cardiac ©ycle

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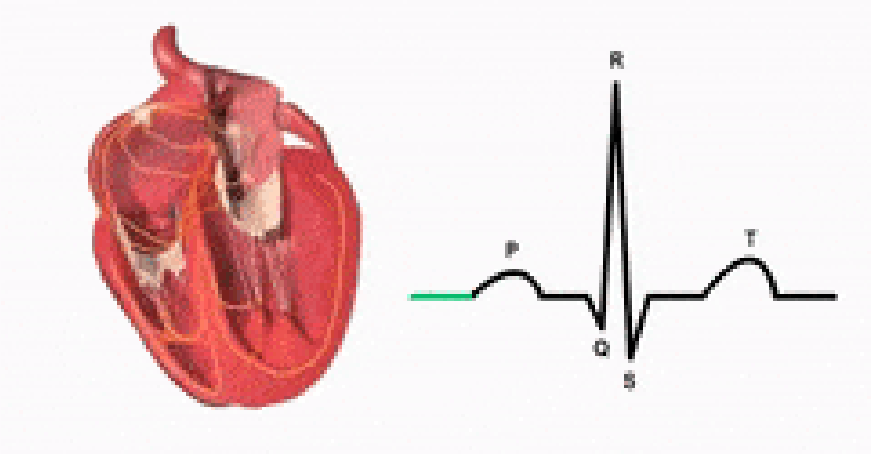

what is the cardiac cycle ?

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Describe Phases of the cardiac cycle.

Define the duration of the cardiac cycle.

Describe of the Wiggers Diagram.

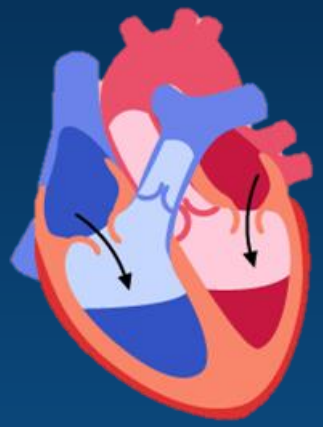
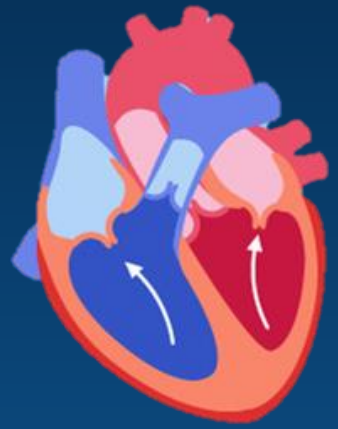
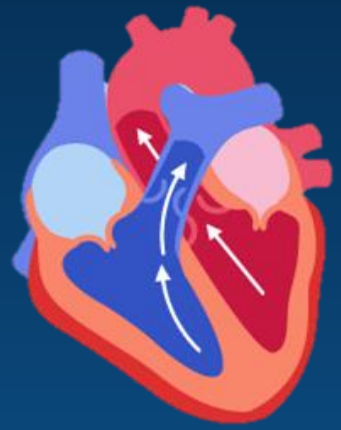
Define Phonocardiogram
(Heart Sounds)

Differentiates between normal and abnormal heartbeat.

Define of the heart arrhythmia.

Types of the heart arrhythmia.

Describe Phases of the cardiac cycle

Atriole systole begins	Ventricular systole (first phase)	Ventricular systole (second phase)	Ventricular diastole (early)	Ventricular diastole (late)
				
Atrial contraction forces blood into ventricles	Ventricular contraction pushes AV valves closed	Semilunar valves open and blood is ejected	Semilunar valves close and blood flows into atria	Chambers relax and blood fills ventricles passively

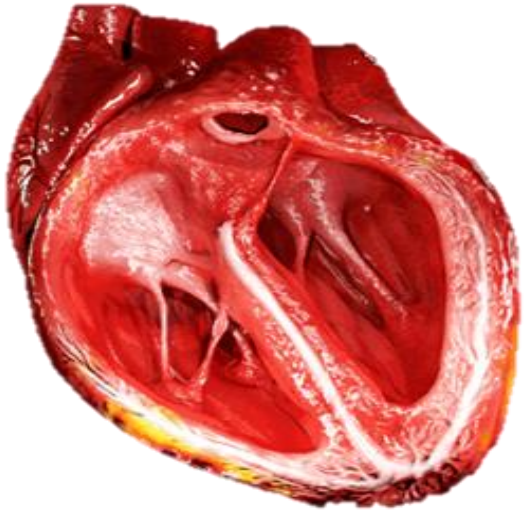
Define the duration of the cardiac cycle

The period of a cardiac cycle is determined by the heart rate per minute.

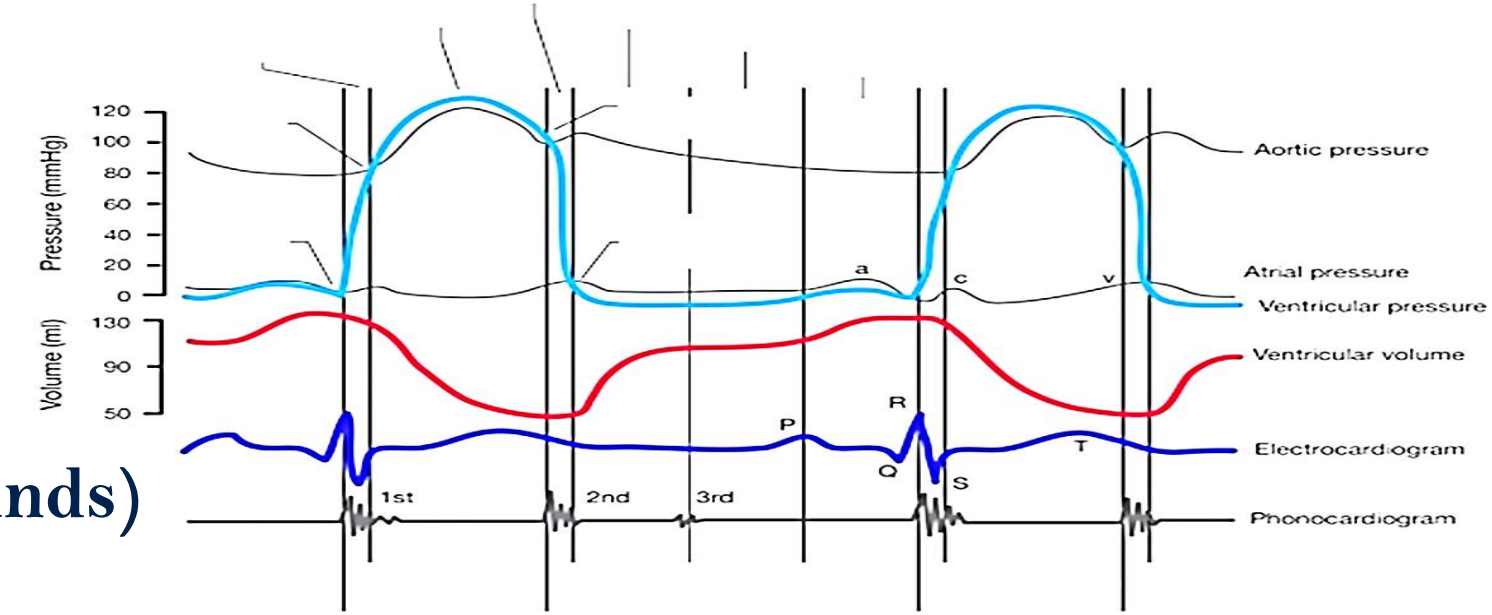
$$Duration\ of\ \ Cardiac\ Cycle\left(\frac{Seconds}{beats}\right)=\frac{60(\ seconds/\ minutes)}{Heart(\ beats/\ minutes)}$$

Describe of the Wiggers Diagram

The Wiggers diagram , the X-axis is used to plot time , while the Y-axis contains all of the following on a single grid and is used to demonstrate :



- **Aortic pressure**
- **Atrial pressure**
- **Ventricular pressure**
- **Ventricular volume**
- **Electrocardiogram (ECG)**
- **Phonocardiogram (Heart Sounds)**

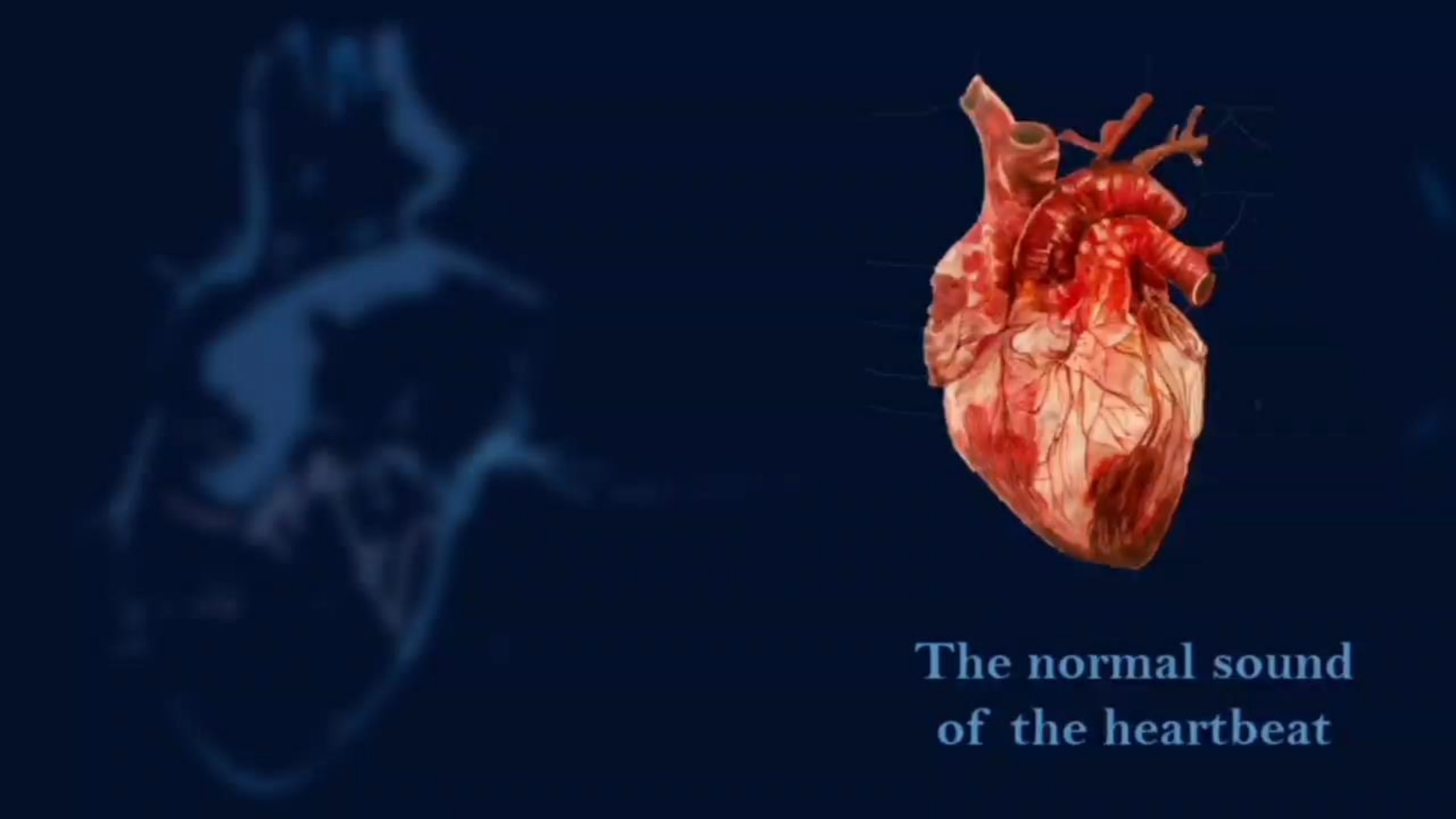


Define Phonocardiogram (Heart Sounds)

The phonocardiogram represents the heart sounds throughout the cardiac cycle.

These heart sounds are which are appreciated during auscultation represent the effects of the heart valves as they close.

They are commonly referred to as the “lub” and “dub” sounds.


The normal sound
of the heartbeat

Define of the heart arrhythmia

Is an irregular heartbeat , Heart rhythm problems (heart arrhythmias) occur when the electrical signals that coordinate the heart's beats don't work properly.

The faulty signaling causes the heart to beat too fast (tachycardia), too slow (bradycardia) or irregularly.

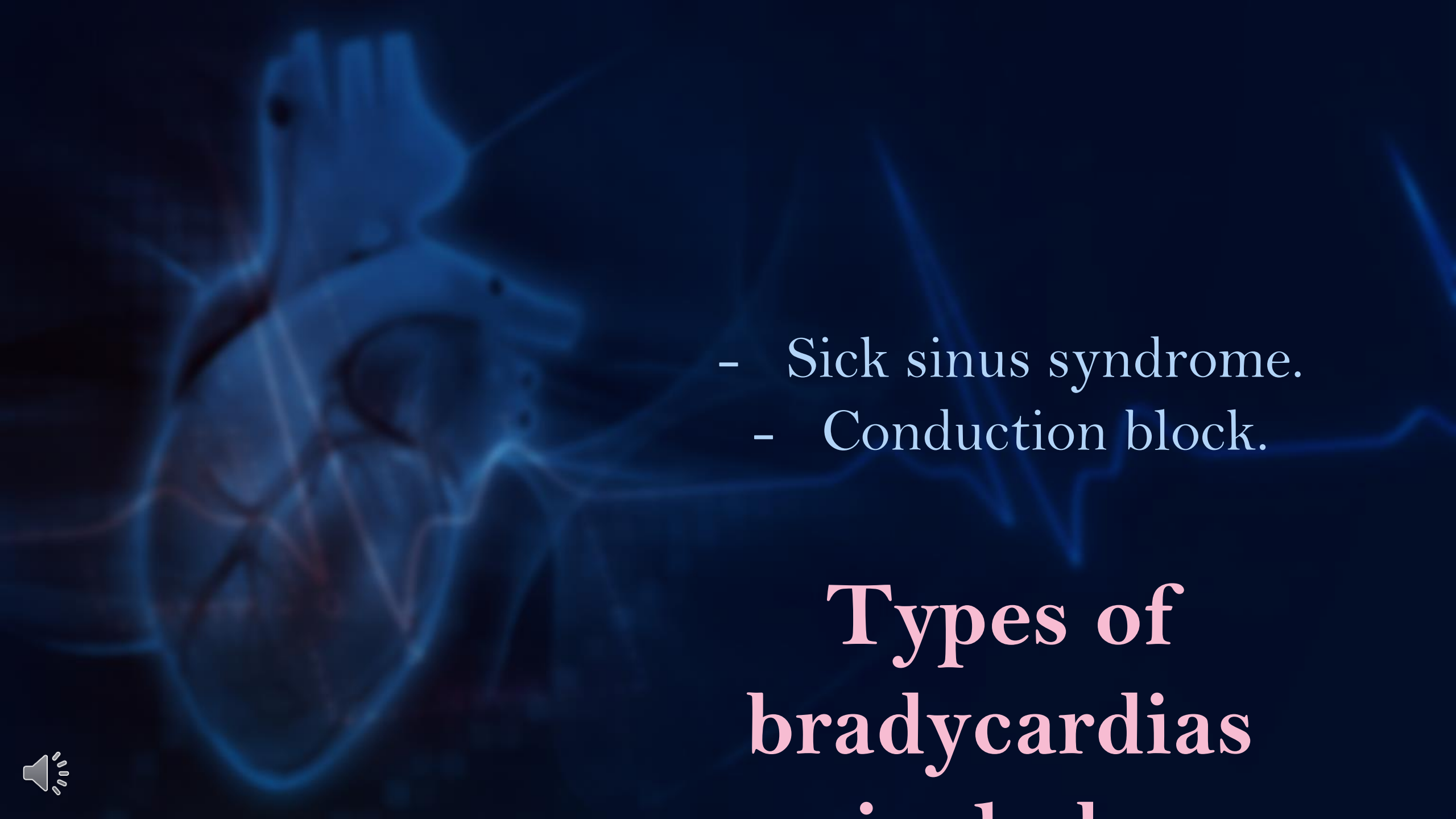
Types of the heart arrhythmia

Bradycardia (brad-e-KAHR-dee-uh)
is a slow heartbeat. The resting heart rate is less than 60 beats a minute.

Tachycardia (tak-ih-KAHR-dee-uh)
is a fast heart. The resting heart rate is greater than 100 beats a minute.

Types of tachycardias include

- Atrial fibrillation (A-fib).
- Atrial flutter.
- Supraventricular tachycardia.
- Ventricular fibrillation.
- Ventricular tachycardia.

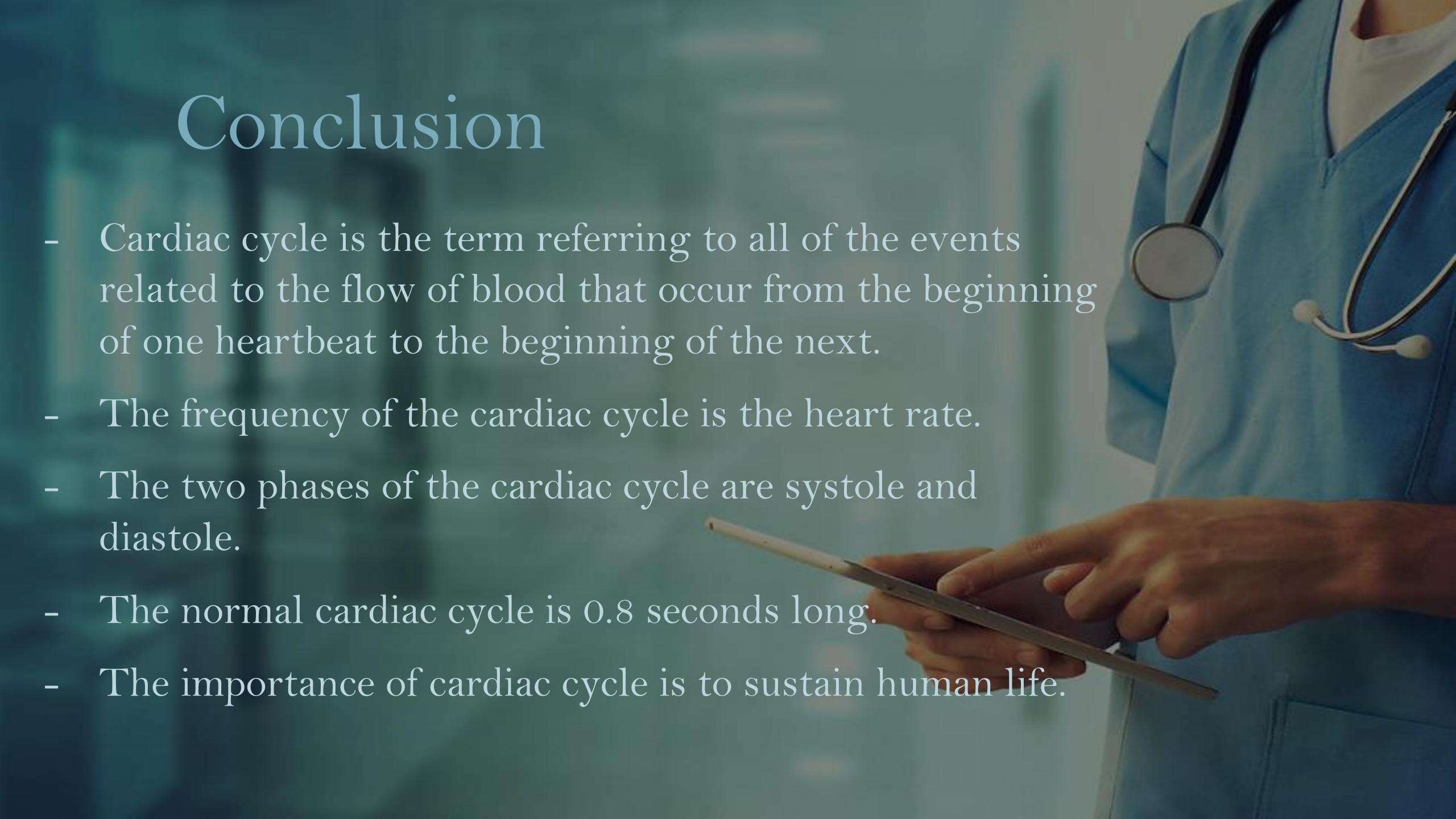


- Sick sinus syndrome.
- Conduction block.

Types of bradycardias

Conclusion

- Cardiac cycle is the term referring to all of the events related to the flow of blood that occur from the beginning of one heartbeat to the beginning of the next.
- The frequency of the cardiac cycle is the heart rate.
- The two phases of the cardiac cycle are systole and diastole.
- The normal cardiac cycle is 0.8 seconds long.
- The importance of cardiac cycle is to sustain human life.



Reference

https://www.embibe.com/exams/cardiac-cycle/

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Thank you for listening