Approach to Heart Murmurs

History

- FTT, FHx
- Dyspnea, palpitations
- Exercise intolerance
- Dizziness, syncope
- Chest pain on exertion

Physical Exam

- Vital signs
- Cyanosis
- Clubbing
- Weak/absent femoral pulses
- Pulses and capillary refill
- ↑ precordial activity
- Dysmorphic features
- Hepatomegaly

ANY on history or physical exam makes it a pathologic murmur! (regardless of auscultation)

Auscultation

	Innocent	Pathologic
	Physiologic, no heart disease	Underlying heart disease
timing	Systolic	Diastolic, holosystolic
quality	Soft/vibratory	Harsh
intensity	Grade II or less	Grade III or higher (possible thrill)
louder with	Exercise, anemia, fever	Usually NO change with position
other sounds	NO extra sounds	Click or opening snap, S3, S4
	Normal S2 (physiologic split on inspiration)	Fixed split S2
	Must have **ALL** features to be an **innocent** murmur	**ANY** pathologic feature makes it a **pathologic** murmur

Refer to a pediatric cardiologist when there is…

- Suspected **pathologic** cause or lingering **uncertainty**
- FHx of **congenital heart disease** in 1st degree relative
- FHx of **Marfan** syndrome or **unexplained/sudden cardiac death** in young person
- Known/suspected **chromosomal/genetic** conditions (ex. Trisomy 21)
- **Request** from parents within good reason

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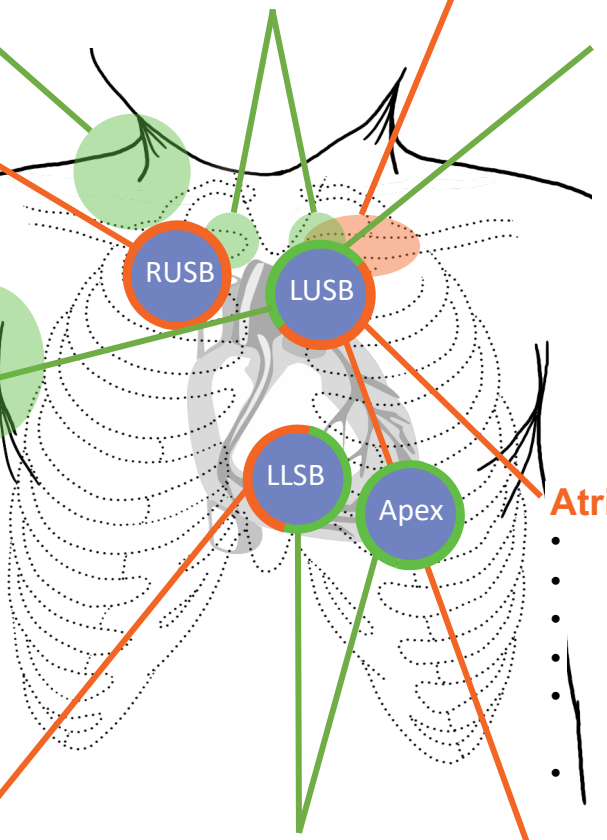
Examples of Innocent and Pathologic Murmurs

Carotid Bruit
- 2+ y/o, < >
- Short, mid systolic
- Over carotid arteries
- No change w/position

Cervical Venous Hum
- 2-7 y/o, R > L side
- Continuous rumbling at sternoclavicular junction
- ↑ w/turning head away from murmur + lift chin
- ↓ w/pressing over jugular vein or supine

Patent Ductus Arteriosus
- Any age
- Continuous, "machinery-like"
- Underneath L clavicle
- No change w/position

Aortic Valve Stenosis
- Any age
- Harsh, < >
- Ejection click
- May radiate to carotid vessels
- No change w/respiration



Pulmonary Flow murmur
- Older children/ adolescents
- Blowing,
- Early-mid systole
- Low-med pitched
- I, II, or III; < >
- Radiates to lung
- ↑ w/supine and inspiration

Peripheral Pulmonary Stenosis
- 0-6 mths, common in premature
- Blowing, short
- Mid systolic
- High pitched
- In LUSB, axilla, lung
- No change w/ position

Atrial Septal Defect
- Any age
- Radiates to lung
- Med-low pitched
- I, II, or III; < >
- Wide fixed splitting of 2nd heart sound
- No change w/position

Ventricular Septal Defect
- Any age
- Harsh
- Pansystolic or early-mid systole
- Low-high pitched
- II, III, or IV
- Other cardiac Sx

Still's murmur
- 2-7 y/o
- Vibratory/musical
- Early-mid systole
- Med-low pitched
- I, II, or III
- Louder supine>sitting
- ↓ w/Valsalva

Pulmonary valve stenosis
- Any age, < >
- Radiates to lung
- Variable early systolic ejection click w/expiration only

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