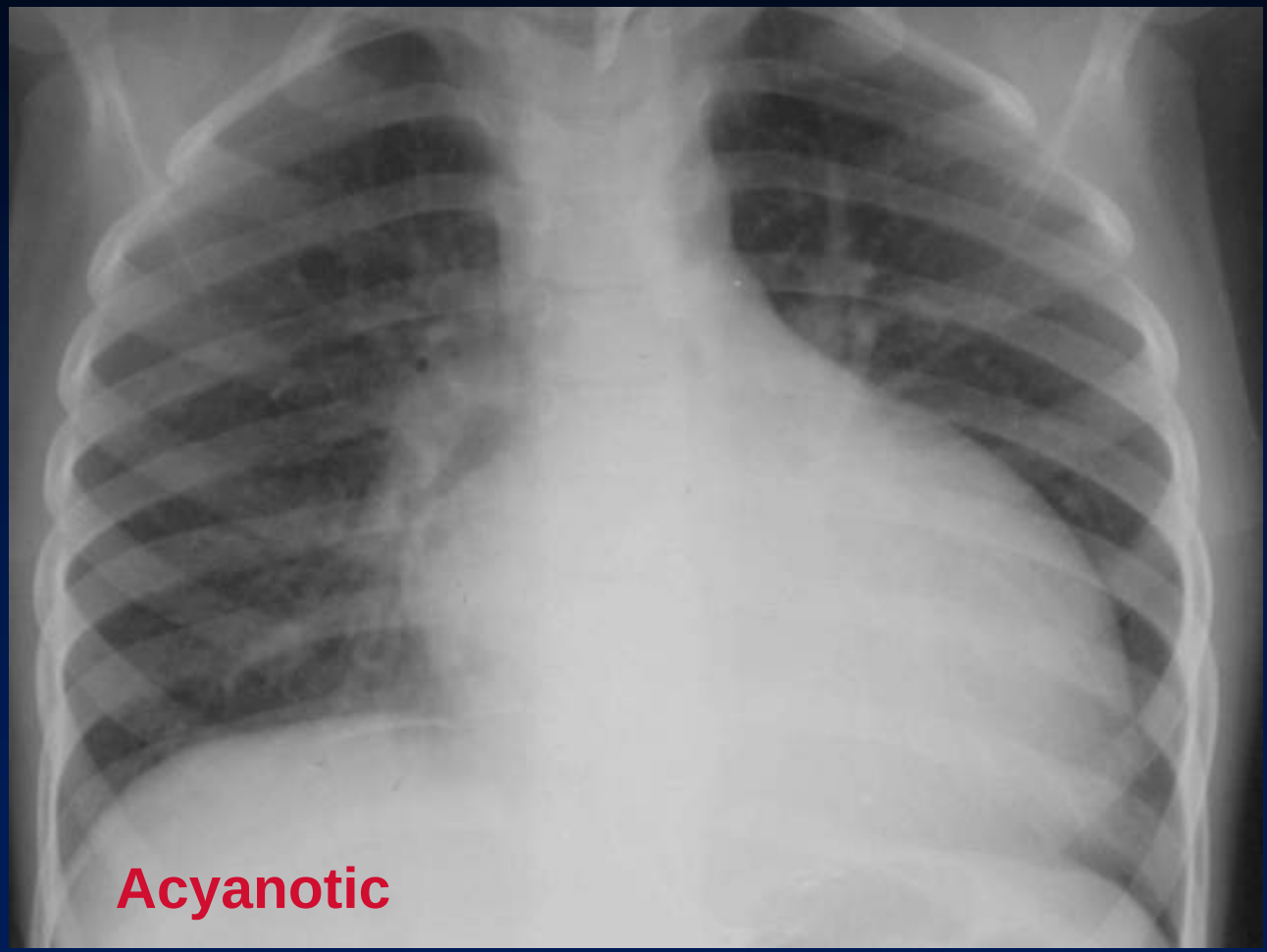
Total anomalous venous return (TAPVR)


Acyanotic

Cardiomegaly with Normal Vasculature

- Viral myocarditis
- Endocardial fibroelastosis
- Aberrant left coronary artery
- Cystic medial necrosis
- Diabetic mother

Endocardial Cushion Defect



CHF In Newborn

Impede Return of Flow to Left Heart

- Infantile coarctation
- Congenital aortic stenosis
- Hypoplastic left heart syndrome
- Congenital mitral stenosis
- Cor triatriatum
- Obstruction to venous return from lungs
  - TAPVR from below diaphragm

CHF In Chronologic Sequence

CHF In Newborn

Impede Return of Flow to Left Heart

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- Congenital aortic stenosis
- Hypoplastic Left Heart Syndrome
- Congenital mitral stenosis
- Cor triatriatum
- Obstruction to venous return from lungs
  - TAPVR from below diaphragm

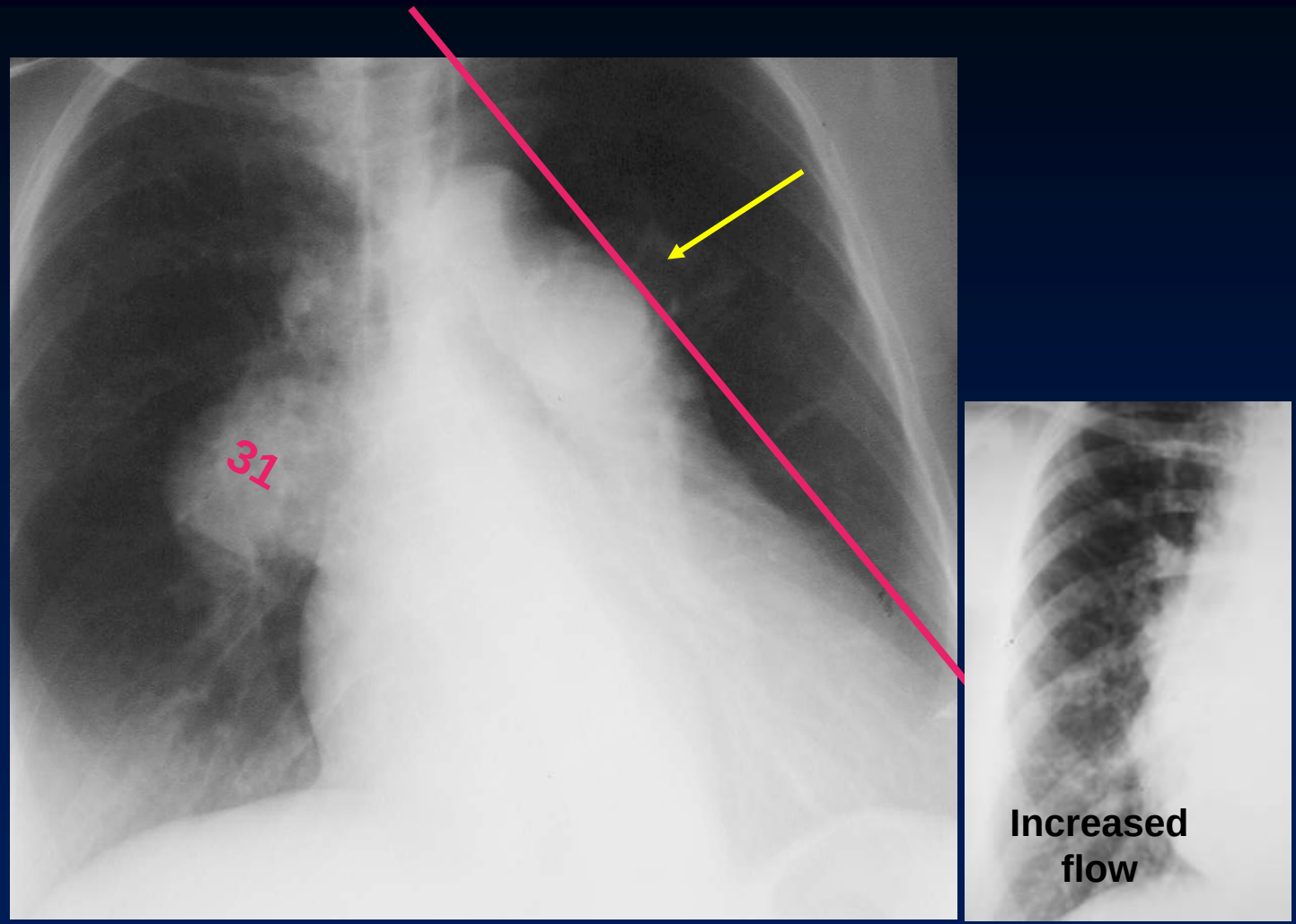
CHF In 2nd-3rd Week

- Coarctation of the aorta
- Interruption of the aortic arch

CHF-later

- Coarctation of the aorta –adult type

Unknowns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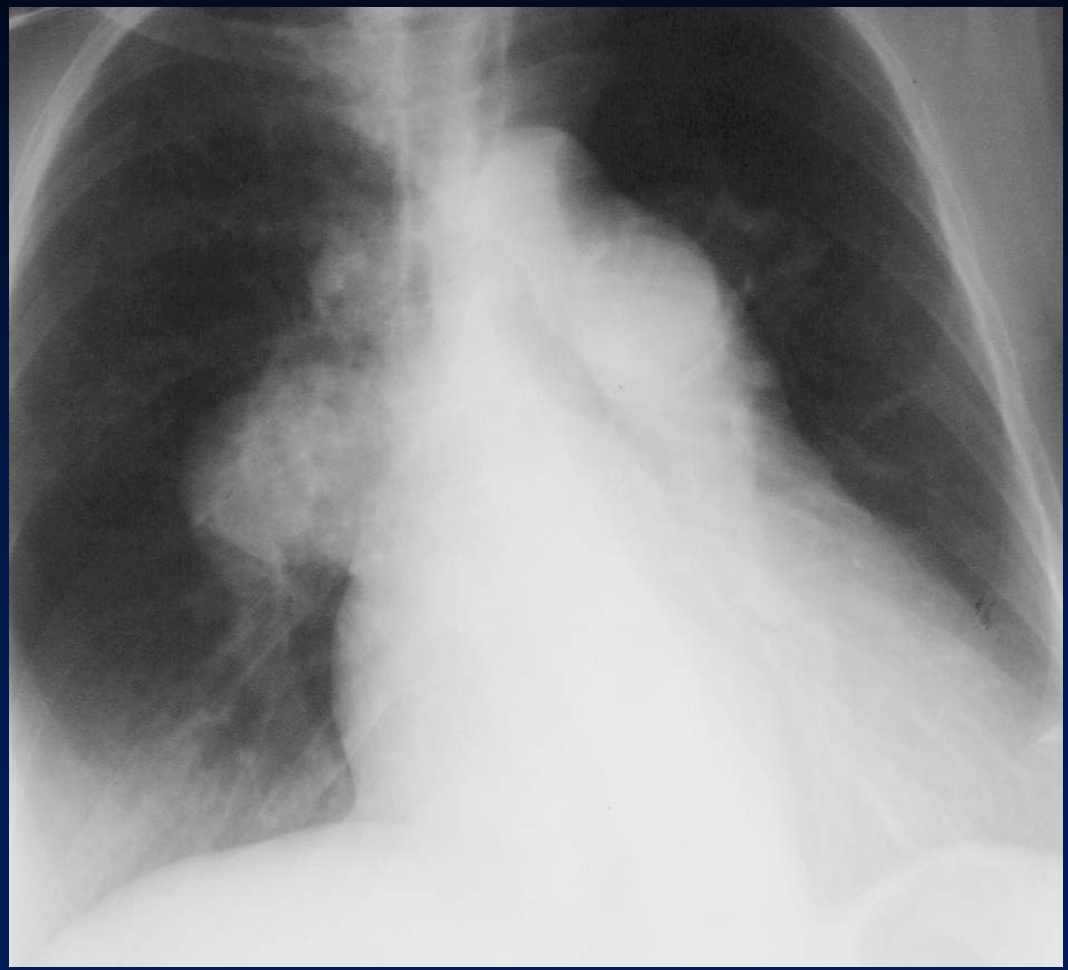
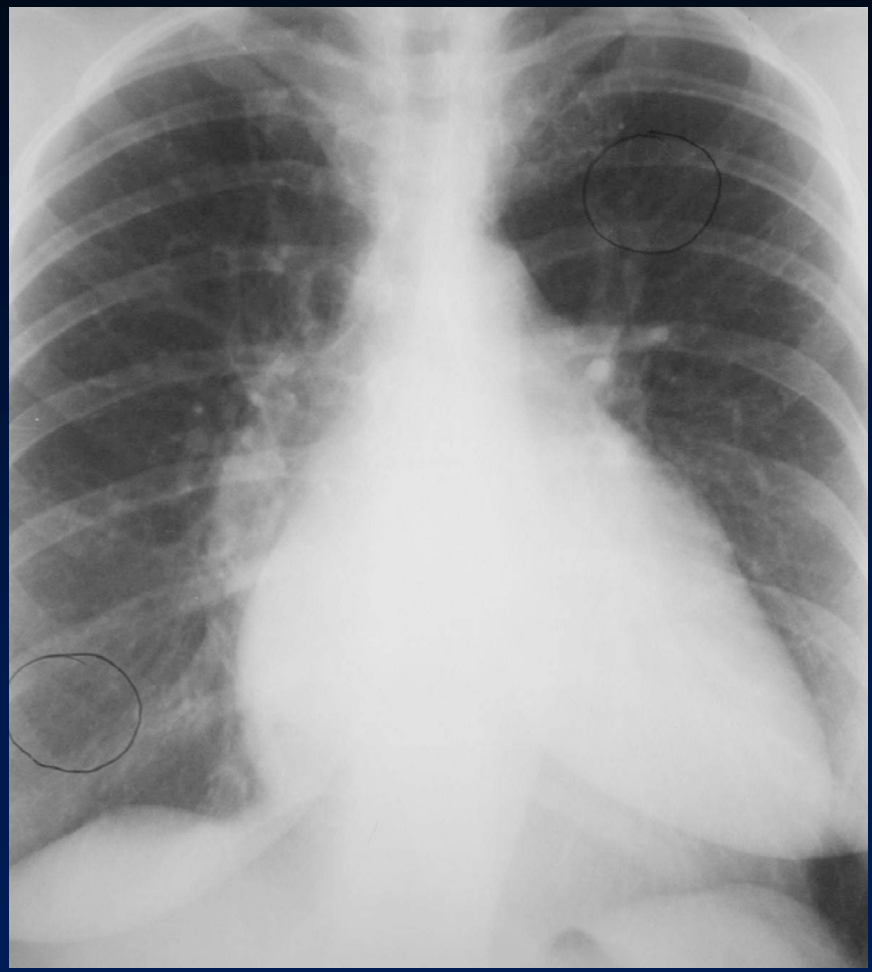
Increased
flow

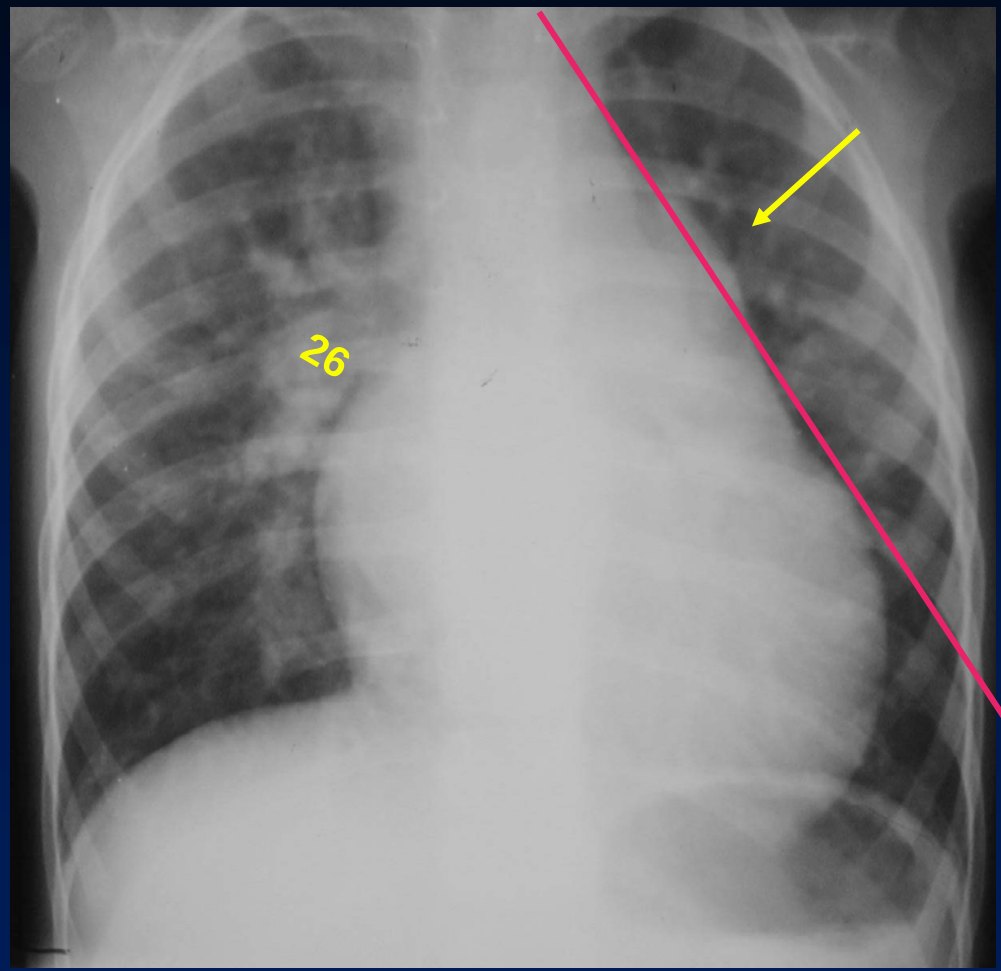
1° Pulmonary Hypertension



Mitral Stenosis




PAH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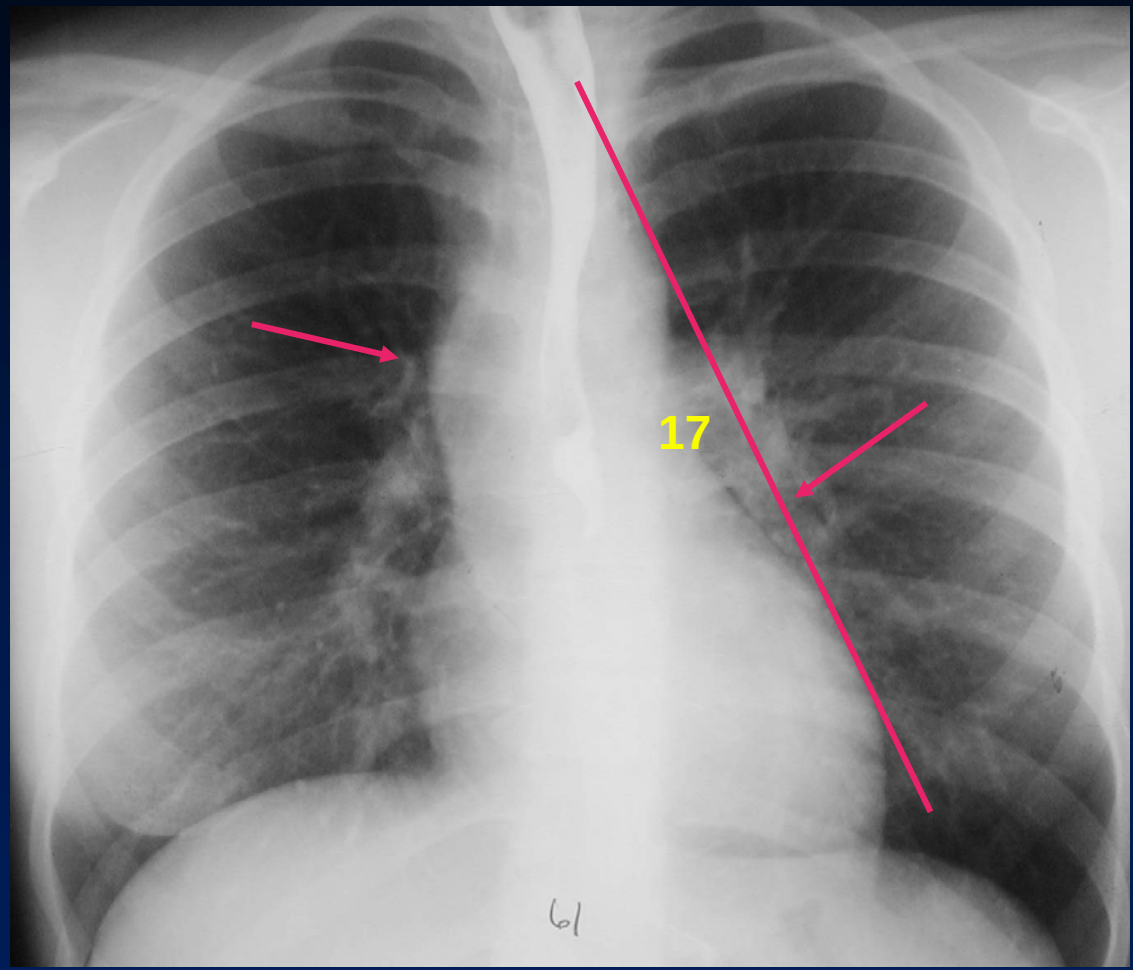
Atrial Septal Defect

Pericardial Effusion


Normal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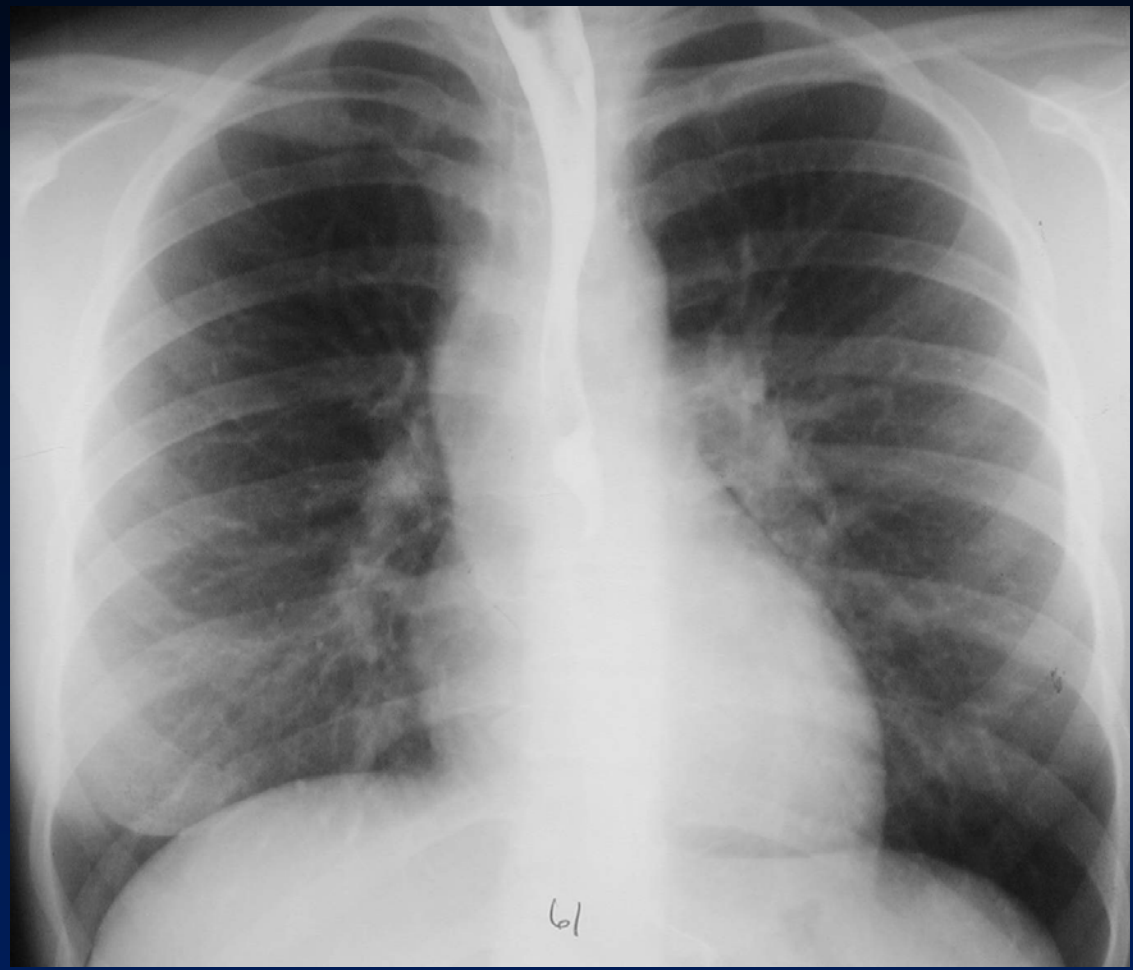
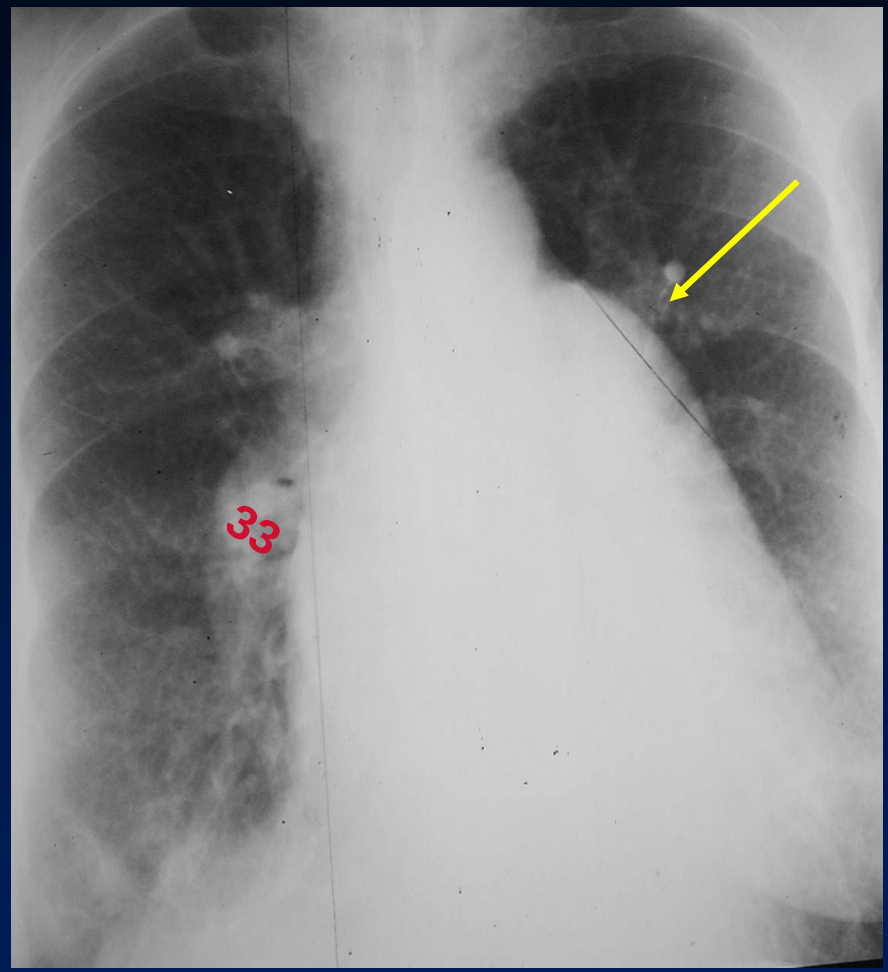
Aortic Stenosis



Mitral Stenosis With Severe PAH



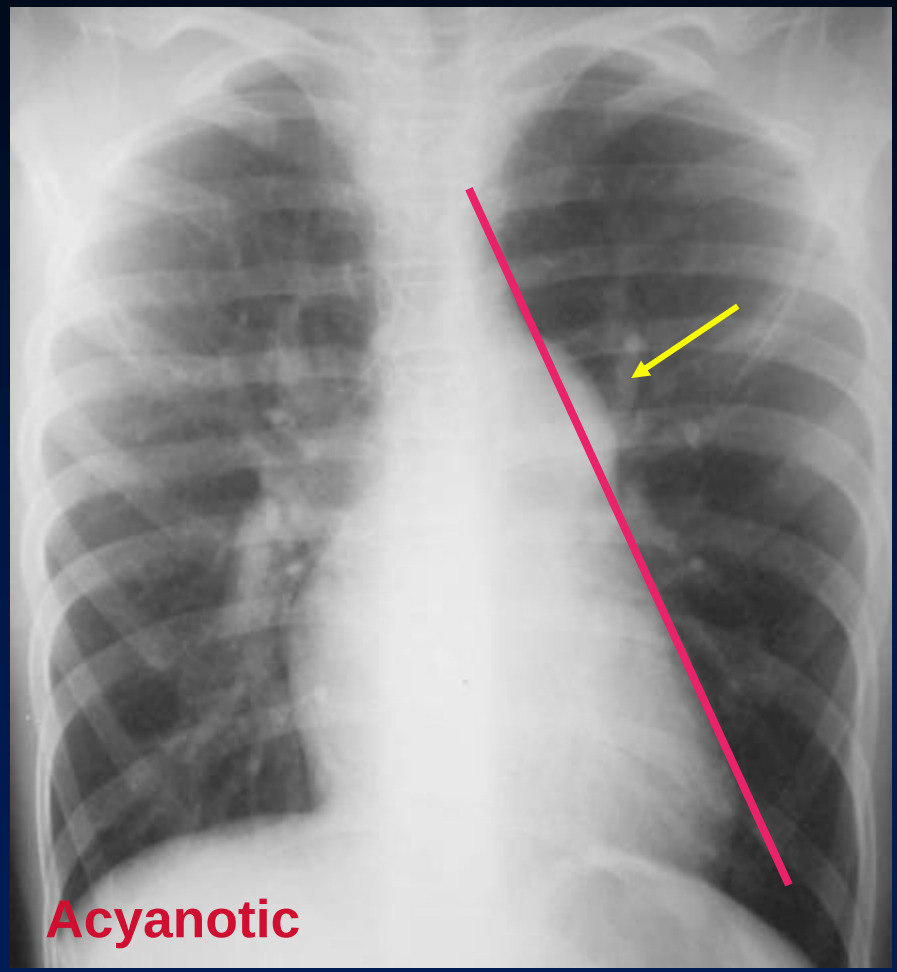
Tetralogy of Fallot

Cyanotic

Tetralogy of Fallot
Components of

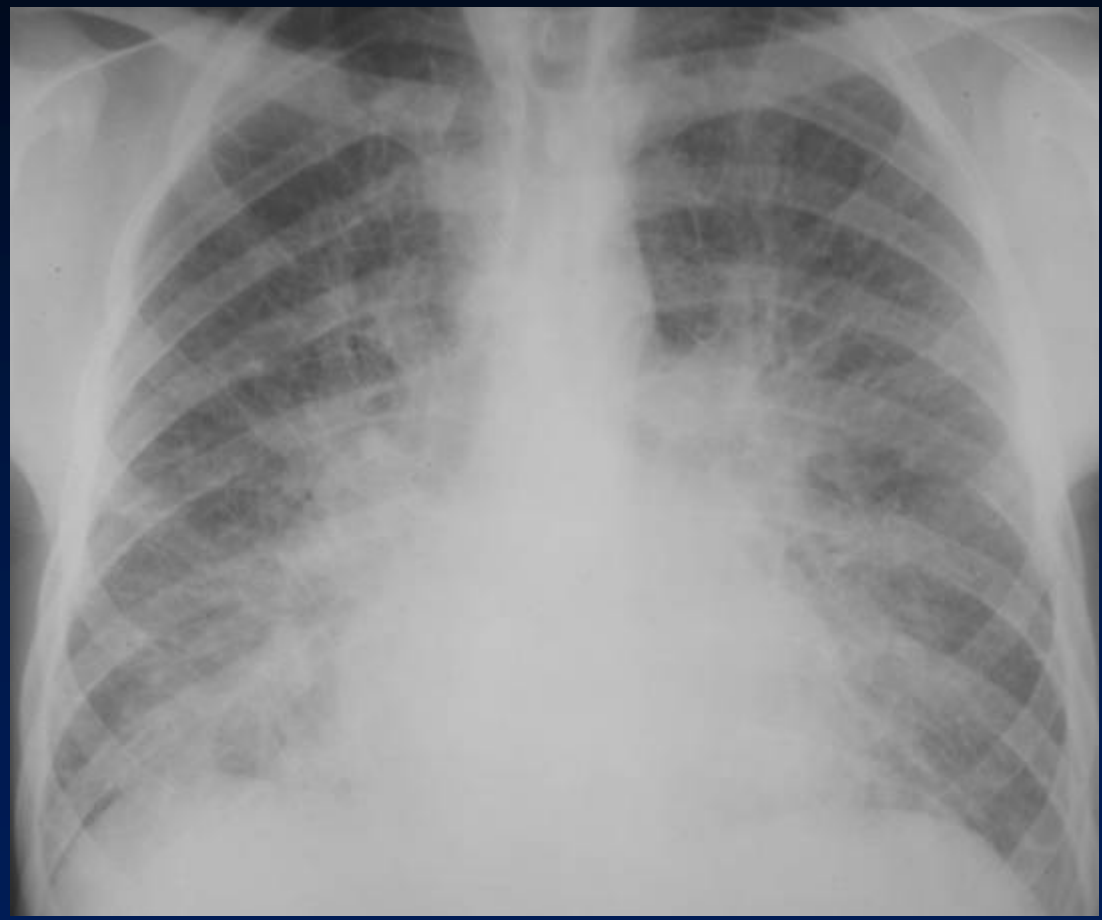
- Ventricular septal defect
- Pulmonic stenosis
- Overriding aorta
- Right ventricular hypertrophy

ASD




→
LA
Ao
ASD
⇔
⇩
PDA
⇧
⇧
VSD
⇧
⇔

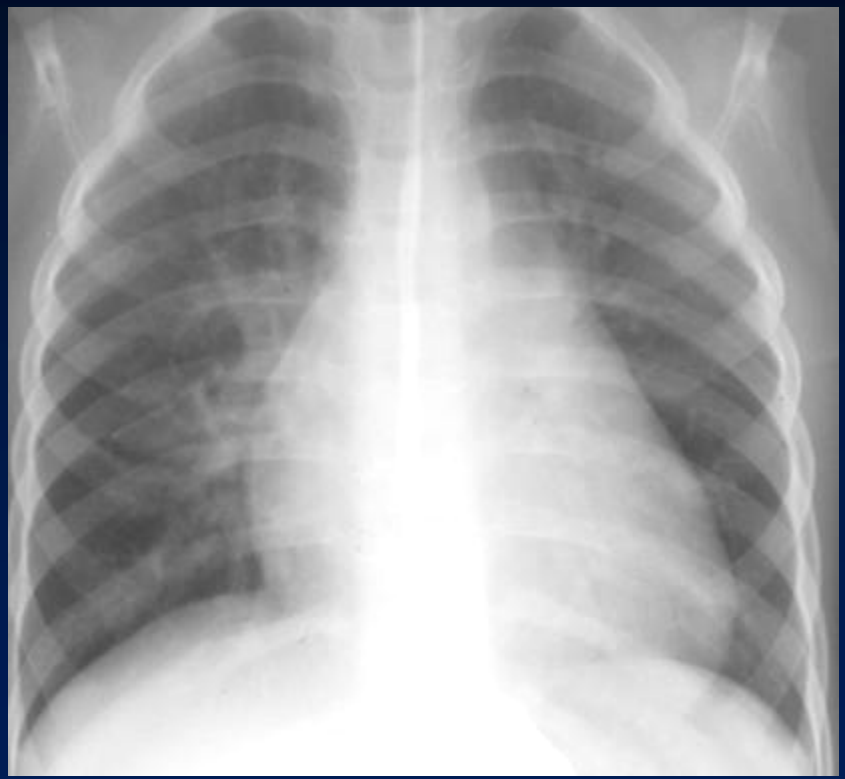
CHF



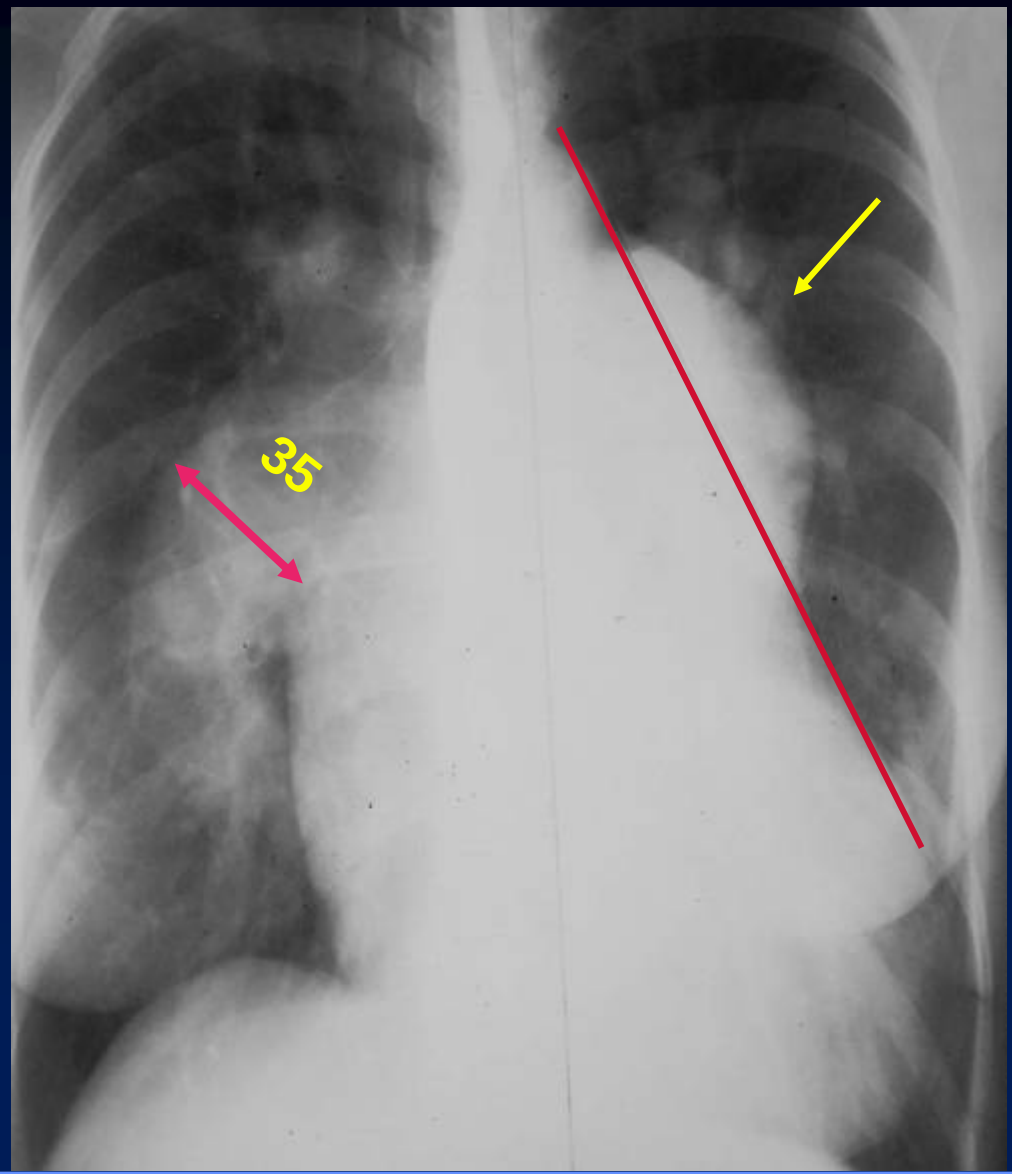
Pulmonary Interstitial Edema
X-ray Findings

- Thickening of the interlobular septa
  - Kerley B lines
- Peribronchial cuffing
  - Wall is normally hairline thin
- Thickening of the fissures
  - Fluid in the subpleural space in continuity with interlobular septa
- Pleural effusions

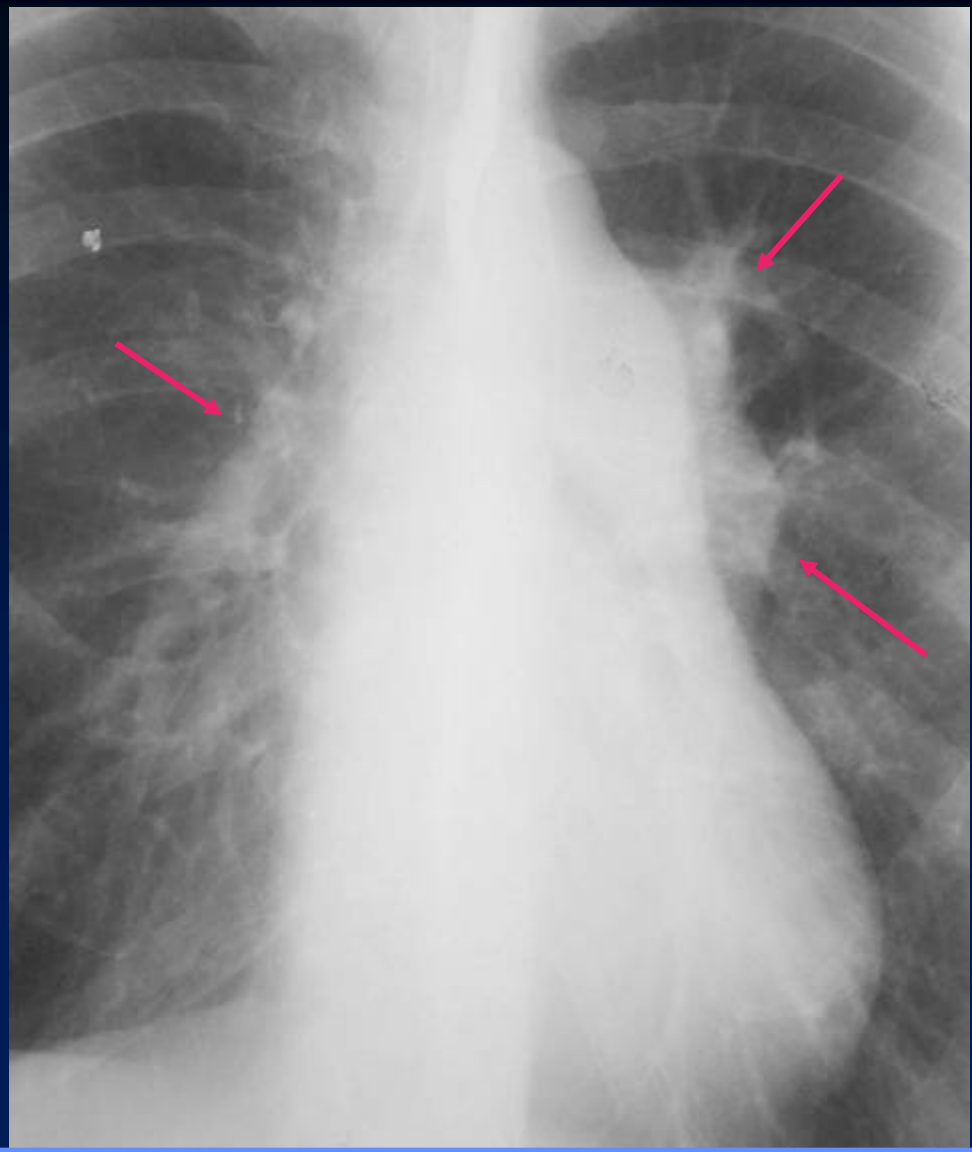
Ventricular Septal Defect (VSD)



Atrial Septal Defect (ostium primum type) with PAH



Pulmonic Stenosis



Most Commons

- Most common cause of CHF in newborn
  - Hypoplastic left heart syndrome
- Most common cause of CHF > 2 weeks
  - Coarctation of the aorta (infantile form)
- Most common cyanotic heart disease
  - Tetralogy of Fallot
- Most common dz associated c R arch
  - Tetralogy of Fallot

Most Commons

- Most common L → R shunt
  - Ventricular Septal Defect
- Most common L → R shunt dx'd in adult
  - Atrial Septal Defect
- Dz most commonly associated c R arch
  - Truncus arteriosus

The End