



*Physiology*  
OF THE CARDIOVASCULAR SYSTEM

# Heart Sounds AND Murmurs

# Heart Sound and Murmur

## Heart Sound

	S1	S2	S3	S4
Cause	Sudden closure of AV-vs	Sudden closure of semilunar vs	Rush of blood from Atria to Ventricle during rapid filling phase	
Cardiac cycle	beginning of vent systole (isovolumetric contraction)	beginning of vent diastole (isovolumetric relaxation)	beginning of middle third of Diastole (filling phase)	the last one third of Diastole (Atrial systole)
Duration	0.15 sec	0.12 sec	0.1 sec	
Frequency	50-60 Htz	80-90 Htz	20-30 Htz	< 20 Htz
Character	Low pitch (LUB)	High pitch (DUB) (shorter, sharper)	NOT audible BUT may be heard in children and young slim adults but usually pathological in old age	NOT audible BUT may be heard in elderly but is usually pathologic in the young
Best Heard	M & T	A & P	M	M

## Murmur

### Definition

Murmurs are abnormal sounds produced due to abnormal flow of blood

### Types

Valve	Abnormality	Timing of murmur
Semilunar	Stenosis	Systolic
	Insufficiency (Regurgitation)	Diastolic
AV	Stenosis	Diastolic
	Insufficiency (Regurgitation)	Systolic

For The Clear Version:

<http://www.glifvy.com/go/publish/image/10109095/L.png>