How to mend a broken heart…
A simplified CXR approach

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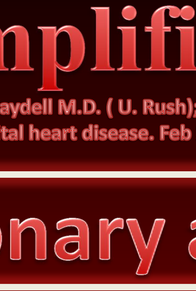
References: 1. Sato Y. Congenital heart disease. Feb 2012. 2. Brant WE; Helms CA. Fundamentals of Diagmostic Radiology. 4th ed. LW&W, 2012.

Pulmonary artery (PA) appearance

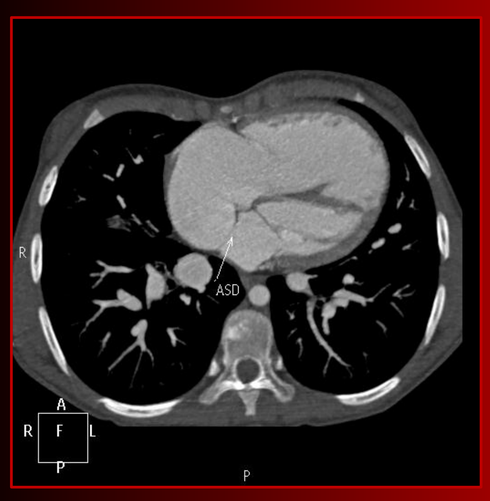
Prominent PA



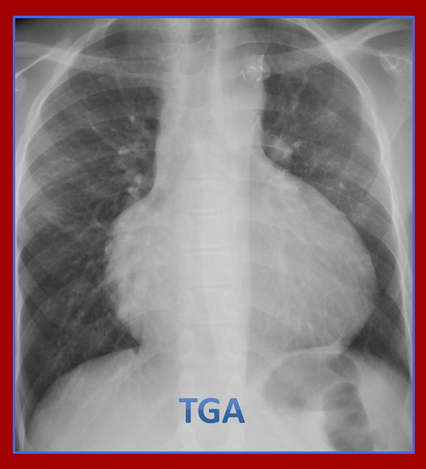
Plethora (aka active congestion):
- ↑ flow through pulmonary vasculature
- Need 2.5 x increase to be visible
- Left-to-right shunts
- PA↑ in diameter & visible farther into periphery

Plethora = Shunt vascularity

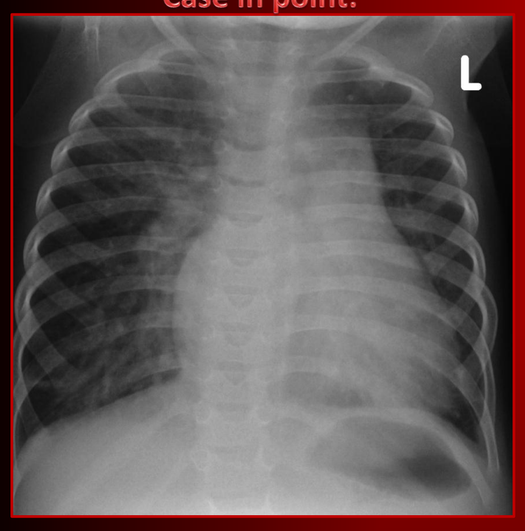
Simple shunt:
Acyanotic
VSD
ASD
AVSD
PDA



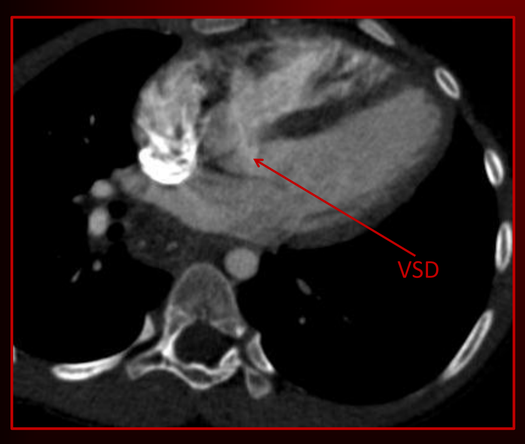
COMPLEX SHUNT (BIG BAD T'S):
CYANOTIC
TGA
TRUNCUS ARTERIOSUS
TAPVR (TYPE 1 & 2)



Case in point:



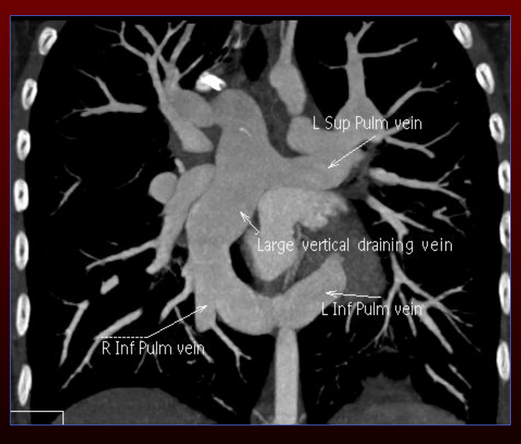
? PA appearance



VSD

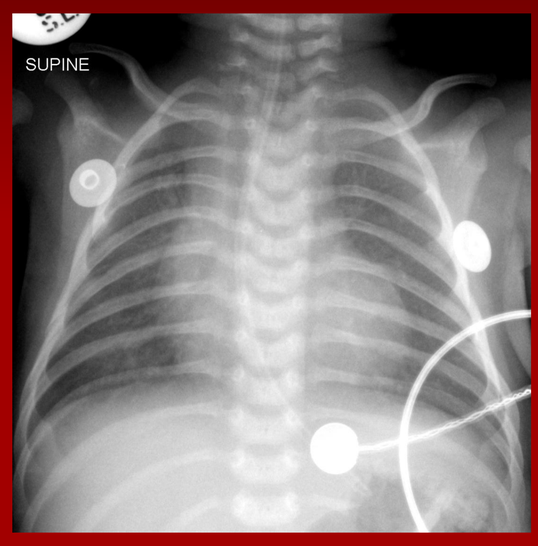
Case in point:

? PA appearance

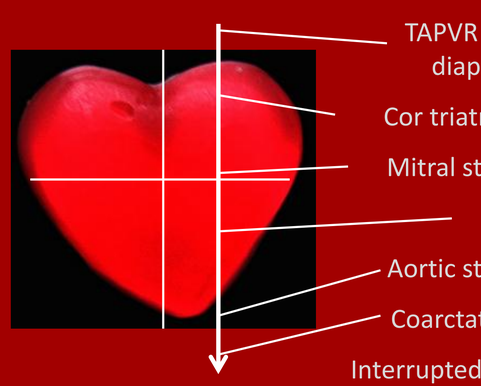


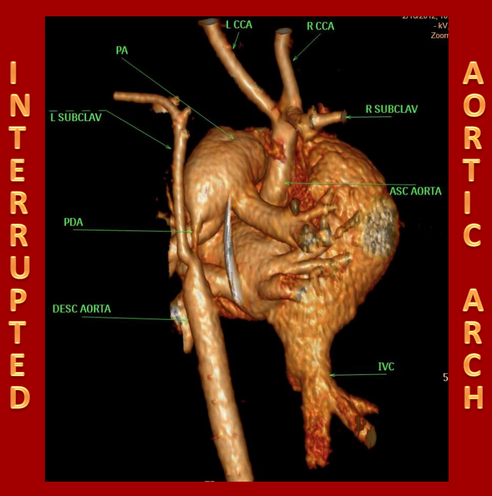
TAPVR above diaphragm

Cannot see PA

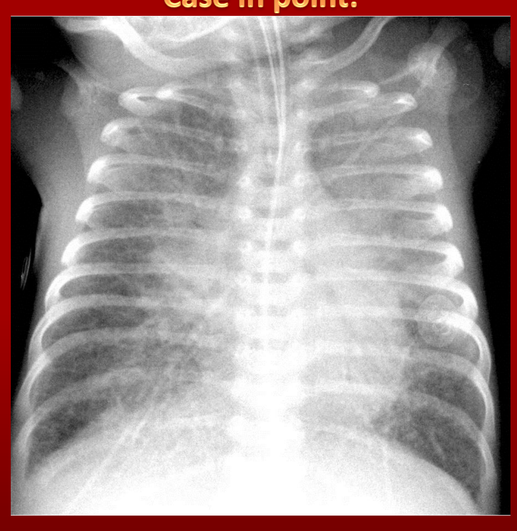


Congestion (aka passive congestion):
- ↑ pulmonary venous pressure
- Obstruction/dysfunction of left side of heart
- As venous pressure ↑; edema fluid leaks into perivascular interstitium
- Margins of vessels become less distinct

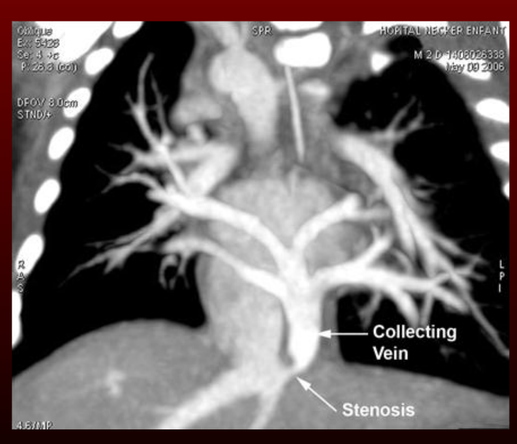




Case in point:

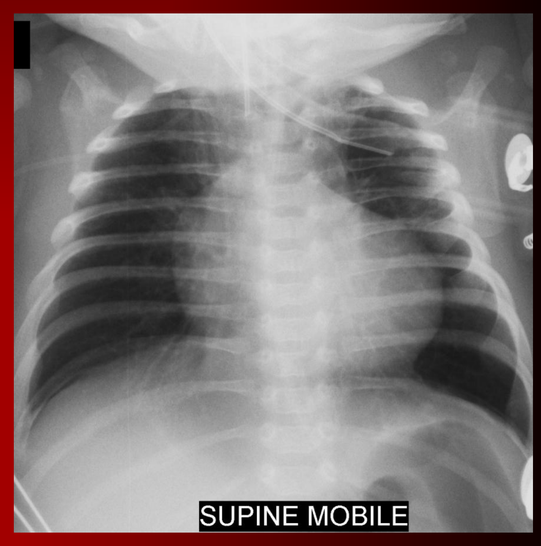


? PA appearance

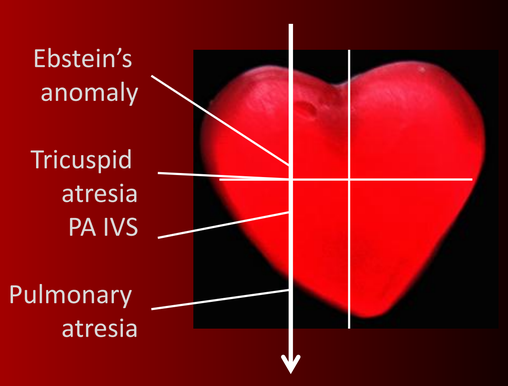


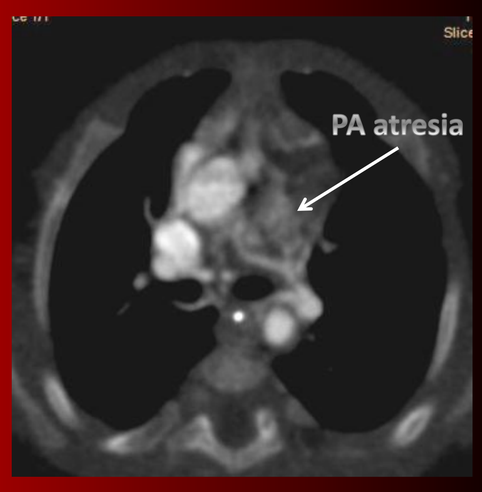
TAPVR below diaphragm

Petite PA



Oligaemia:
- ↓ pulmonary vascularity
- Obstruction of right ventricular outflow tract
- Associated right-to-left shunts
- Lungs appear more radiolucent, and the vessels appear thin and wispy





Case in point:

? PA appearance

PAPVR