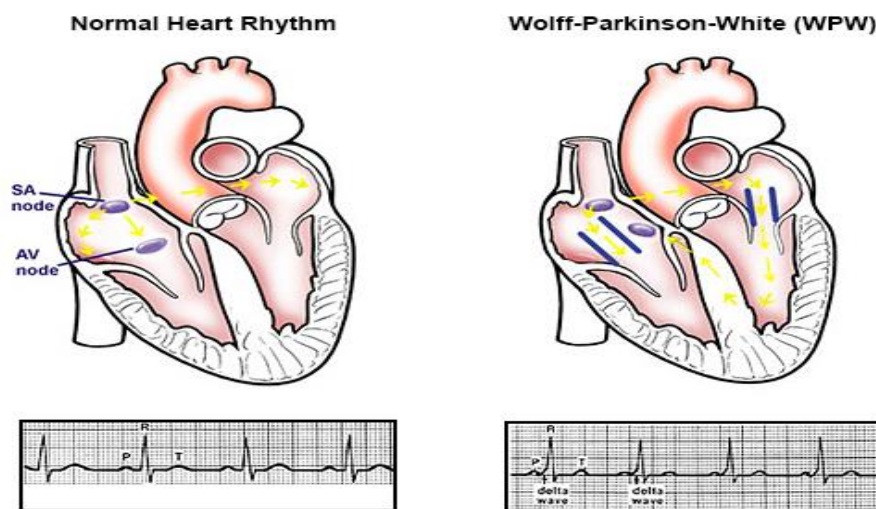


Wolff-Parkinson-White syndrome

Definition: A syndrome that is common heart condition that causes the heart to beat abnormally fast for periods of time.



Pathophysiology: WPW ECG pattern is caused by abnormal electrical conduction through an accessory pathway that bypasses the normal cardiac conduction system. This accessory pathway allows cardiac electrical activity to bypass the atrioventricular node conduction delay, and arrive early at the ventricle, leading to premature ventricular depolarization. This preexcitation also bypasses the fast conducting His-Purkinje system and results in early but slowly propagated ventricular depolarization, which gives rise to the ECG pattern of a short PR interval with a “slurred” start to the QRS complex termed a delta wave. The remainder of a normal QRS obliterates this delta wave as the normal cardiac

conduction catches up following AV node delay and fast conduction through the His-Purkinje system.

There are two ways in which an accessory pathway can lead to WPW syndrome. The pathway can either initiate and maintain an arrhythmia or allow conduction of an arrhythmia generated elsewhere. **The first type** occurs when a circuit is formed between the normal conduction system of the heart and the accessory pathway (or two or more accessory pathways), allowing for atrioventricular re-entrant tachycardia (AVRT).

The second way an accessory pathway can lead to arrhythmia is by allowing conduction of an arrhythmia that is generated elsewhere to propagate to a portion of the heart that would normally be electrically insulated from this arrhythmia.

Management and treatment:

In many cases, episodes of abnormal heart activity associated with WPW syndrome are harmless, don't last long, and settle down on their own without treatment.

You may therefore not need any treatment if the symptoms are mild or occur very occasionally, although there should be regular check-ups so the heart can be monitored.

If a cardiologist recommends treatment, there are a number of options available. You can have treatment to either stop

episodes when they occur, or prevent them occurring in the future.

Stopping an episode

There are **3** main techniques and treatments that can help stop episodes as they occur.

These are:

Vagal manoeuvres – techniques designed to stimulate the nerve that slows down the electrical signals in your heart. An example is the "Valsalva manoeuvre", where you hold your nose, close your mouth and exhale hard while straining as if you're on the toilet.

Medication – an injection of medicine such as adenosine can be given in hospital if vagal manoeuvres don't help. It can block the abnormal electrical signals in your heart.

Cardioversion – a type of electric shock therapy that jolts the heart back into a normal rhythm. This may be carried out in hospital if the above treatments don't work.

Preventing further episodes

Techniques and treatments that can help prevent episodes include:

- **Lifestyle changes** – if your episodes are triggered by things such as strenuous exercise or alcohol, avoiding these may help. Your cardiologist can advise you about this.
- **Catheter ablation** – this procedure is commonly used nowadays to destroy the extra part of the heart causing

the problems in the heart's electrical system. It's effective in around 95% of cases.

- **Medication** – daily tablets of medication such as amiodarone can help prevent episodes by slowing down the electrical impulses in your heart.

References

[Wolff Parkinson White Syndrome - StatPearls - NCBI Bookshelf \(nih.gov\)](#)

[WPW syndrome: Rare cause of sudden cardiac death in children - Symptoms and causes - Mayo Clinic](#)