

mid-frequency murmur. As the condition worsens the murmur frequency increases.

- S1 is normal.
- S2 is physiologically split.
- A2 is louder than normal.

-  Generic File

- SEVERE:

- diamond shaped systolic murmur which is loud and higher than the mild
- S1 normal
- S2 louder than normal
 - we can only hear the P2 due to left heart failure
- aortic ejection click is gone
- S4 gallop heard just before the S1
 - caused by increased LV wall thickness and stiffness

-  Generic File

- EKG + CXR:

- LV hypertrophy and cardiomegaly like all the other

- Medical therapy:

- no medical treatment
- we can give diuretics to decrease preload before operating
- ACE- Inhibitors, nitroglycerin & vasodilators are absolutely contraindicated due to risk of profound hypotension
- if asymptomatic then observe the patient
- Reschedule for echocardiography after 1 year

- Surgical therapy:

- if symptomatic
- valve replacement
- balloons don't really work here since it's a calcification and we can't balloon calcium
- TAVI (Transcatheter Aortic Valve Implantation)
 - when the patient can't undergo surgery

- **Mitral Regurgitation**

- Failure in closure of mitral valve result in back flow of blood into left atrium during systole.
- As more blood will enter left ventricle during diastole (Regurgitated blood + venous return), left ventricle will undergo eccentric hypertrophy over the time (left ventricular dilation)
- Stroke volume will be low in acute MR, however chronically stroke volume will be normal due to chronic increase in left ventricular preload.
- As the eccentric hypertrophy progresses there will be decrease in stroke volume