

Ductal Dependent Lesions in Your ED

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Ductal Dependent Lesions

- Congenital cardiac emergencies
- Objectives
 - Discuss physiology of fetal/neonatal circulation
 - Discuss pathophysiology of ductal dependent lesions
 - Discuss ED presentations
 - Discuss relevant management (including approach)

Case Scenarios

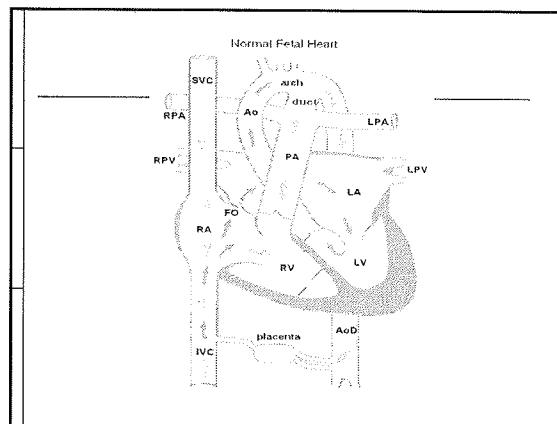
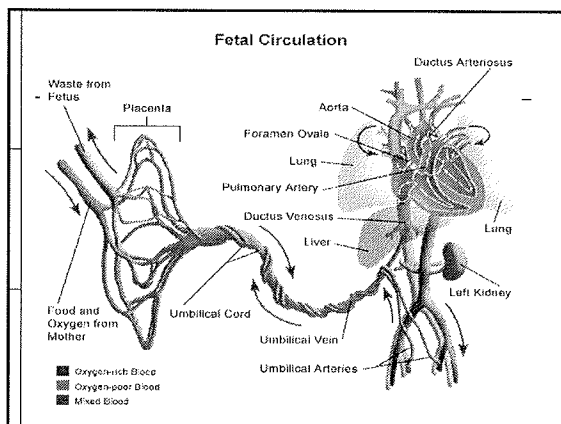
□ Evaluating an infant in the ED with pulse 165/m, respiratory rate of 65/m.....

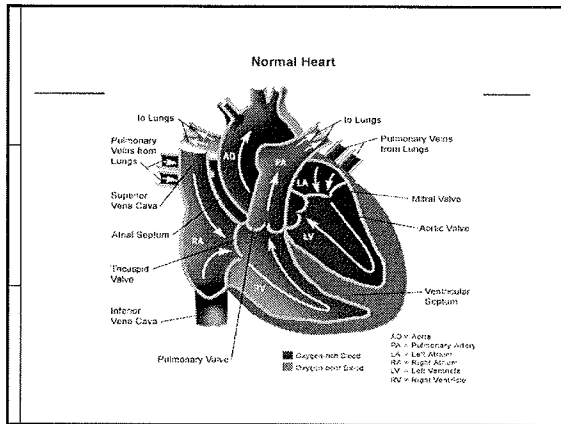
3 day home delivery with difficulty feeding and RD, cyanosis, no e/o CCF, pulse ox: 70%	
20 day FTVD with difficulty feeding and RD, mild cyanosis, CCF, pulse ox: 85%	
10 day FTVD with difficulty feeding and RD, mild cyanosis, poor perfusion, no CCF, pulse ox: 85%	
20 day FTVD well appearing, with severe cyanosis, no CCF, pulse ox: 85%	
20 day FTVD with difficulty feeding and RD, mild cyanosis, no CCF, shock, pulse ox: 85%	

Case Scenarios continued...

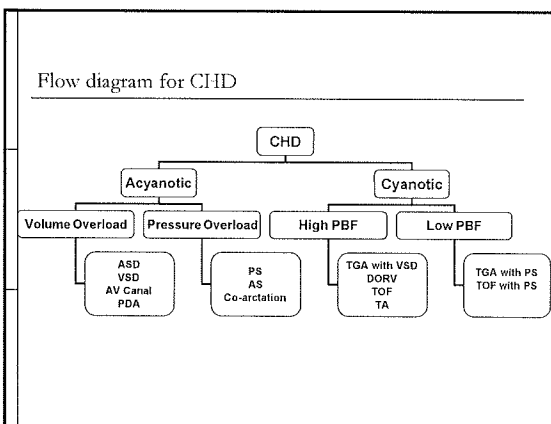
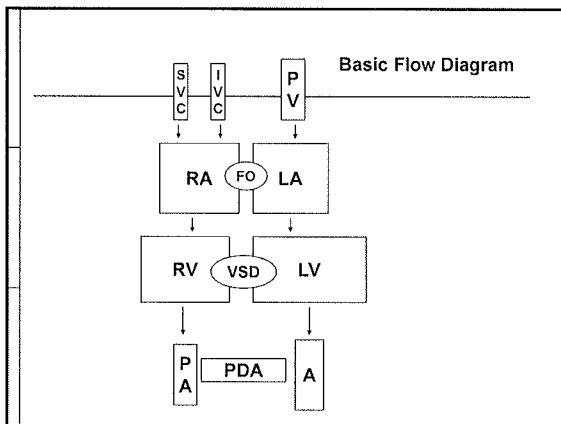
□ Evaluating an infant in the ED with pulse 165/m, respiratory rate of 65/m.....

15 day preterm with difficulty feeding and RD, cyanosis, CCF, pulse ox: 70%	
20 day FTVD with difficulty feeding and RD, mild cyanosis, no CCF, pulse ox: 85%	
10 day FTVD with difficulty feeding and RD, mild cyanosis, poor perfusion, no CCF, hypoglycemia, pulse ox: 85%	
20 day FTVD with difficulty feeding and RD, mild cyanosis, no CCF, shock, pulse ox: 85%	
2 year old with murmur	





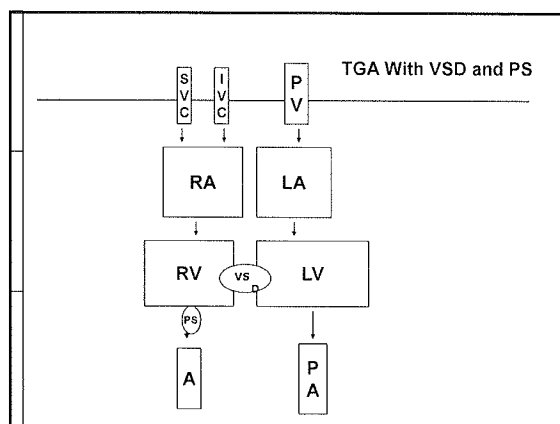
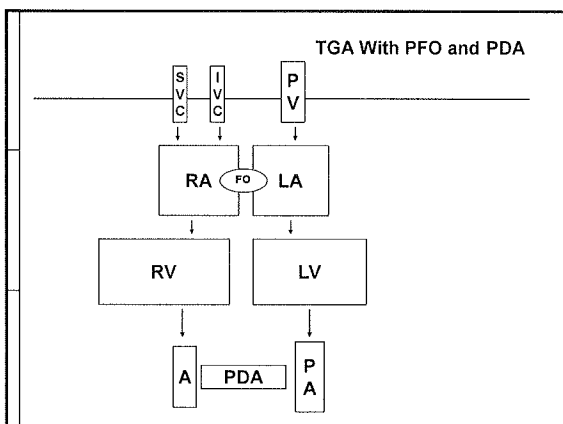
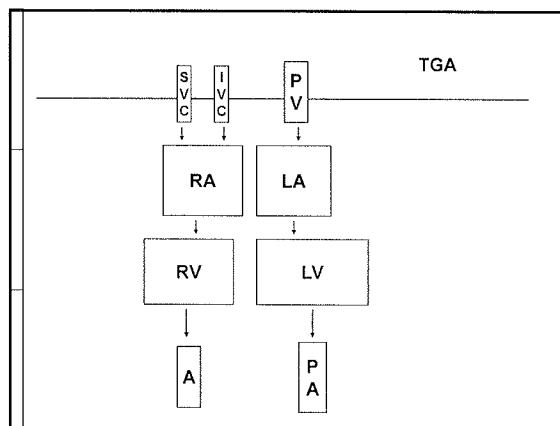
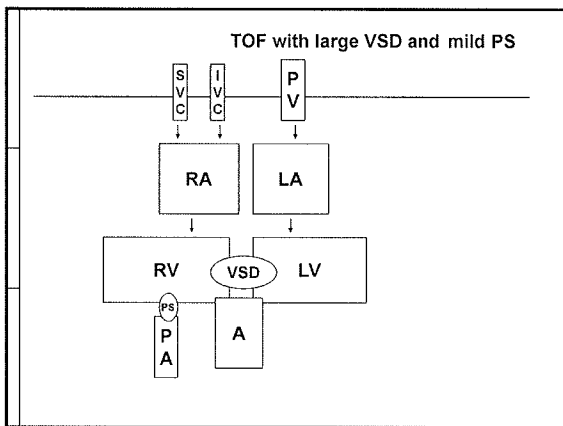
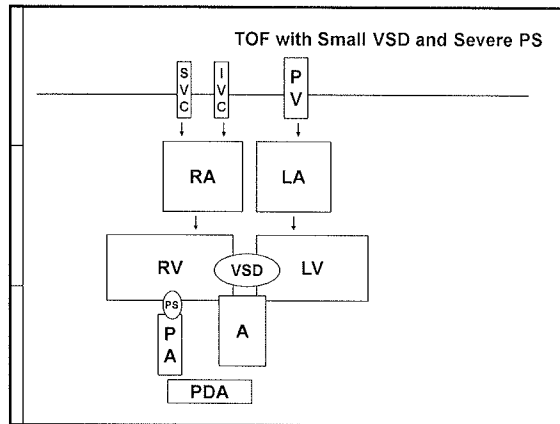
- ### Changes at birth
- Decrease in pulmonary vascular resistance
 - Expansion of lungs
 - Effect of increased oxygenation
 - Increase in systemic vascular resistance
 - Clamping of umbilical chord
 - Removal of placenta
 - Left to right shunting
 - Foramen ovale
 - PDA
 - Closure of ductus venosus
 - Closure of PDA
 - Oxygen and PDA
 - Prostaglandin E and PDA
 - Left ventricular hypertrophy

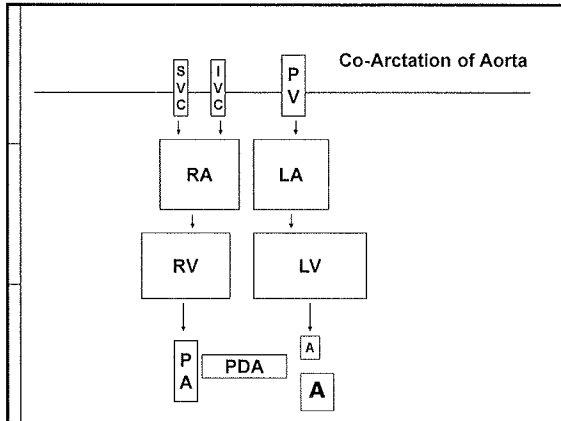


- ### Ductal Dependent Lesions
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|--|---|
| <ul style="list-style-type: none"> □ Right Heart Lesions <ul style="list-style-type: none"> ■ TOF with PA ■ Critical TOF ■ PA without VSD ■ Critical PS ■ TA with VSD and PS/PA ■ Single ventricle with PS/PA ■ Ebsteins Anomaly ■ TGA | <ul style="list-style-type: none"> □ Left Heart Lesions <ul style="list-style-type: none"> ■ Hypoplastic left heart ■ Critical AS ■ Co-arterctation of Aorta ■ Interrupted Aortic Arch ■ Shone's Complex |
|--|---|

- ### Pathophysiologic basis for presentation
- Time of presentation
 - Cyanosis
 - Congestive cardiac failure

- Individual lesions
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- Tetralogy of Fallot
 - Transposition of Great Vessels
 - Co-arctation of Aorta
 - Ebsteins Anomaly





- ED Management**
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- Day of life
 - Symptoms
 - Signs
 - Chest X-ray
 - EKG
 - Echocardiography
 - Differential diagnosis

- ED Management**
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- ABCs
 - Vascular Access
 - Role of PGE₂
 - Transport issues
 - Emergent surgical interventions
 - Palliative surgery