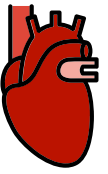


# Management of Congenital Heart Disease for Neonatal Transfers



**Refer EARLY to KIDS NTS for advice - 0300 200 1100**

## NON-DUCT DEPENDENT:

- Increased Pulmonary Flow (PDA, ASD, VSD, AVSD)



## DUCT DEPENDENT:

- Decreased Pulmonary Flow – Right Sided Obstruction** (Pulmonary Stenosis, Pulmonary Atresia, Tetralogy of Fallot, Ebsteins Anomaly, Tricuspid Atresia). **Presents as Cyanosis (Blue Baby)**
- Altered Circulation** - (Truncus Arteriosus, TAPVD, Transposition of Great Arteries, Double Outlet Right Ventricle). **Presents as Cyanosis (Blue Baby)**
- Decreased Systemic Flow - Left Sided Obstruction** (Coarctation of Aorta, Aortic Stenosis, Interrupted Aortic Arch, Hypoplastic Left Heart Syndrome). **Presents with poor perfusion (SHOCK)**

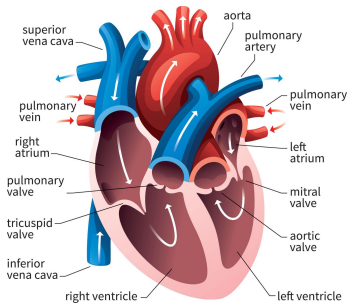
## Differential Diagnosis:

- PPHN
- Respiratory causes - RDS/Pneumonia/Congenital Diaphragmatic Hernia/Congenital Lung Malformations
- Cardiac causes - Congenital Heart disease, arrhythmia (SVT/VT), Cardiomyopathy.
- Other - Sepsis/Metabolic/Bleeding



## Investigations:

- ECHO (If not immediately available then prepare Prostaglandin early while undertaking other tests + discussing with KIDS NTS).
- ECG and CXR (Abnormal Cardiac Shadow/Oligaemic or Plethoric lung fields)/ Low PaO<sub>2</sub> on Arterial Gases may indicate CHD.
- Pre/post ductal SpO<sub>2</sub> (> 3% difference).
- Hyperoxia test - SpO<sub>2</sub> < 95% despite O<sub>2</sub>/ Blood Gas (PaO<sub>2</sub>/PaCO<sub>2</sub>/Lactate).
- 4 Limb BP (>20mmHg difference upper/lower).



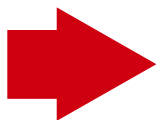
**If signs of SHOCK—refer to Neonatal Collapse Guideline for further advice and Investigations**

## SUSPECTED or CONFIRMED DUCT DEPENDENT LESION:

- Commence Prostaglandin infusion** peripherally or centrally. Standard dose 5-20 nanograms/kg/min but can be increased from 20-100 nanograms/kg/min following cardiology advice. Side effects - apnoea, hypotension, pyrexia.

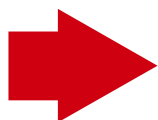
## Oxygen therapy should be used with caution in CHD—seek advice from KIDS NTS or Cardiologist.

- Duct Dependent CHD - Maintain Saturations 75-85%
- Non-Duct Dependent CHD - Maintain Saturations >95%



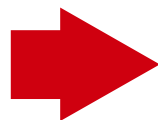
## INDICATIONS FOR INTUBATION + VENTILATION:

- Recurrent Apnoea / Signs of Poor systemic perfusion / Rising Lactate / Intact Septum / Signs of preferential pulmonary blood flow.
- Aim to ventilate in Air / Use PEEP 5-6cmH<sub>2</sub>O / Aim PaCO<sub>2</sub> 5-7kPa



## ACCESS: 2 points of vascular access (Peripheral or Central/UVC). Prostaglandin should infuse via a dedicated line.

- Consider a peripheral arterial line to assess PaO<sub>2</sub> (avoid umbilical lines if possible in case of need for Balloon Atrial Septostomy).



## CIRCULATION: If signs of shock, discuss using fluid boluses and inotropes (e.g. Dobutamine, Adrenaline etc.) with KIDS NTS + arrange local echocardiography to assess contractility.

**Beware Restrictive Atrial Septum in TGA — Severe cyanosis and signs of shock.**