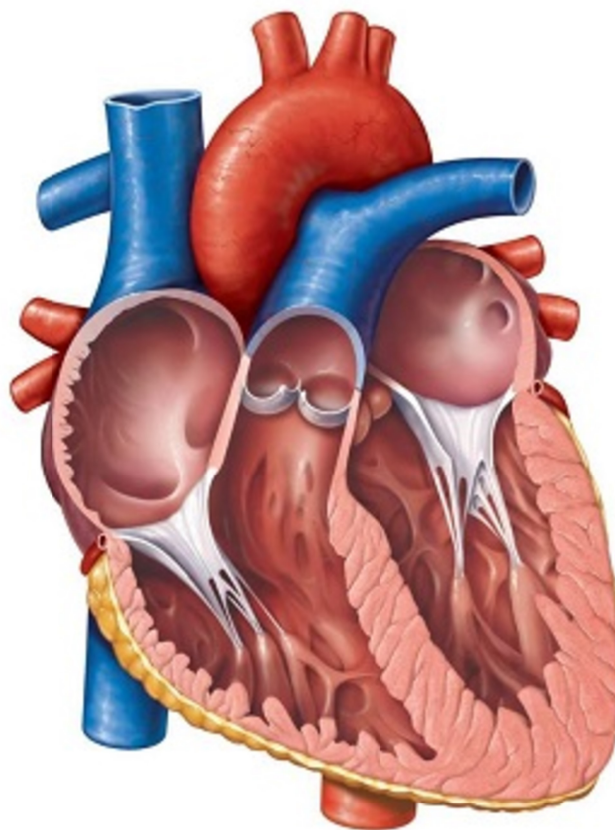




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TETRALOGY OF FALLOTS

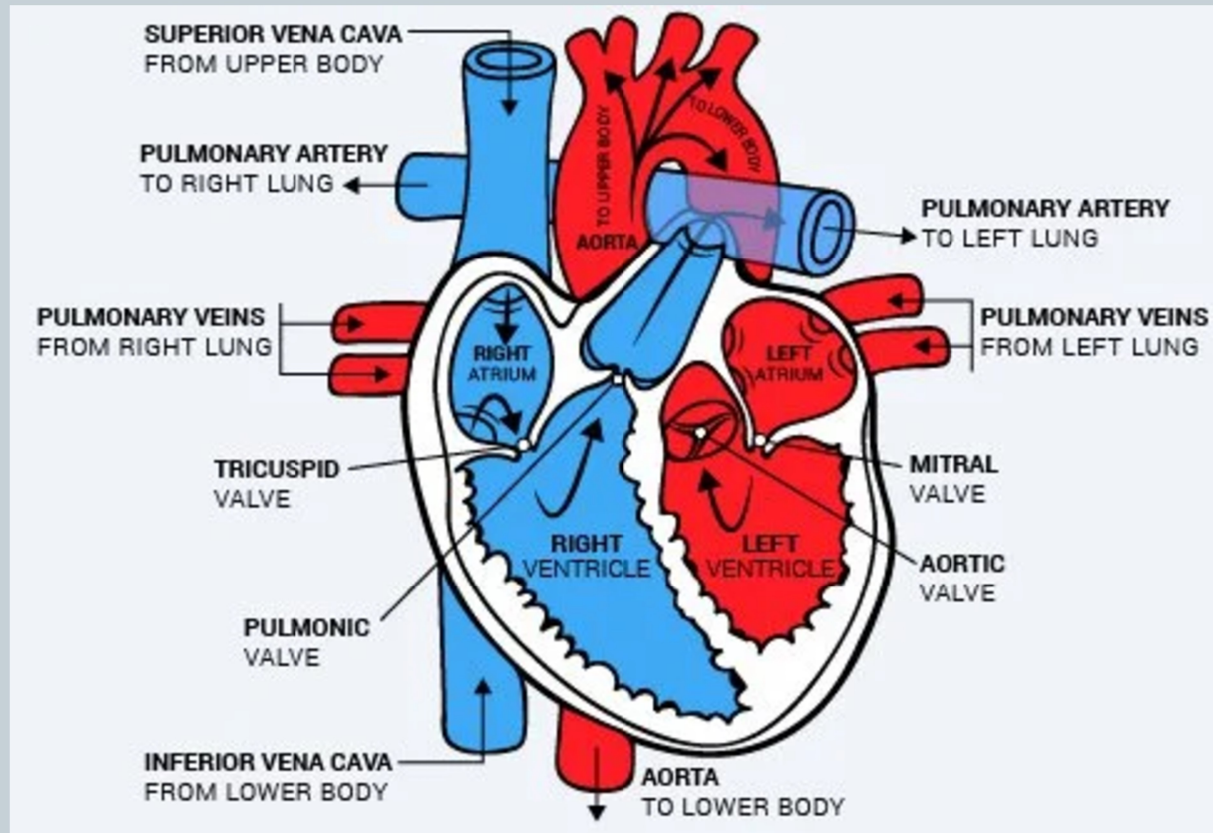


Session Aims

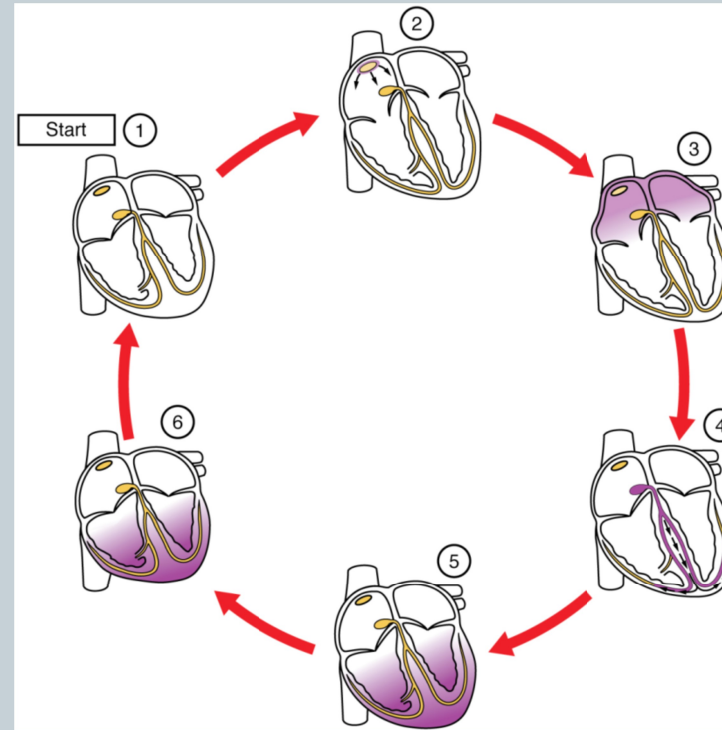
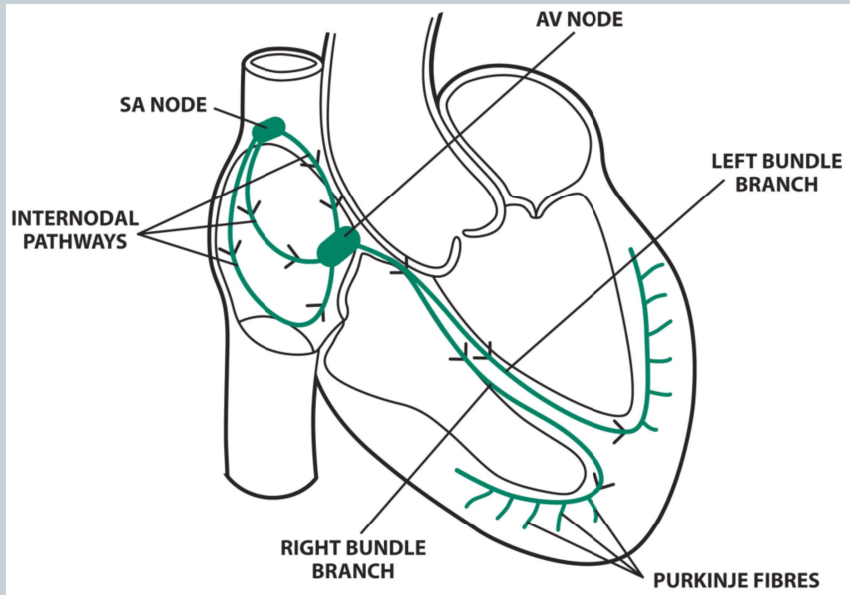


- Anatomy of the Normal Heart
- Anatomy of the Tetralogy of Fallot defect
- Signs and symptoms
- The 'spelling' child
- Treatment
- Post operative care
- Prognosis

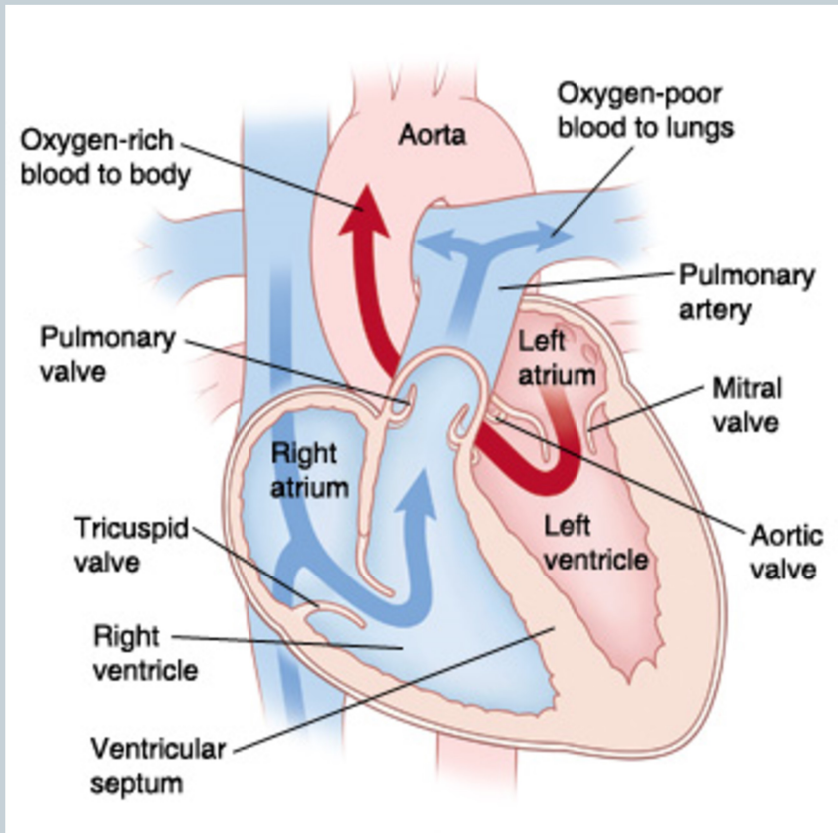
The Normal Cardiac Cycle



Sinus Rhythm



Features of the Normal Heart



The Right side receives deoxygenated Blood
The Left Side receives oxygenated Blood

The left side is at a higher pressure than the right

It is responsible for perfusing the body with oxygenated blood and nutrients and is itself perfused via the coronary arteries

The normal electrical rhythm is 'Sinus' rhythm

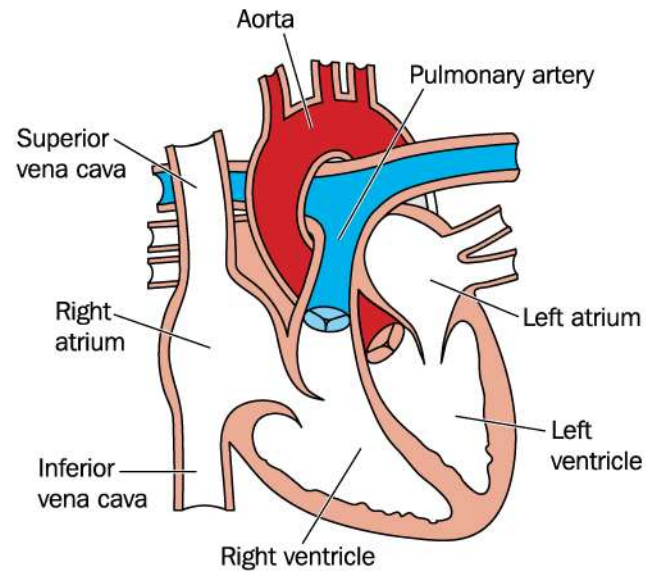
Features of the Normal Heart



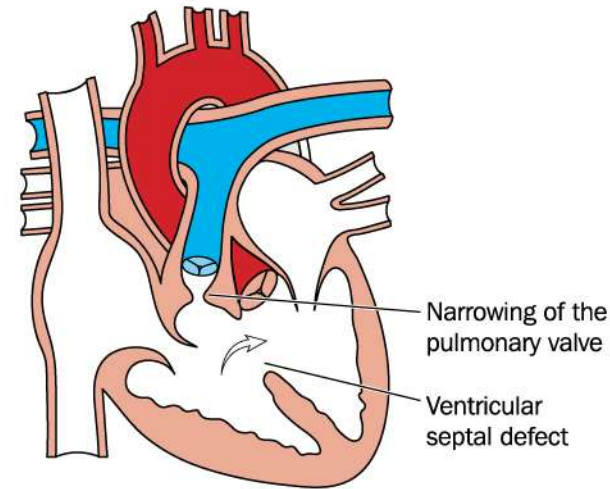
... The heart is a muscle

Blood will always flow to the path of least resistance!

Tetralogy of Fallots



Normal heart



Tetralogy of Fallot

1. Ventricular Septal Defect (VSD)

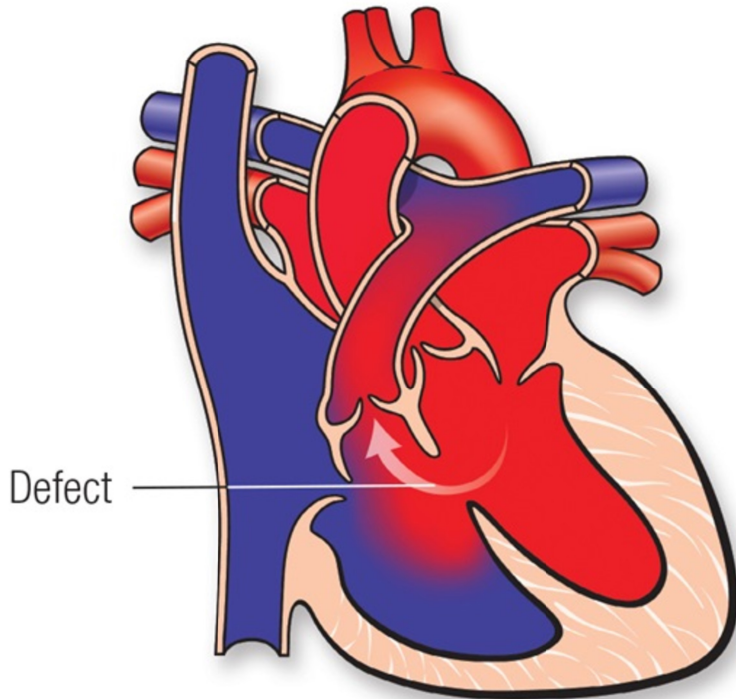
2. Pulmonary Stenosis

3. Overriding Aorta

4. Right Ventricular Hypertrophy

Ventricular Septal Defect

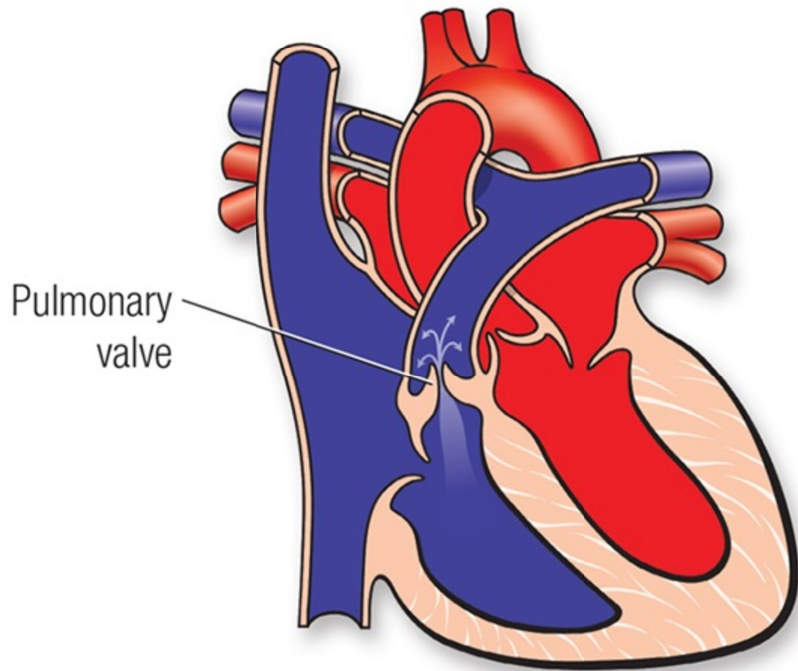
Ventricular Septal Defect



- A hole in the septum between the right and left ventricles
- Left- Right Shunting of blood
- Increased pulmonary flow
- Increased pulmonary pressure

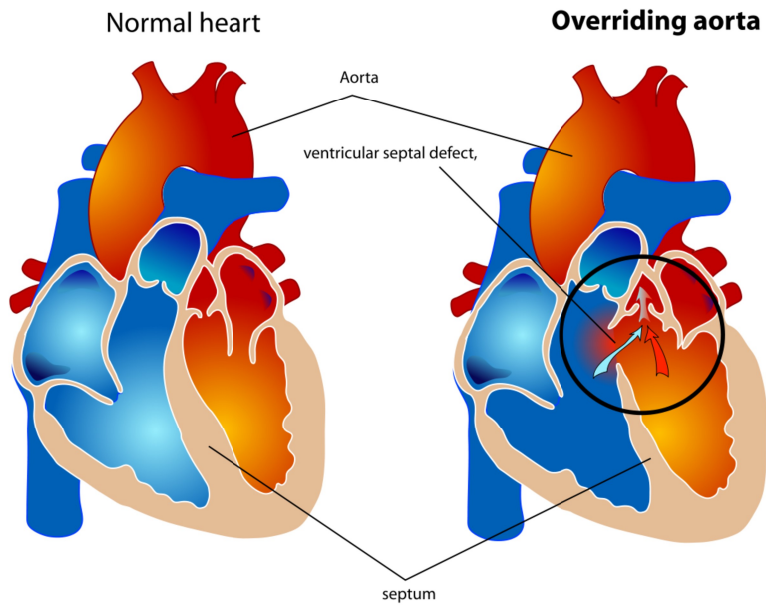
Pulmonary Stenosis

Stenotic Pulmonary Valve



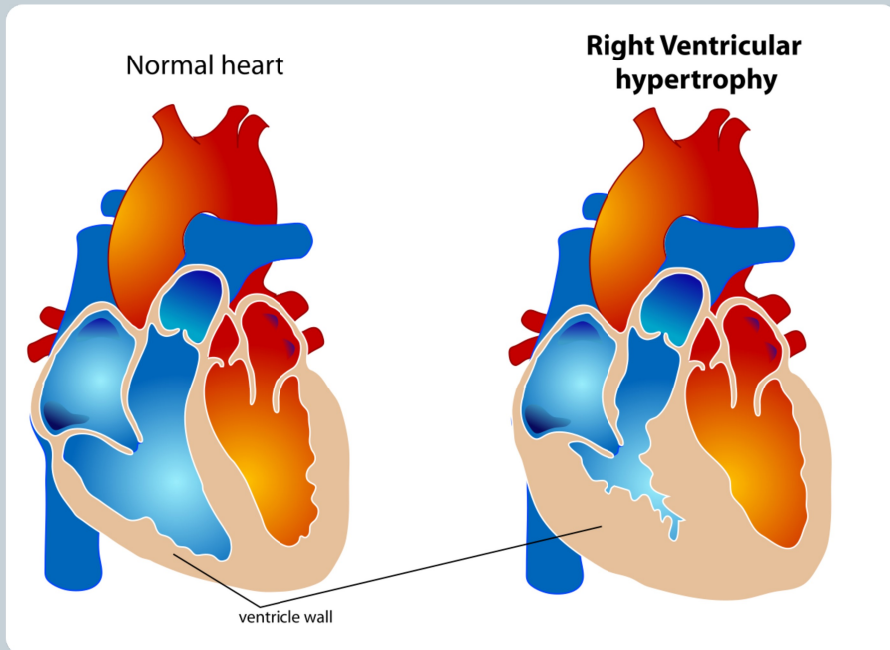
- Narrowing of the Pulmonary valve
- Obstructs the flow of blood to the lungs
- Causes right ventricular hypertrophy

Overriding Aorta



- The Aorta is positioned towards the right
- The aorta then sits above the VSD
- The mixing of deoxygenated and oxygenated blood is pumped through the aorta and to the body

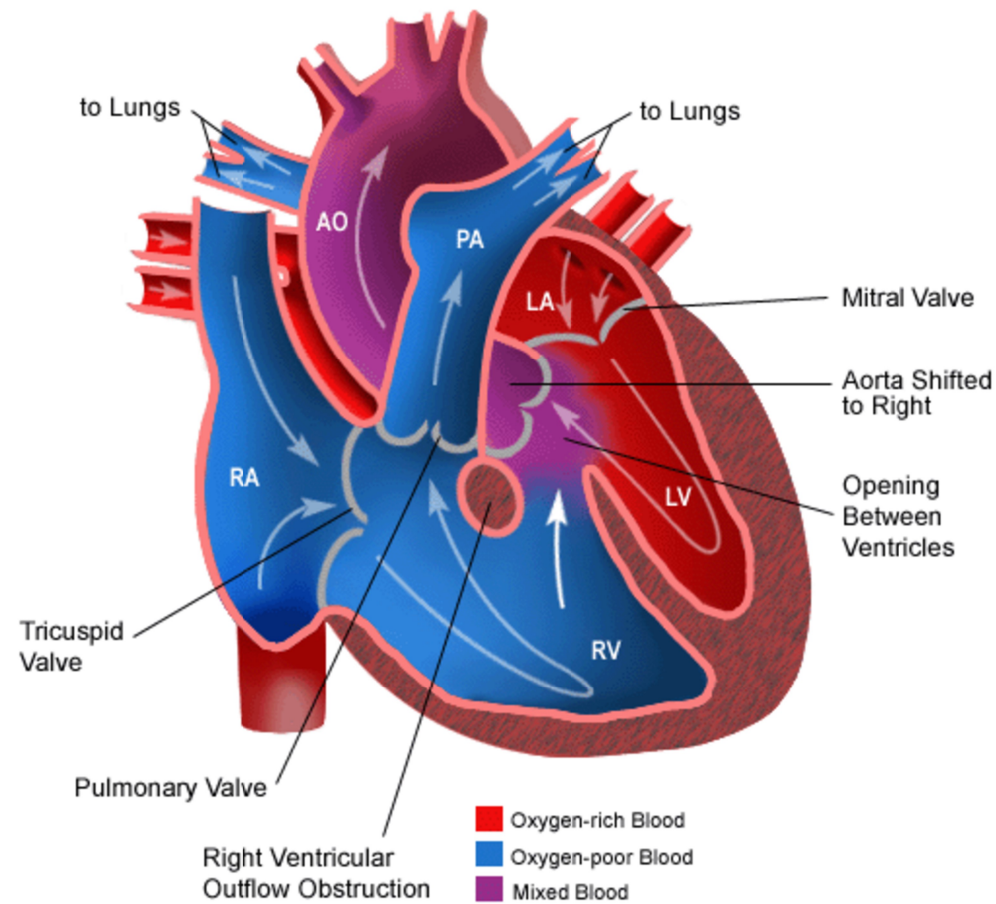
Right Ventricular Hypertrophy



- Enlargement and thickening of the muscle of the right ventricle
- Stiff, ineffective muscle wall
- Right sided heart failure

Fallots Blood Flow

Tetralogy of Fallot



Sign and Symptoms

- ❑ Cyanosis:
 - ❑ Will depend on the severity of the pulmonary obstruction
 - ❑ The greater the obstruction the more severe the hypoxia

- ❑ Congestive Heart Failure:
 - ❑ Breathlessness
 - ❑ Oedema
 - ❑ Arrhythmias



- ❑ Poor feeding/ failure to thrive
- ❑ Chest infections
- ❑ Murmur on auscultation
- ❑ Sepsis

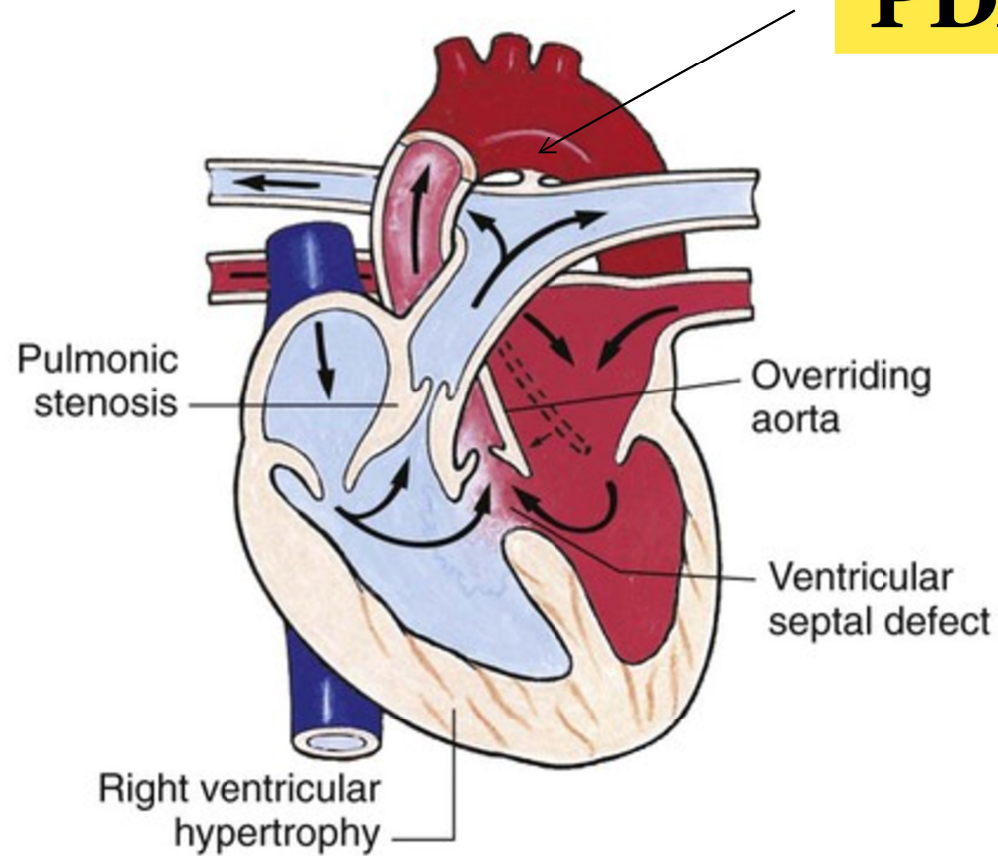
Respiratory distress and cyanosis if PDA dependent



Critical Fallots:

- Duct dependent
- VSD dependent

PDA



The 'Tet Spell'



Sudden, severe reduction in pulmonary blood flow

Right Ventricular Outflow Tract spasm

Sudden reduction in pulmonary blood flow

Increased right to left shunt

CYANOSIS!



The 'Tet Spell' management

- Administer 100% O₂
- Squatting/ bending the knees
- Parental comfort



- Analgesia/ sedation
- Fluid
- Vasoconstrictors
- Propranolol

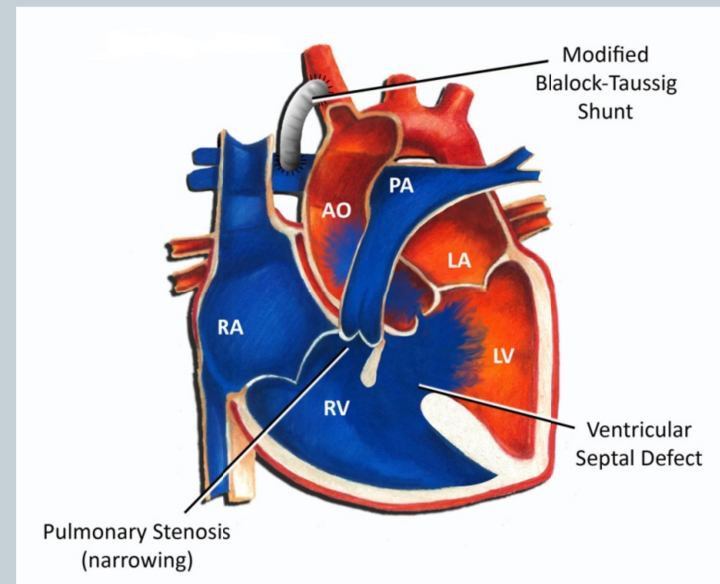


- PICU
- Surgical management



Surgical Management

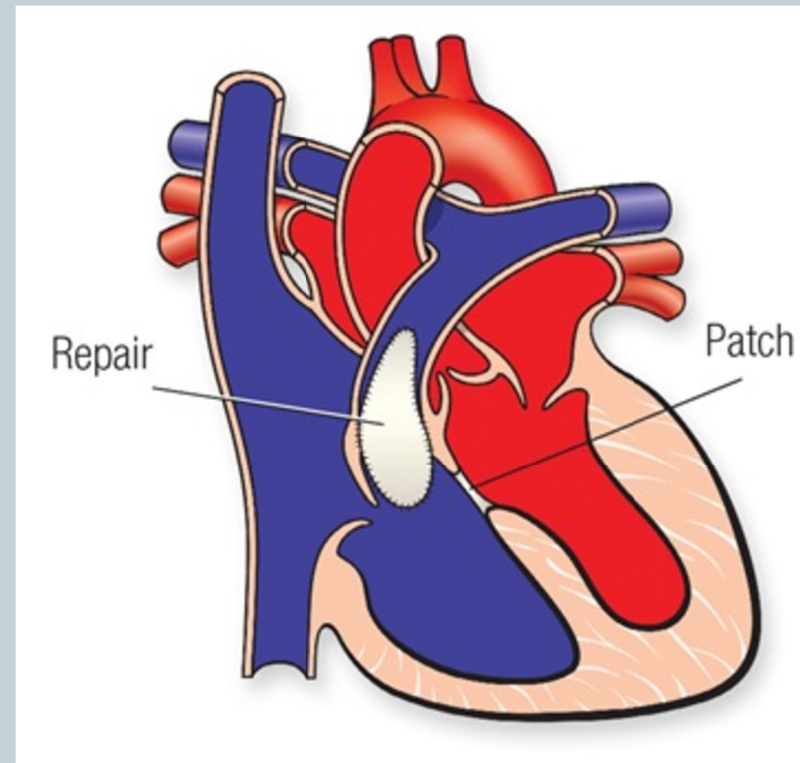
- Corrective or palliative
- Performed > 4 months but within the first year
- Early surgical management if required



Surgical Repair



1. Relieve pulmonary obstruction
2. Close the VSD
3. Pulmonary artery augmentation/ valve repair?



Post-operative Management



- Arrhythmias
- Bleeding
- Congestive heart failure
- Fluid balance



- Haemodynamic stability
- Weaning of inotropes
- Chest drain and invasive line removal
- Weaning of respiratory support
- Extubation
- Discharge to ward care/ HDU



The Future



Life long follow up is essential due to the risk of

- ▢ Arrhythmias
- ▢ PV regurgitation
- ▢ Congestive heart failure

However full corrective surgery has increasingly positive outcomes with 85% of corrected children surviving into adulthood



Thank you!

Sarah Lane

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