



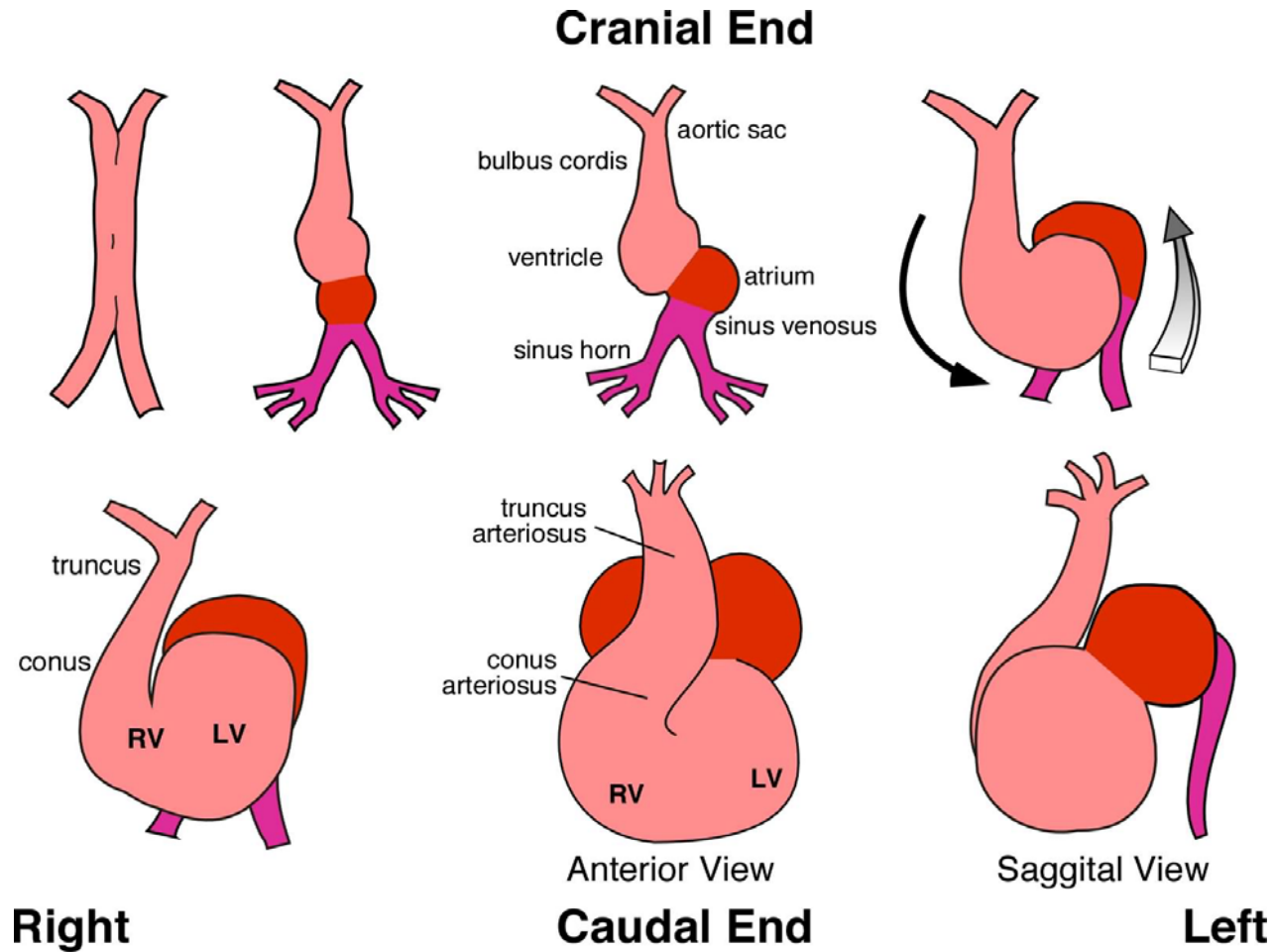
Atrial Septal Defects

Melanie Norton

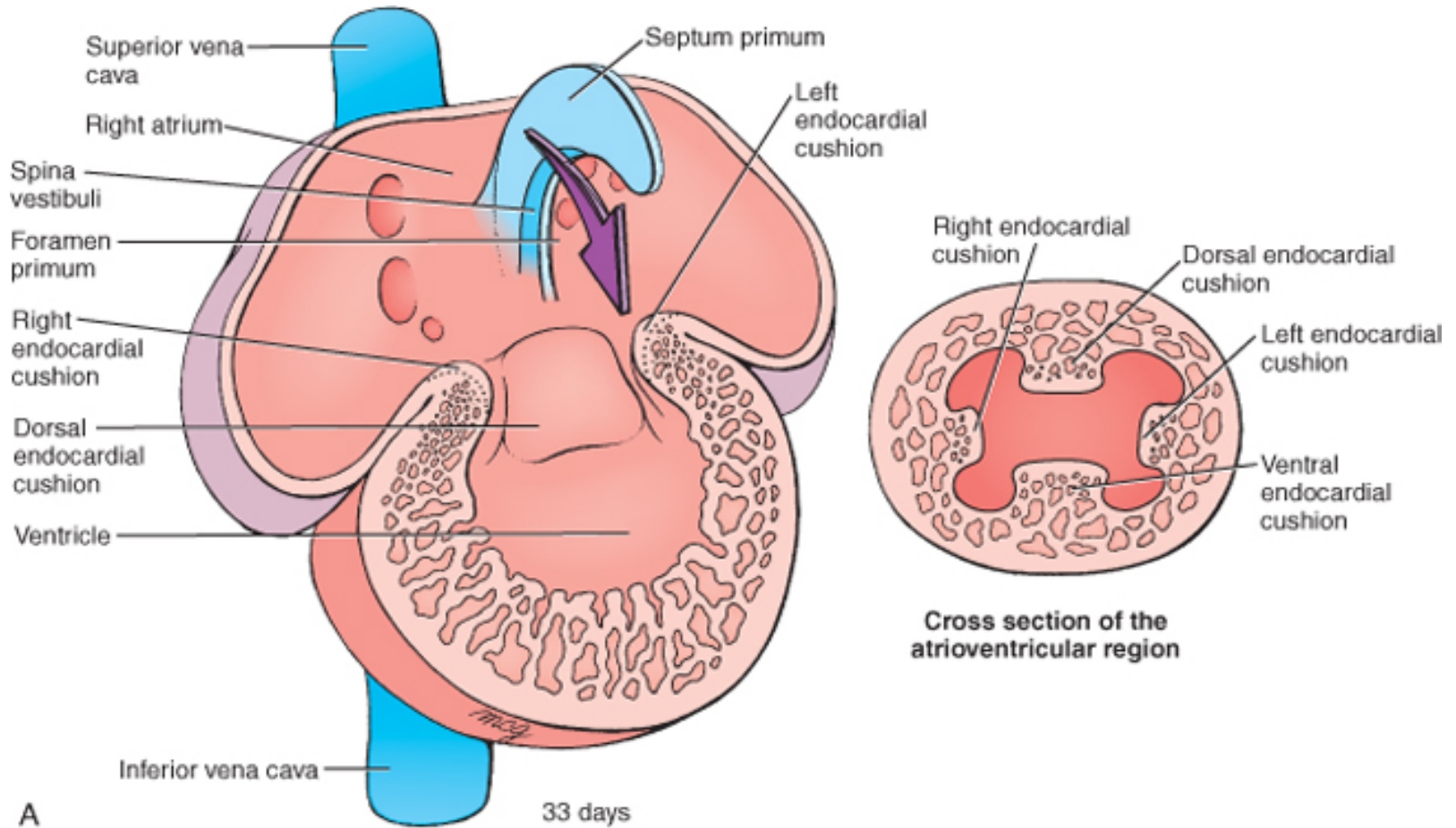
ASD Fun Facts

- Accounts for 5-10% of congenital heart defects (6-8:1000 live births)
- Symptoms not often seen in infancy or early childhood
- Often not correctly identified until later in life

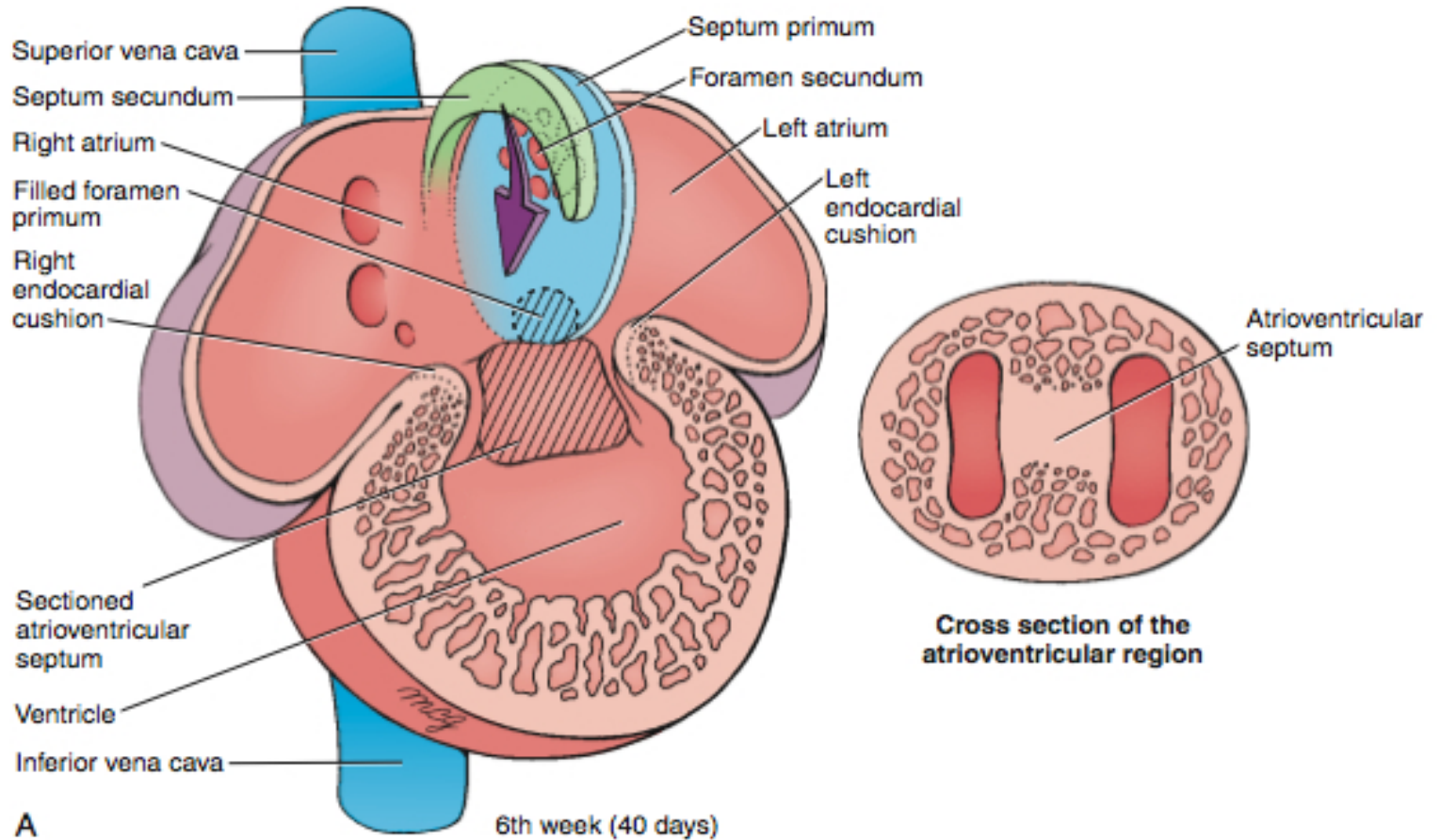
Cardiac Looping



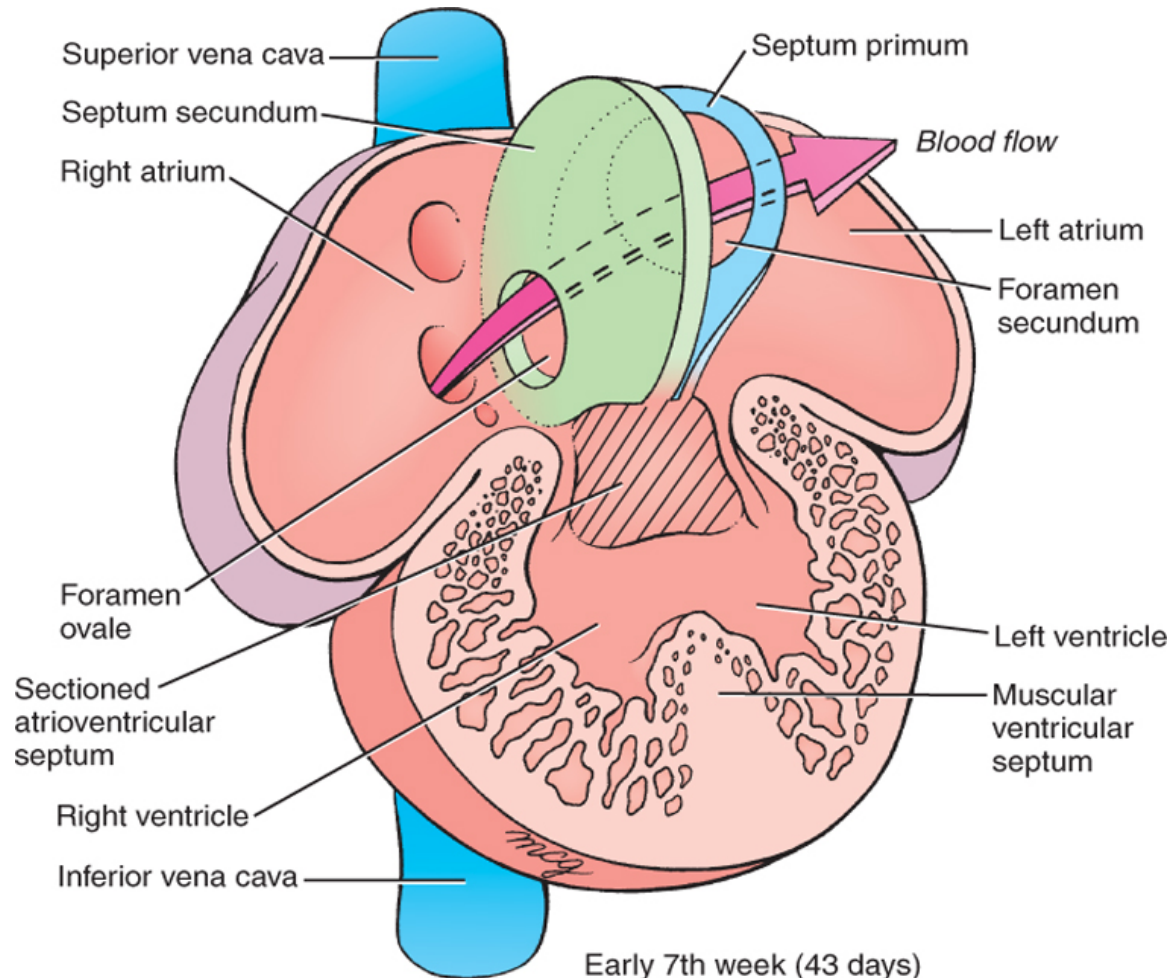
Atrial Septation



Atrial Septation



Atrial Septation



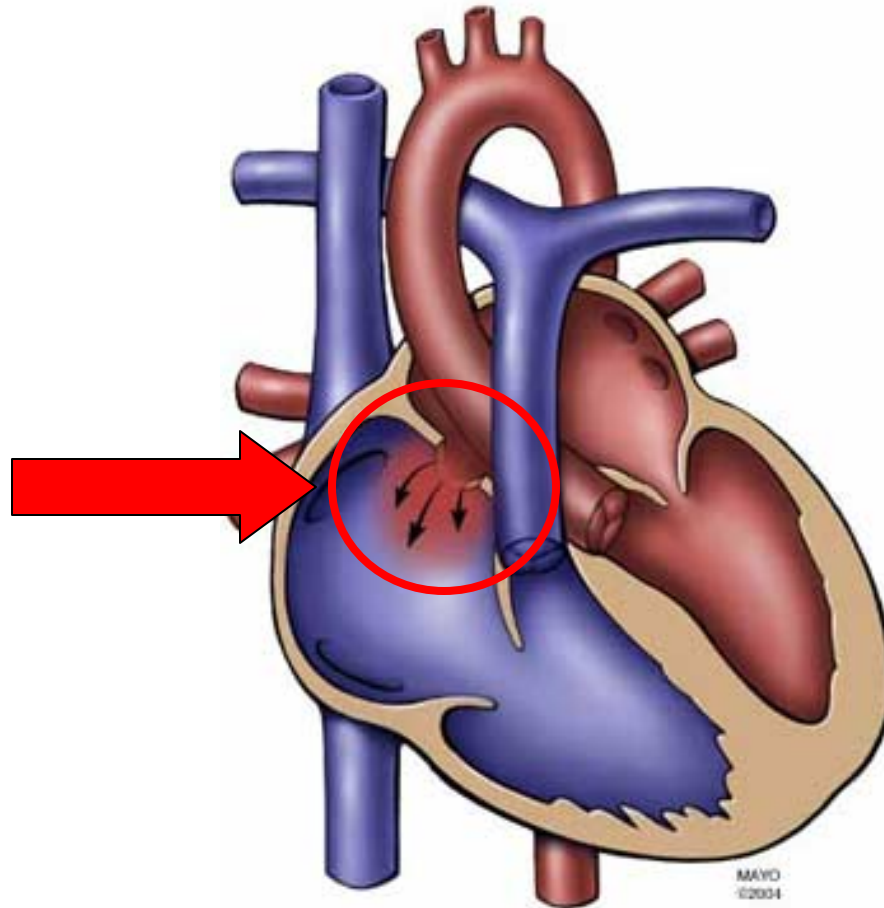
Three Common Types of ASD

Ostium Secundum Atrial Septal Defect

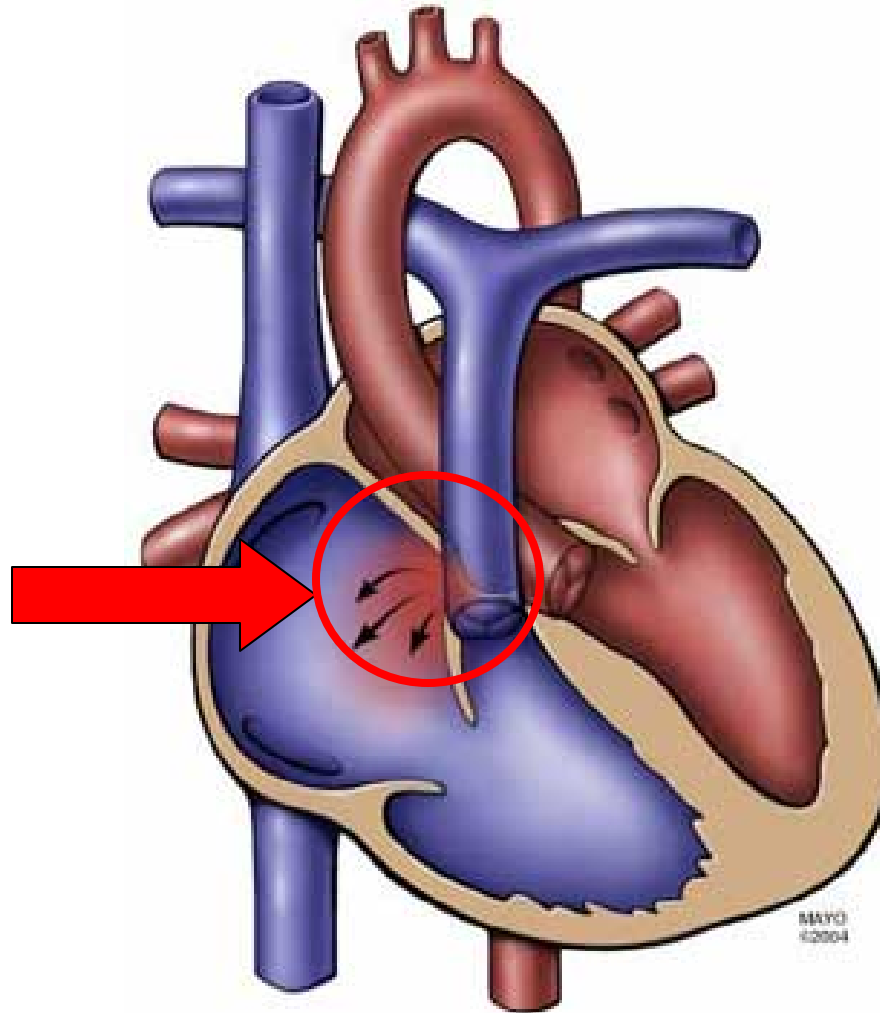
Ostium Primum Atrial Septal Defect

Sinus Venosus Atrial Septal Defect

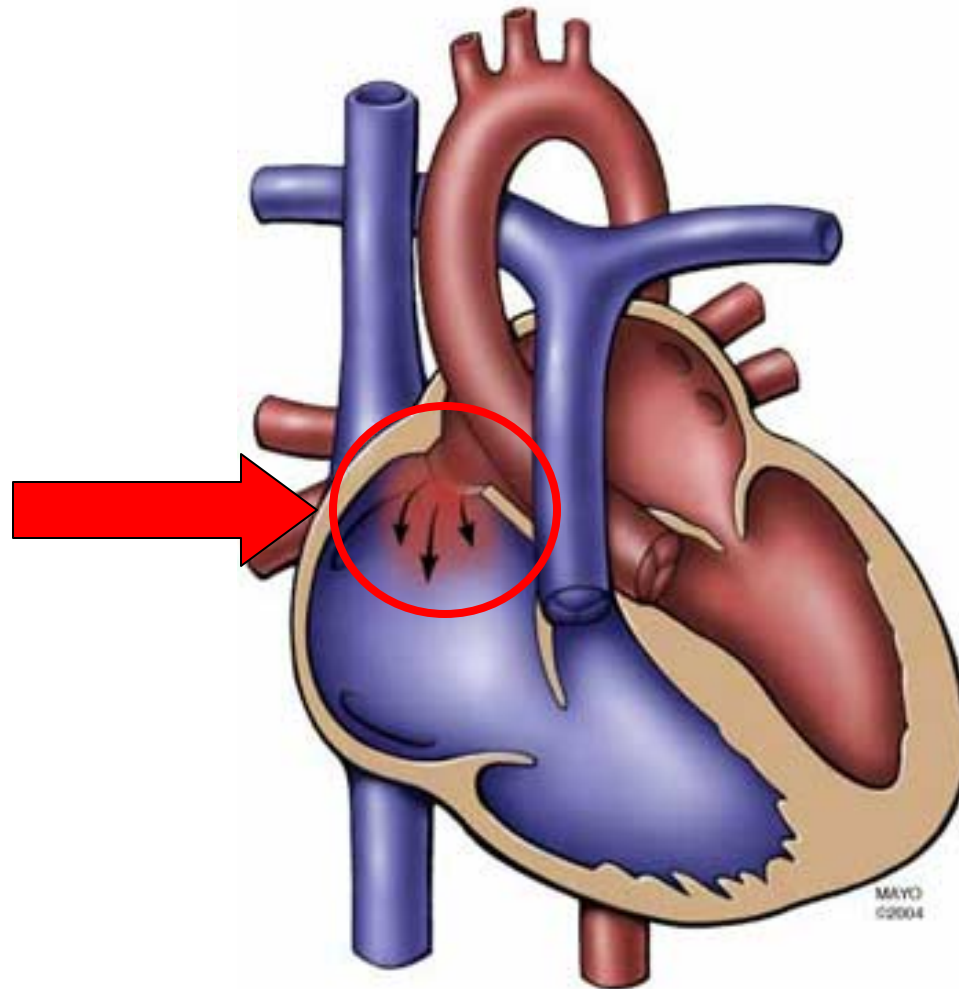
Ostium Secundum Atrial Septal Defect



Ostium Primum Atrial Septal Defect



Sinus Venosus Atrial Septal Defect



Case Study

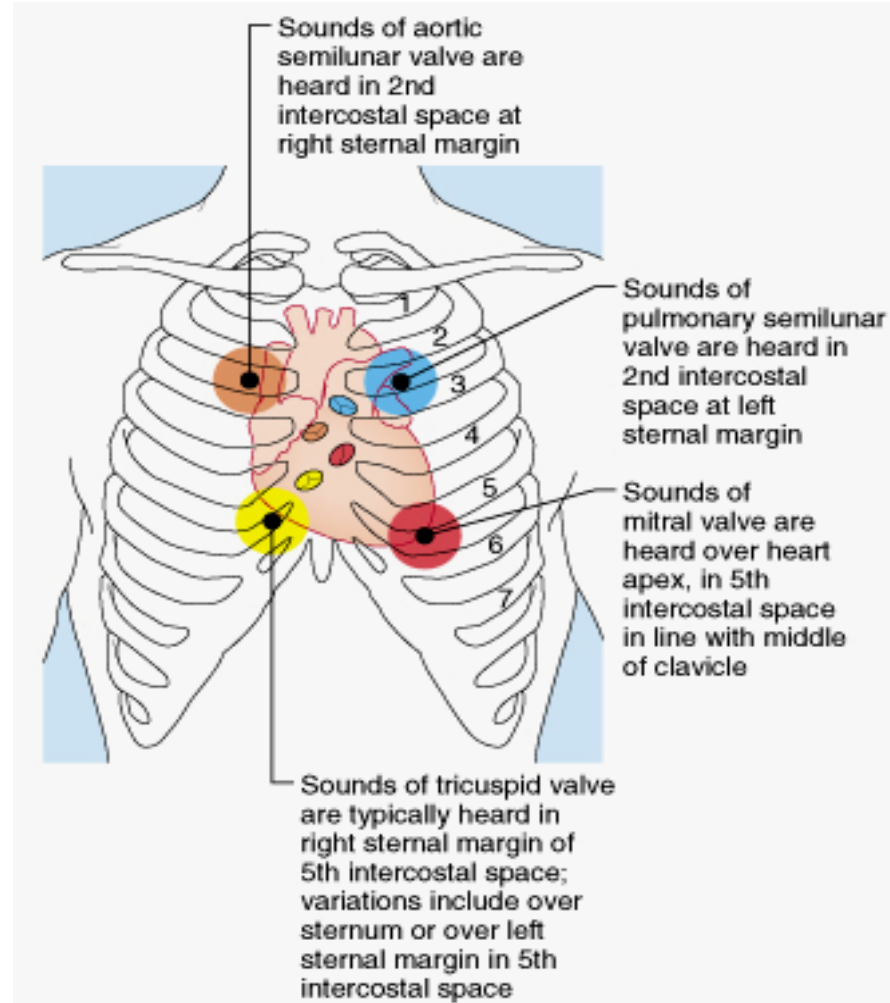


- 6 year old girl
- Cardiac murmur detected at 4 years of age
- Growth and development slightly retarded
- Some limitation of exercise tolerance
- No cyanosis or clubbing
- Increase in the number of respiratory infections between the ages of 4 and 6 years

Physical Examination

- Slight asymmetry of the thorax
- Prominence of the precordium
- Heart not markedly enlarged
- No palpable thrills
- Systolic murmur audible along left sternal border
 - Max. intensity heard in the 2nd left intercostal space

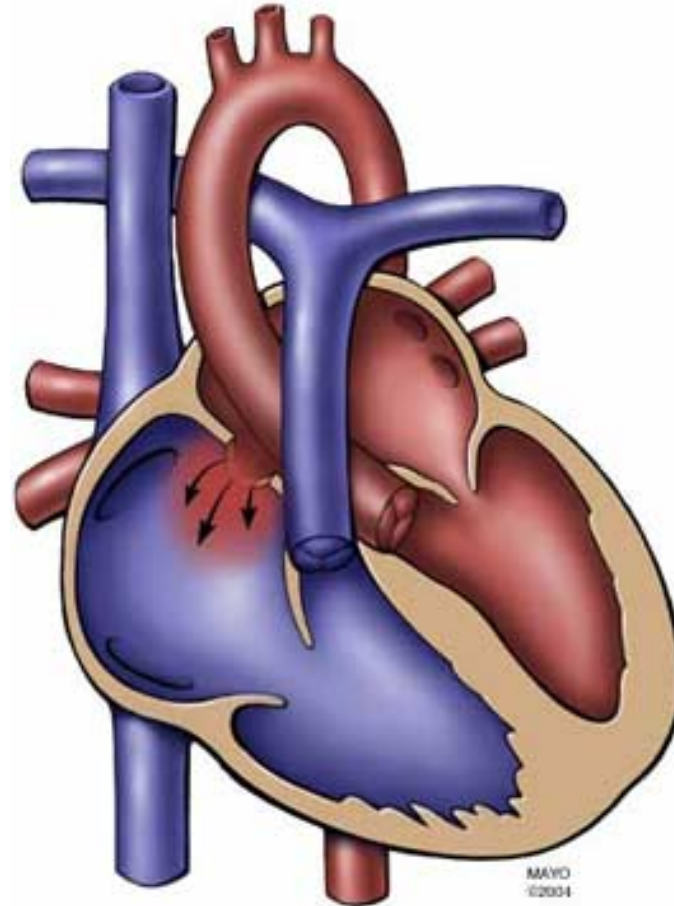
Sounds of the Heart



Physical Examination

- Electrocardiogram showed right axis deviation and incomplete right bundle branch block
- Cardiac catheterization verified the diagnosis
 - Information about size and location of defect
- Fluoroscopic exam
 - dilation of right heart and pulmonary arteries
 - Pulsation of pulmonary artery branches
 - Increased vascularity of the lung fields

Diagnosis



Atrial septal defect – ostium secundum
type

Causes of Atrial Septal Defects

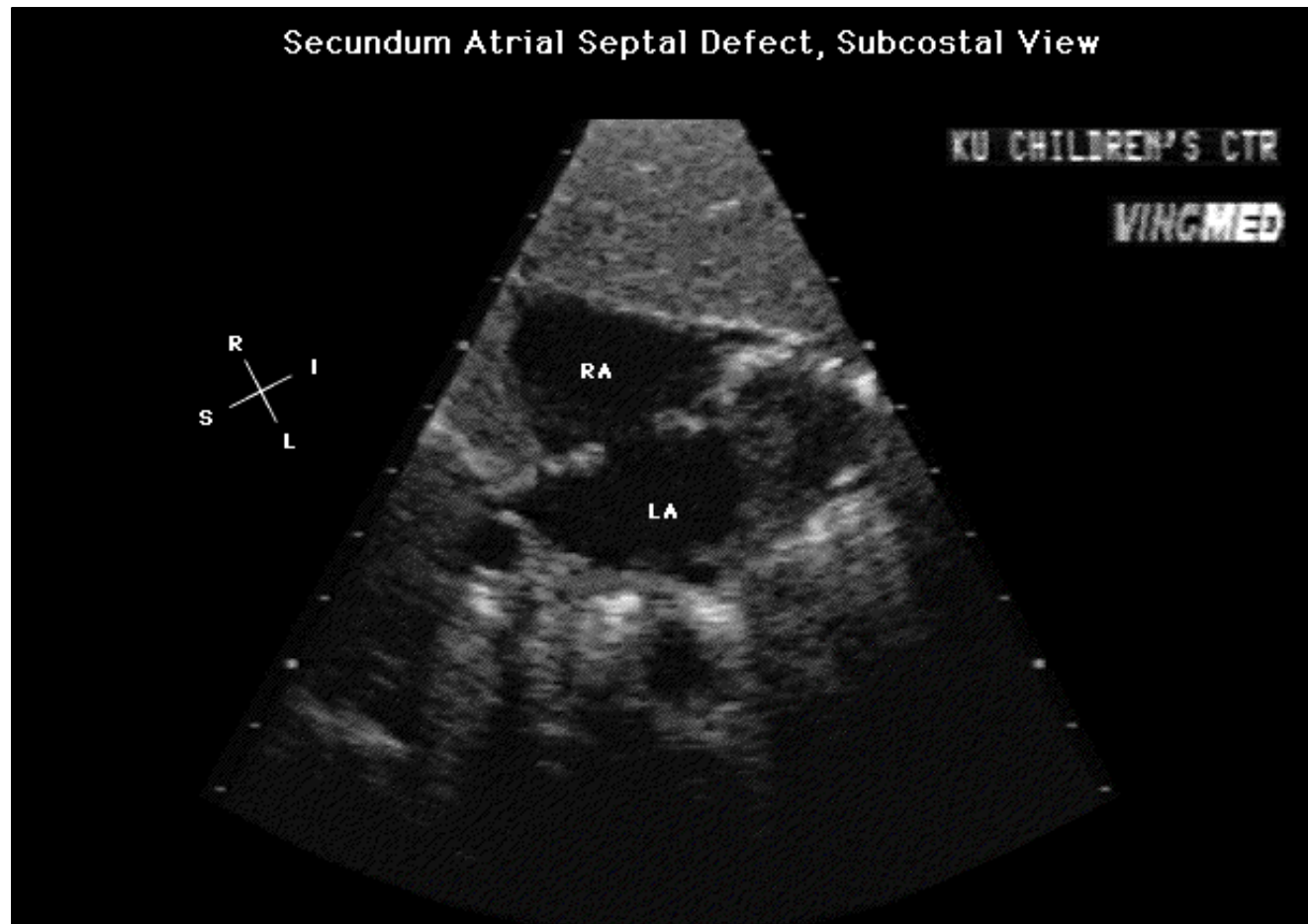
○ Unclear

- Chance 2:1 prevalence in female vs. male
- Rubella (German measles)
- Diabetes
- Medications
 - Isotretinoin (accutane)
 - Lithium (eskalith) Alcohol
- Heredity
 - Appear to run in families
 - 1/3 children with Trisomy 21 also have a heart defect

Symptoms

- Fatigue
 - Sweating
 - Rapid or difficulty breathing
 - Shortness of breath
 - Tiring easily when playing
 - Poor growth
 - Frequent respiratory infections
- *Often resemble other conditions or medical problems

Diagnostic Tests - Echocardiogram





Other Diagnostic Tests –

- Chest X-Ray
- Electrocardiogram (ECG)
- Cardiac Catheterization
- MRI



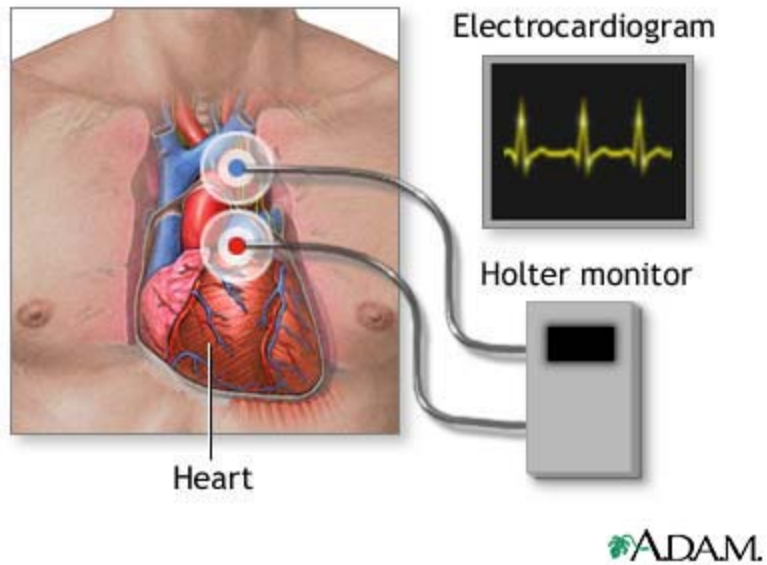
Other Problems Associated with ASD

- Right atrial and ventricular enlargement
- Tricuspid regurgitation
- Pulmonary hypertension
- Rhythm disturbances
- Stroke

Treatment

- Recommended that the ASD is treated during childhood
- Treatment of ASD depends on severity of the defect on the heart
- Four treatment options
 - Observation and Monitoring
 - Holter Monitor
 - Medical Management
 - Surgery
 - Non-surgical closure (new)

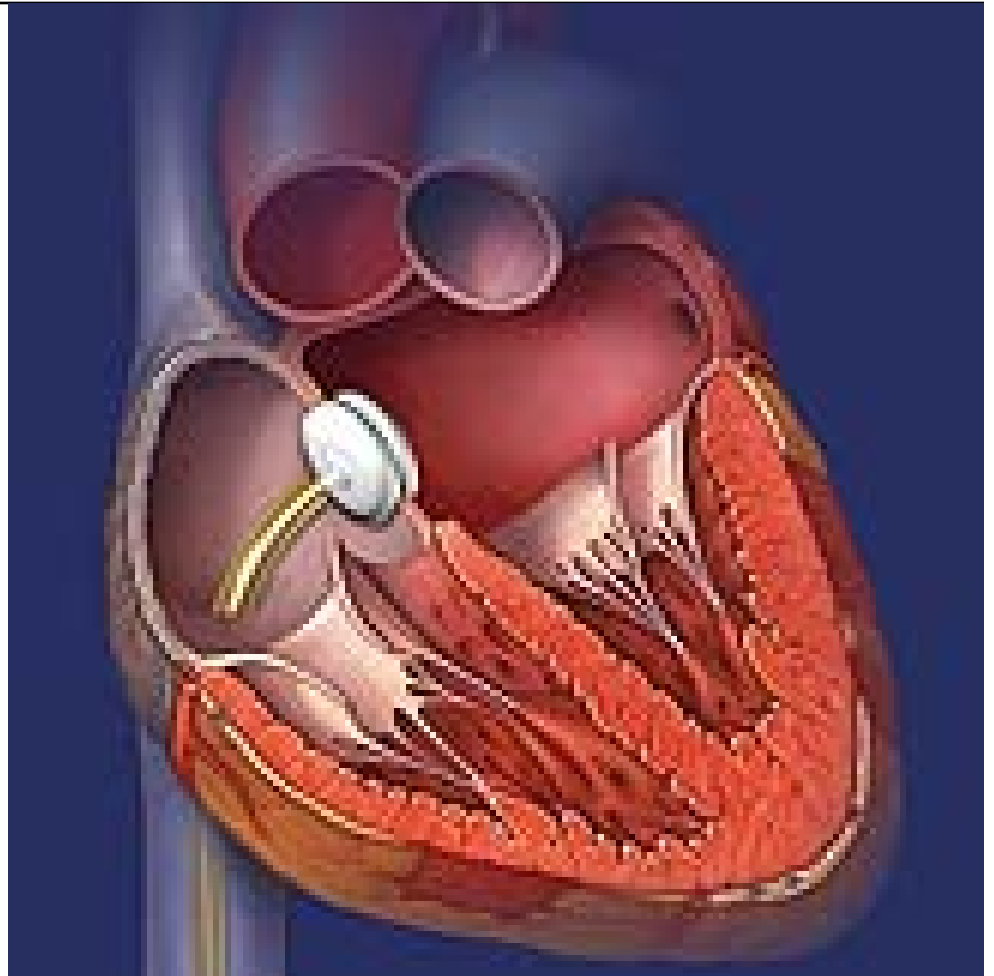
Holter Monitor



Non-surgical Closure - Occluder



Septal Occluder





Questions?

Sources

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