EKG Interpretation Cheat Sheet

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Arrhythmias	Description	Causes	Treatment
Paroxysmal Supraventricular Tachycardia	 Atrial and ventricular rhythms are regular. Heart rate > 160 bpm; rarely exceeds 250 bpm. P waves regular but aberrant; difficult to differentiate from preceding T waves. P wave preceding each QRS complex. Sudden onset and termination of arrhythmia When a normal P wave is present, it's called paroxysmal atrial tachycardia; when a normal P wave isn't present, it's called paroxysmal junctional tachycardia. 	 Physical exertion, emotion, stimulants, rheumatic heart diseases. Intrinsic abnormality of AV conduction system. Digoxin toxicity. Use of caffeine, marijuana, or central nervous system stimulants. 	 If the patient is unstable prepare for immediate cardioversion. If the patient is stable, vagal stimulation, or Valsalva's maneuver, carotid sinus massage. Adenosine by rapid I.V. bolus injection to rapidly convert arrhythmia. If a patient has normal ejection fraction, consider calcium channel blockers, beta-adrenergic blocks or amiodarone. If a patient has an ejection fraction less than 40%, consider amiodarone.
Atrial Flutter	 Atrial rhythm regular, rate, 250 to 400 bpm Ventricular rate variable, depending on degree of AV block Saw-tooth shape P wave configuration. 	 Heart failure, tricuspid or mitral valve disease, pulmonary embolism, cor pulmonale, inferior wall MI, carditis. Digoxin toxicity. 	 If a patient is unstable with ventricular rate > 150bpm, prepare for immediate cardioversion. If the patient is stable, drug therapy may include calcium channel blockers, beta-adrenergic blocks, or antiarrhythmics.
Atrial Fibrillation Atrial Fibrillation	 QRS complexes are uniform in shape but often irregular in rate. Atrial rhythm grossly irregular rate > 300 to 600 bpm. Ventricular rhythm grossly irregular, rate 160 to 180 bpm. PR interval indiscernible. No P waves, or P waves that appear as erratic, irregular base-line fibrillatory waves 	Heart failure, COPD, thyrotoxicosis, constrictive pericarditis, ischemic heart disease, sepsis, pulmonary embolus, rheumatic heart disease, hypertension, mitral stenosis, atrial irritation, complication of coronary bypass or valve replacement surgery	 Anticoagulation therapy may be necessary. If a patient is unstable with ventricular rate > 150bpm, prepare for immediate cardioversion. If stable, drug therapy may include calcium channel blockers, beta-adrenergic blockers, digoxin, procainamide, quinidine, ibutilide, or amiodarone. Anticoagulation therapy to prevent emboli. Dual chamber atrial pacing, implantable atrial pacemaker, or surgical maze procedure may also be
Junctional Rhythm	 Atrial and ventricular rhythms are regular. Atrial rate 40 to 60 bpm. Ventricular rate is usually 40 to 60 bpm. P waves preceding, hidden within (absent), or after QRS complex; usually inverted if visible. PR interval (when present) < 0.12 second QRS complex configuration and duration normal, except in aberrant conduction. 	Inferior wall MI, or ischemia, hypoxia, vagal stimulation, sick sinus syndrome. Acute rheumatic fever. Valve surgery Digoxin toxicity	Correction of underlying cause. Atropine for symptomatic slow rate Pacemaker insertion if patient is refractory to drugs Discontinuation of digoxin if appropriate.
Premature Junctional Conjunctions	Atrial and ventricular rhythms are irregular. P waves inverted; may precede be hidden within, or follow QRS	MI or ischemia Digoxin toxicity and excessive	 Correction of underlying cause. Discontinuation of digoxin if
First-degree AV block	QRS complex configuration and duration normal.	caffeine or amphetamine use	appropriate.
Thist-degree AV block	 Atrial and ventricular rhythms regular PR interval > 0.20 second. P wave preceding each QRS complex. QRS complex normal. 	 Inferior wall MI or ischemia or infarction, hypothyroidism, hypokalemia, hyperkalemia. Digoxin toxicity. Use of quinidine, procainamide, beta-adrenergic blocks, calcium 	 Correction of the underlying cause. Possibly atropine if PR interval exceeds 0.26 second or symptomatic bradycardia develops. Cautious use of digoxin, calcium channel blockers, and zbeta-adrenergic blockers.