

**21<sup>ST</sup> ANNUAL HIGH-RISK FETAL  
IMAGING AND PERINATAL UPDATE  
CONFERENCE**

**SEPTEMBER 27, 2024**

**Identifying Ductal  
Dependent Lesions –  
Nuts & Bolts**

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# Disclosures

- Medtronic, Inc Consultant



# Objectives

- 1) Identify significant anatomic abnormalities with ductal dependent pulmonary circulation
- 2) Identify significant anatomic abnormalities with ductal dependent systemic circulation
- 3) Delineate physiologic significance of shunt directionality across the patent ductus arteriosus and patent foramen ovale



# Agenda

## Ductus arteriosus and Fetal Circulation

### Conotruncal and Right-Sided Heart Defects with Ductal Dependent Pulmonary circulation

- Tetralogy of Fallot
- Pulmonary stenosis & Pulmonary atresia with intact ventricular septum
- Ebstein's anomaly

### Left-Sided Heart Defects with Ductal Dependent Systemic Circulation

- Aortic stenosis
- Coarctation of the aorta
- Hypoplastic left heart syndrome



# Ductus arteriosus



# Fetal Cardiac Physiology



# Congenital Heart Defects: Ductal-Dependent Pulmonary Circulation



# Tetralogy of Fallot





# Tetralogy of Fallot: Fetal Physiology/Management



# Tetralogy of Fallot: Imaging



# Tetralogy of Fallot: Postnatal Physiology/Management



# Pulmonary Stenosis & Pulmonary Atresia



# Pulmonary Stenosis/Atresia: Fetal Physiology/Management



# Pulmonary Stenosis/Atresia: Imaging



# Pulmonary Stenosis/Atresia: Postnatal Physiology/Management



# Ebstein's Anomaly





# Ebstein's Anomal: Fetal physiology/Management



# Ebstein's Anomaly: Imaging



# Ebstein's Anomaly: Postnatal Physiology/Management



# **Congenital Heart Defects: Ductal-Dependent Systemic Circulation**



# Aortic Stenosis



# Aortic Stenosis: Fetal Physiology/Management



# Aortic Stenosis: Postnatal Physiology/Management



# Coarctation of the Aorta





# Coarctation of the Aorta: Fetal Physiology/Management



# Coarctation of the Aorta: Fetal Physiology/Management



# Hypoplastic Left Heart Syndrome



# Hypoplastic Left Heart Syndrome: Prenatal Physiology/Management



# Hypoplastic Left Heart Syndrome: Postnatal Physiology/Management



# Take Home Points



**Thank you**



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