

Heart Arrhythmias

Cheat Sheet

EKG Interpretation Cheat Sheet

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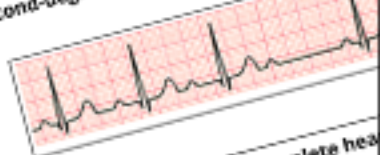
Arrhythmias	Description	Causes	Treatment
Sinus Arrhythmia 	- Irregular atrial and ventricular rhythms. - Normal P wave preceding each QRS complex.	- Normal variation of normal sinus rhythm in athletes, children, and the elderly. - Can be seen in digoxin toxicity and inferior wall MI.	Atropine if rate decreases below 40bpm.
Sinus Tachycardia 	- Atrial and ventricular rhythms are regular. - Rate > 100 bpm. - Normal P wave preceding each QRS complex.	- Normal physiologic response to fever, exercise, anxiety, dehydration, or pain. - May accompany shock, left-sided heart failure, cardiac tamponade, hyperthyroidism, and anemia. - Atropine, epinephrine, quinine, caffeine, nicotine, and alcohol use.	- Correction of underlying cause. - Beta-adrenergic blockers or calcium channel blockers for symptomatic patients.
Sinus Bradycardia 	- Regular atrial and ventricular rhythms. - Rate < 60 bpm. - Normal P wave preceding each QRS complex.	- Normal in a well-conditioned heart (e.g., athletes). - Increased intracranial pressure; increased vagal tone due to straining during defecation, vomiting, induction, mechanical ventilation.	- Follow ACLS protocol for administration of atropine for symptoms of low cardiac output, dizziness, weakness, altered LOC, or low blood pressure. - Pacemaker
Sinoatrial (SA) arrest or block 	- Atrial and ventricular rhythms are normal except for missing complexes. - Normal P wave preceding each QRS complex. - Pause not equal to multiple of the previous rhythm.	- Infection - Coronary artery disease, degenerative heart disease, acute inferior wall MI - Vagal stimulation, Valsalva's maneuver, carotid sinus massage.	- Treat symptoms with atropine IV. - Temporary pacemaker or permanent pacemaker if considered for repeated episodes.
Wandering atrial pacemaker 	- Atrial and ventricular rhythms vary slightly. - Irregular PR interval. - P waves irregular with changing configurations indicating that they aren't all from SA node or single atrial focus; may appear after the QRS complex. - QRS complexes are uniform in shape but irregular in rhythm.	- Rheumatic carditis due to inflammation involving the SA node. - Digoxin toxicity - Sick sinus syndrome	- No treatment if patient is asymptomatic. - Treatment of underlying cause if patient is symptomatic.
Premature atrial contraction (PAC) 	- Premature, abnormal-looking P waves that differ in configuration from normal P waves. - QRS complexes after P waves except in very early or blocked PACs. - P wave often buried in the preceding T wave or identified in the preceding T wave.	- May precede supraventricular tachycardia. - Sinusitis, hyperthyroidism, COPD, infection and other heart diseases.	- Usually no treatment is needed. - Treatment of underlying causes if the patient is symptomatic. - Carotid sinus massage.

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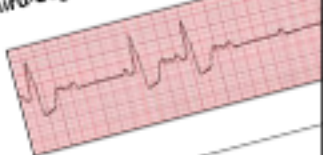
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Arrhythmias

Second-degree AV block Mobitz I (Wenckebach)



Third-degree AV block (complete heart block)



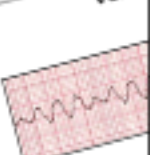
Premature ventricular contraction (PVC)



Ventricular tachycardia (VT)



Ventricular fibrillation (VF)



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Causes

Treatment

• If the patient is unstable prepare for immediate cardioversion.

• If the patient is stable, vagal maneuvers, carotid sinus massage, or adenosine may be used.

• If a patient has a narrow QRS complex, consider vagal maneuvers or adenosine.

• If a patient has a wide QRS complex, consider cardioversion.

• If a patient is unstable with ventricular tachycardia, prepare for immediate cardioversion.

• If the patient is stable, drug therapy may include amiodarone, sotalolol, or procainamide.

• Amiodarone therapy may be necessary.

• If a patient is unstable with ventricular tachycardia, prepare for immediate cardioversion.

• If the patient is stable, drug therapy may include amiodarone, sotalolol, or procainamide.