

- Heart murmurs are abnormal sounds produced by turbulent flow across an abnormal valve, septal defect or outflow obstruction.

How to assess?

- Timing
- Duration
- Character & pitch
- Intensity
- Location
- Radiation

Timing

- Identify S1 & S2
- Palpate carotid pulsation
- Determine whether the murmur is systolic or diastolic.

Duration

- Pansystolic
- Late systolic
- Ejection systolic
- Early diastolic
- mid diastolic

Pansystolic murmur
(mitral regurgitation,
tricuspid regurgitation,
ventricular septal defect)



Late systolic murmur
(mitral valve prolapse)



Early diastolic murmur
(aortic or pulmonary
regurgitation)



Mid-diastolic murmur
(mitral stenosis, tricuspid
stenosis, mitral or
tricuspid flow murmurs)



Fig. 18.37 The timing and pattern of cardiac murmurs.

Character & pitch

- Harsh
- musical
- Rumbling
- high/low pitched
- subjective
- aortic regurgitation > mitral stenosis

Intensity

- Grade 1- very soft (heard by an expert under optimum conditions)
- Grade 2- soft (non expert under optimum)
- Grade 3- moderate, easily heard, no thrill
- Grade 4- loud, with thrill
- Grade 5- very loud
- Grade 6- heard without stethoscope

- Diastolic murmurs are rarely louder than grade 4
- Intensity has no relation with severity.
- Severe aortic stenosis - inaudible murmur
- Change in intensity with time is imp.
- Rapidly changing murmur- inf endocarditis

Location

- Record the sites where murmur is best heard
- Apex
- Right & left upper sternal edge
- lower left sternal edge
- Helps to differentiate diastolic murmurs
- Mitral stenosis - apex
- Aortic regurgitation- left sternal edge

Radiation

- Direction of blood flow outside precordium
- mitral regurg. Left axilla
- ventricular septal defect- Right sternal edge
- aortic stenosis- supra sternal notch & carotid arteries

Innocent/ Benign murmurs

- Increased velocity of flow
- normal valve
- Increased stroke volume
- Pregnant women, athletes with resting bradycardia, patients with fever
- Soft, mid systolic, heard at left sternal edge
- No radiation