

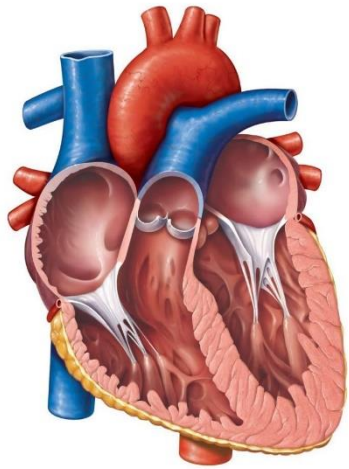


**— THE HEART SUMMIT —** 2018

ARKANSAS HEART HOSPITAL®

# What's the Murmur I Hear?

**Susan Hernandez, RN, MSN, ACNP-BC**



## What is a Murmur?

A heart murmur is a swishing sound heard when there is turbulent or abnormal blood flow across the heart valve.



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"SO - WHAT DOES IT SOUND  
LIKE TO YOU?"

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# Murmur Classification

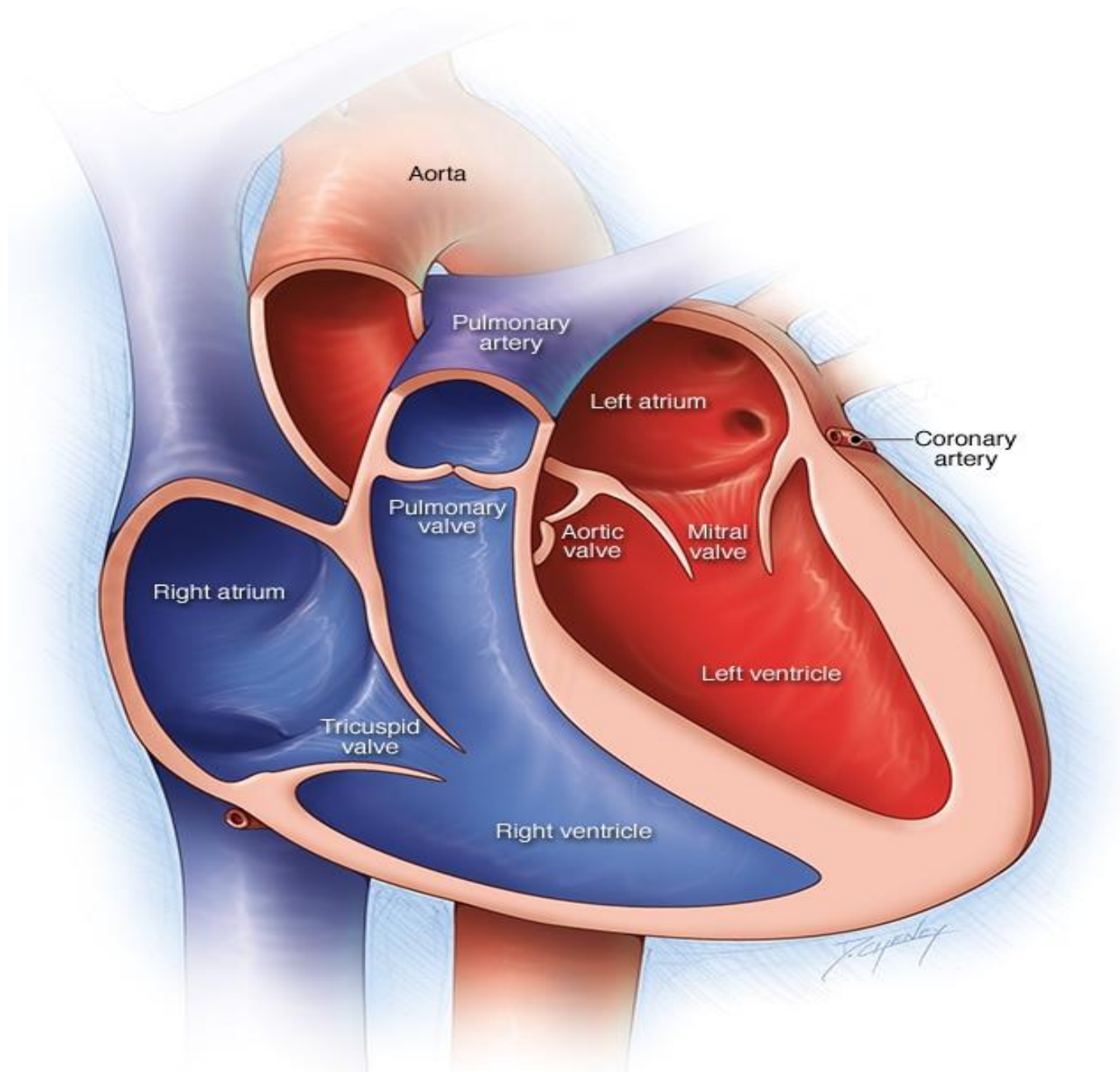
- Innocent
- Abnormal

# Innocent Murmurs

- Common causes include:
  - Physical activity or exercise
  - Pregnancy
  - Fever
  - Anemia
  - Hyperthyroidism
  - Phases of rapid growth, such as adolescence

# Abnormal Murmurs

- Common causes are:
  - Valve calcification
  - Endocarditis
  - Rheumatic Fever
  - In children: Congenital heart valve abnormalities or holes in the septum.



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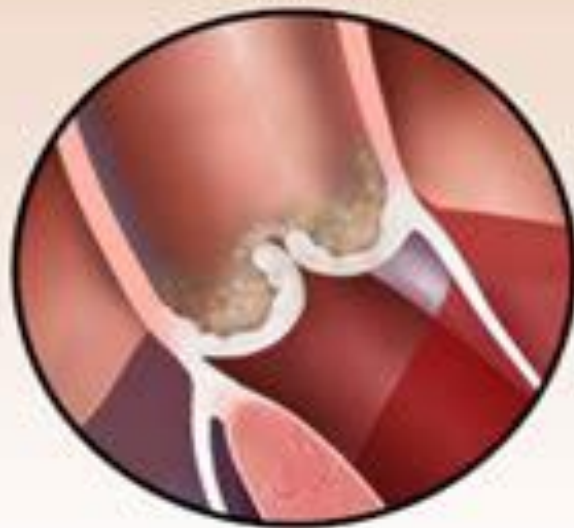
# Valvular Heart Disease

- Valve stenosis – a narrow, tight, stiff valve, limiting forward flow of blood.
- Valve regurgitation – a valve that does not close completely, allowing backward flow (a "leaky" valve)

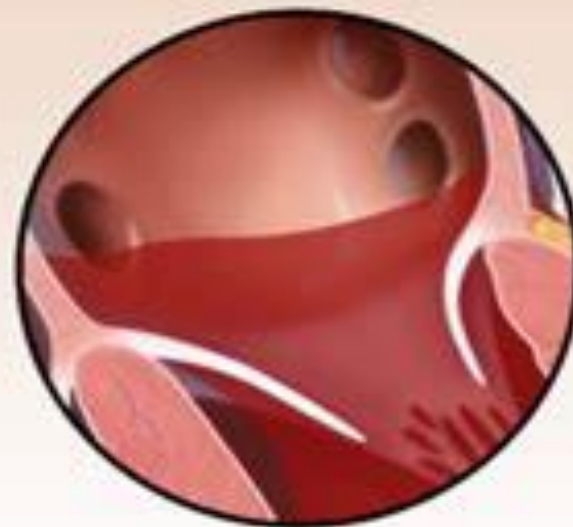


## Heart Valve Disease

Stenosis



Regurgitation



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# Types of Murmurs

- Systolic
- Diastolic
- Continuous

# Systolic Murmurs

- Occur between  $S_1$  and  $S_2$
- Causes:
  - Aortic and Pulmonic Valve Stenosis
  - Mitral and Tricuspid Regurgitation

# Diastolic Heart Murmurs

- Occur after  $S_2$  and before  $S_1$
- Causes:
  - Aortic and Pulmonic Regurgitation
  - Mitral and Tricuspid Stenosis

# Continuous Heart Murmurs

- Begins in systole and continues throughout S<sub>2</sub> without interruption and ends sometime in diastole.
- Causes:
  - PDA
  - Shunts
  - Congenital Heart Defects

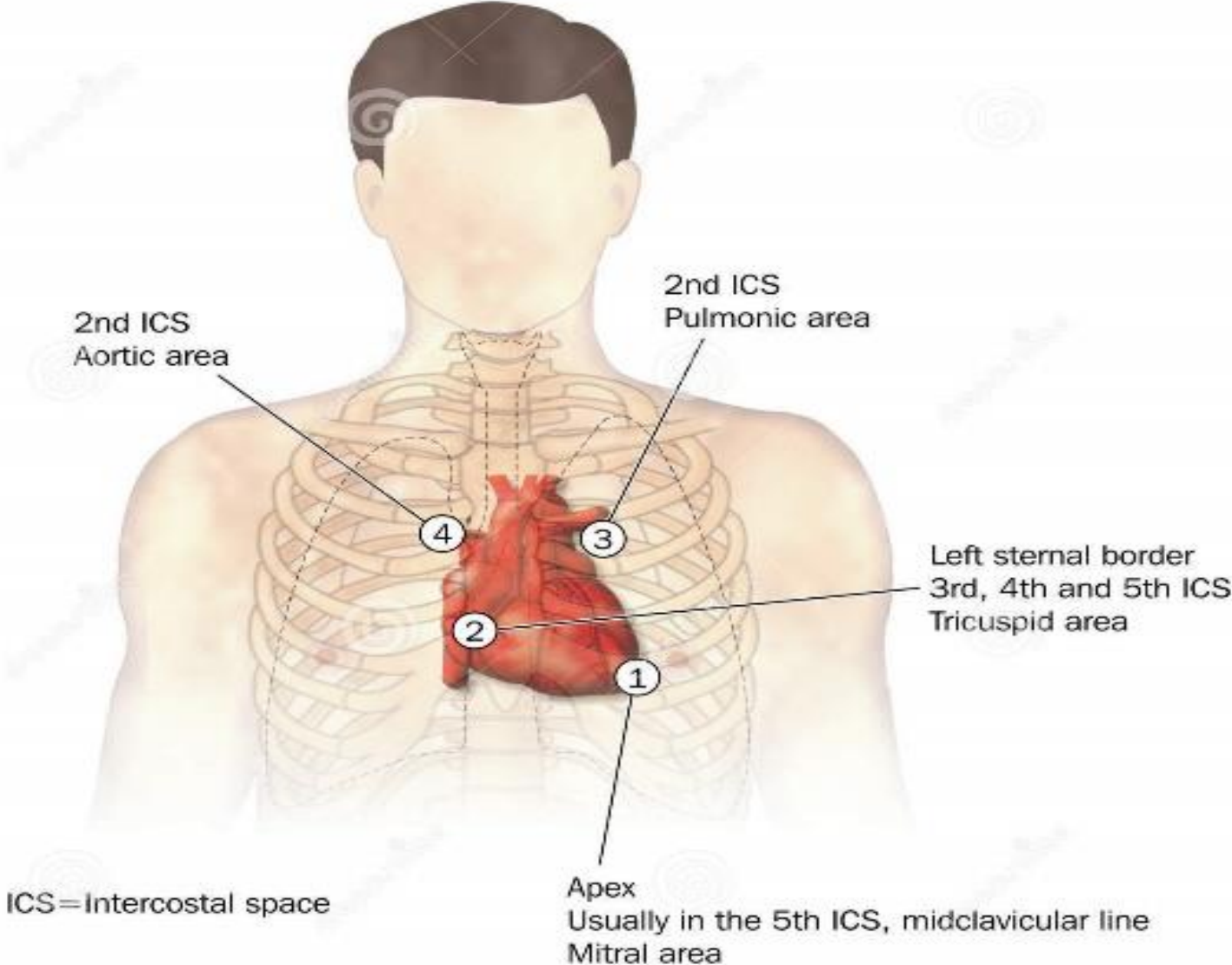
# Murmur Description

- The character of a murmur is described by a number of features, including:
  - Intensity (grade)
  - Pitch (frequency)
  - Configuration
  - Timing
  - Quality
  - Location
  - Radiation

# Heart Murmur Grades

Grade	Description
1/6	Very faint, heard only after listener has “tuned in”; may not be heard in all positions.
2/6	Faint, Quiet, but heard immediately.
3/6	Moderately loud.
4/6	Loud. Palpable thrill (i.e., a tremor or vibration felt on palpation).
5/6	Very Loud with palpable thrill. May be heard when stethoscope is partly off the chest.
6/6	Loudest possible and can be heard with stethoscope completely off the chest.

# Location of Heart Sounds





# Normal Heart Sounds



# Aortic Valve Stenosis



## Normal Aortic Valve

Open



Closed



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## Aortic Valve Stenosis

Open



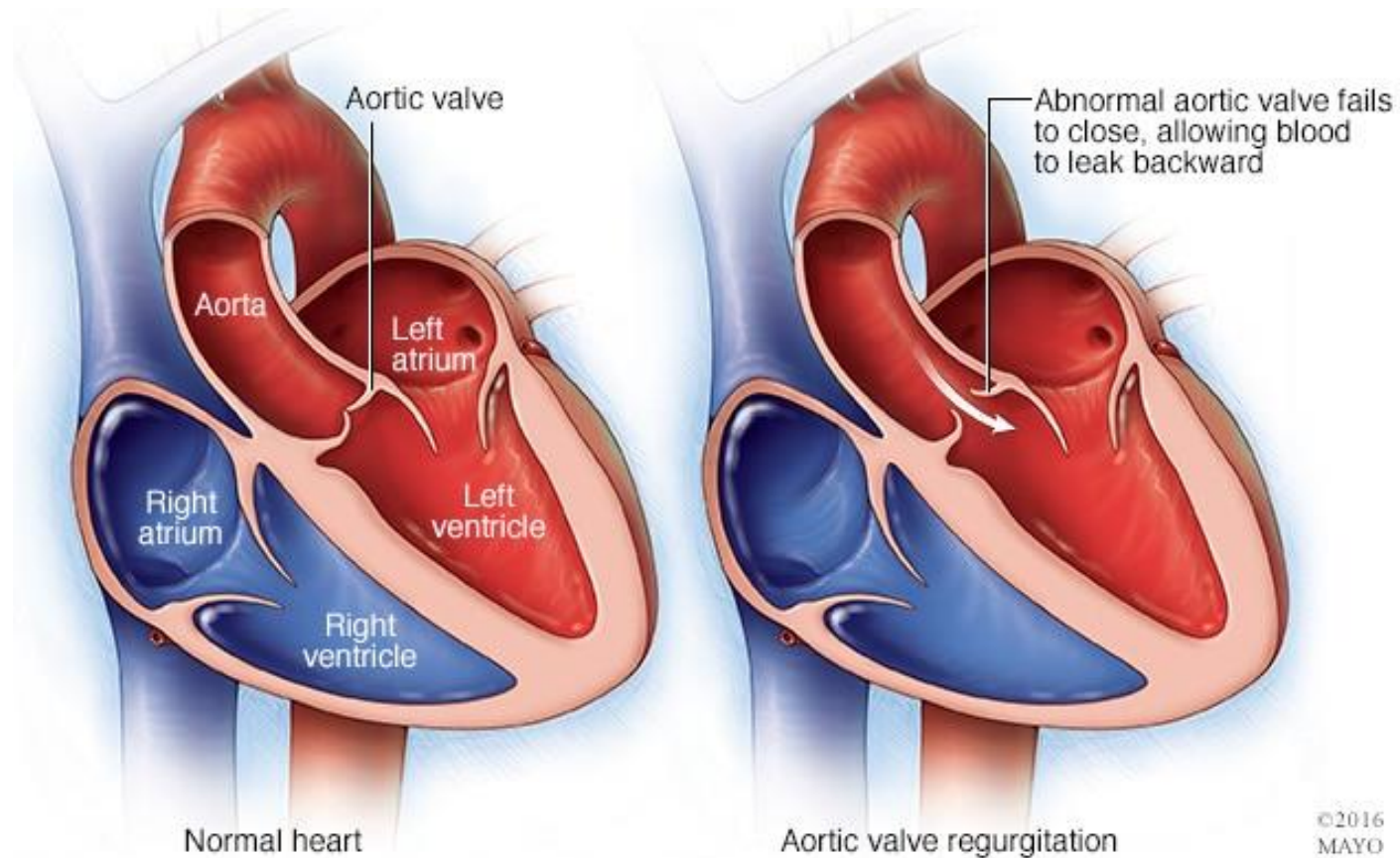
Closed



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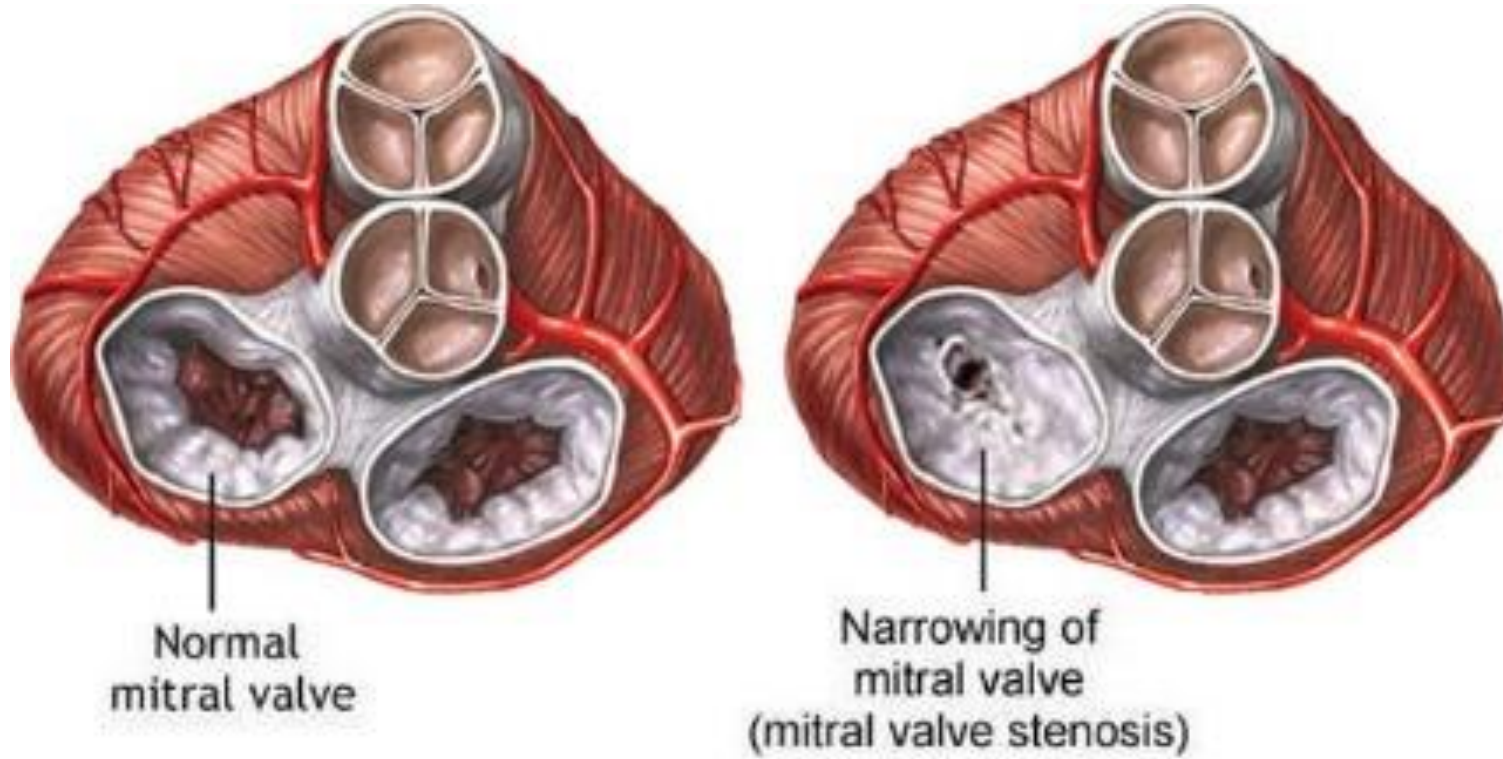
# Aortic Valve Regurgitation



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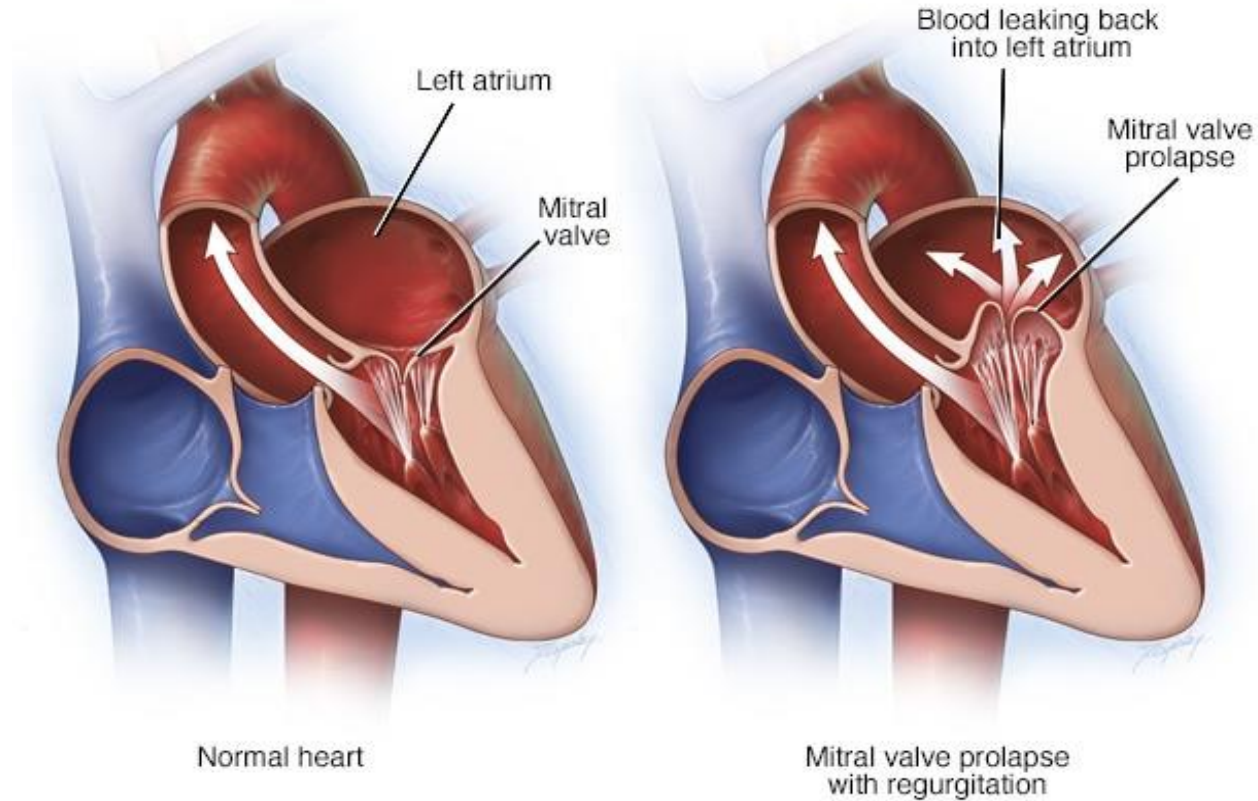


# Mitral Valve Stenosis





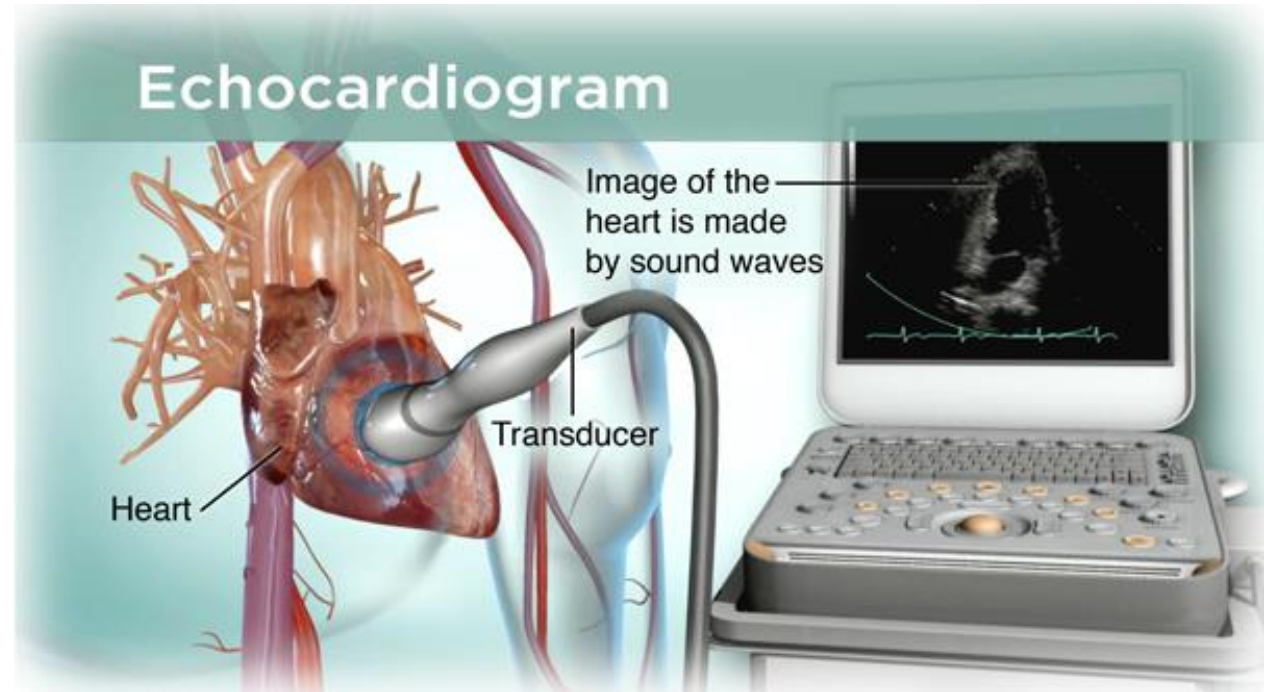
# Mitral Valve Regurgitation



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# Tools of the Trade



# The Smartphone Stethoscope



<https://stethio.com/about/>



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