



# Heart Blocks

- Vishwas Govindaraju  
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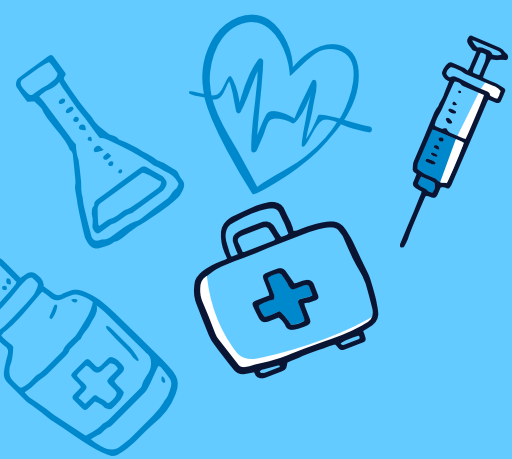
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# Introduction

- Heart block is a condition where the heart beats more slowly or with an abnormal rhythm.
- It's caused by a problem with the electrical pulses that control how your heart beats
- Cardiac arrhythmias are caused by disorders in the automaticity, excitability and conducting systems of the heart





01

# About the Disease

Heart blocks



# Etiology

- Infarctions
- Surgery
- Drgus
- Increased vagal tone (parasympathetics)

# Risk factors



## Drugs

B- blockers, anti arrhythmatics, Ca blockers & Digoxin



## Infarction /surgery

Previous infarction and surgery blocks the impulse conduction

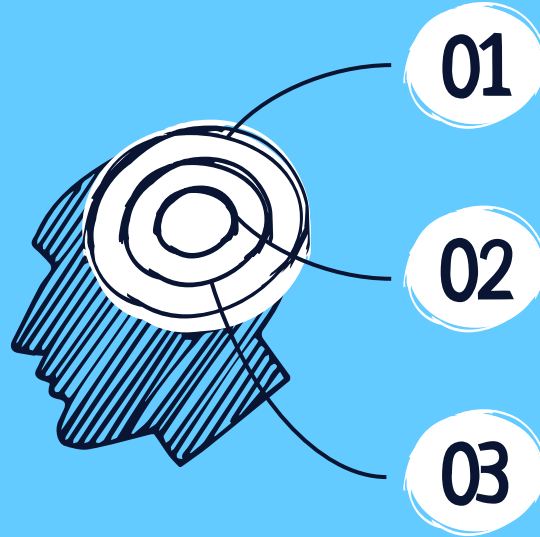


## Congenital

Usually turner syndrome

# Sinoatrial block

**SA block** is a disorder in the normal rhythm of the heart, known as a heart block, that is initiated in the sinoatrial node.



01

Type 1 SA block  
(Wenkeback)

02

Type 2 SA  
block(Mobitz)

03

Type 2 second  
degree block

# Pathology



## Type 1 SA block

This is the result of decremental conduction where the **increment** in conduction delay



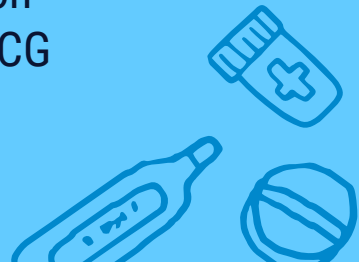
## Type 2 SA block

PP intervals are fairly constant (unless sinus arrhythmia present) until conduction failure occurs



## 2<sup>nd</sup> degree SA block

This is the only degree of SA block that can be recognized on the surface ECG





# Symptoms of the Disease

**A**

## **Brain**

Hypoperfusion to brain causes altered mental status & signs of shock

A

**B**

## **Heart**

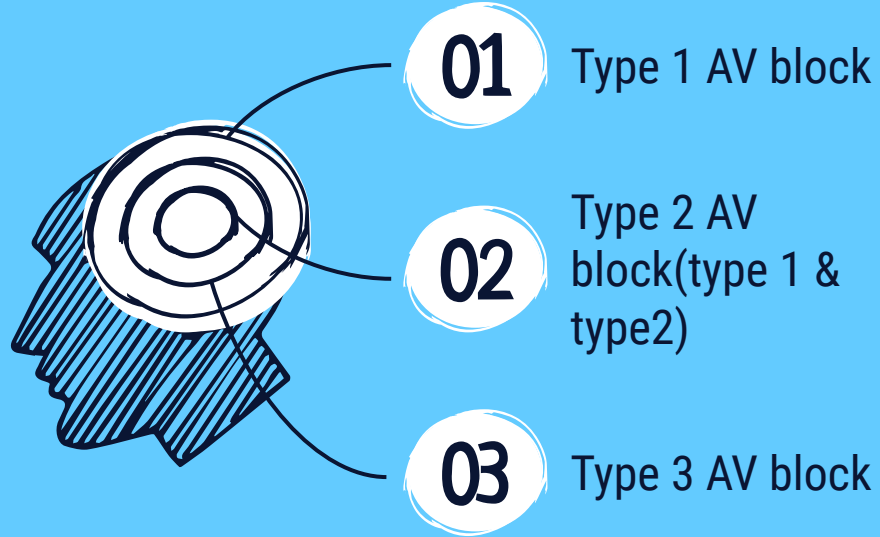
Palpitations, dysrhythmias

B



# Atrioventricular block


**AV block** is a disorder in the normal rhythm of the heart, known as a heart block, that is initiated in the AV node.





# 2,500,000

People die because of the  
complication of heart block



# Diagnosis ( ECG)

## Type 1 SA block

Increased PR intervals and QRS complex are present without p waves

## Type 2 AV block (M1)

2 QRS complex are close and 3<sup>rd</sup> absent

## Type 2 SA block

Same as type 1 but irregular

## Type 2 AV block (M2)

Absence of QRS complex after 2-3 p waves

## Type 1 AV block

PR interval increased & all p waves are conducted

## Type 3 AV block

PR interval prolonged and QRS are regular

# Treatment



## Drugs

Anti arrhythmatics & b  
blockers

## Cardioversion

It can be done by  
defibrillator or  
chemically (ibutilide)

01

02

03

04

## Surgery

Open heart surgery  
must be performed

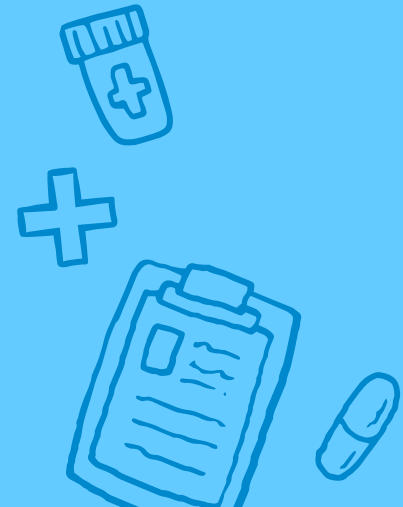
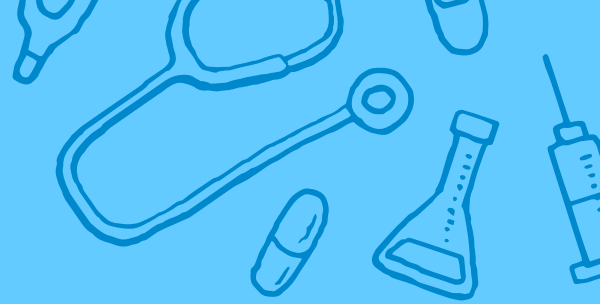
## Pacemakers

Artificial pacemakers  
must be installed



# References

- ^ "sinuatrial block". TheFreeDictionary.com.
- ^ Mesirca, Pietro; Torrente, Angelo G.; Mangoni, Matteo E. (2015). "Functional role of voltage gated Ca<sup>2+</sup> channels in heart automaticity". Frontiers in Physiology. 6. doi:10.3389/fphys.2015.00019 . ISSN 1664-042X. PMC 4313592. PMID 2569 8974.
- ^ "sinoatrial heart block". TheFreeDictionary.com.



A collection of medical icons in the top-left corner, including a syringe, a flask with blue liquid, a stethoscope, a pill, and a first aid kit with a cross symbol.

**Thank you!**

A collection of medical icons in the bottom-right corner, including a pill, a bottle with a cross symbol, a clipboard with a checklist, a stethoscope, and a tube with a cross symbol.