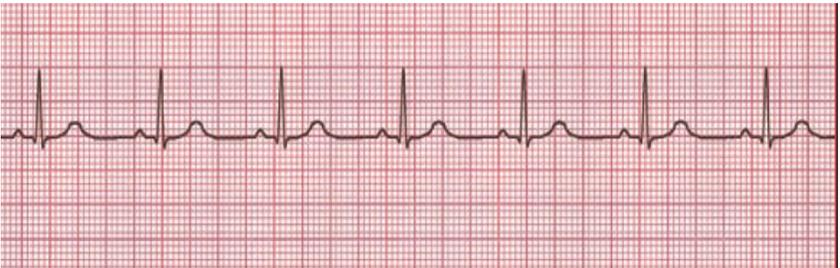
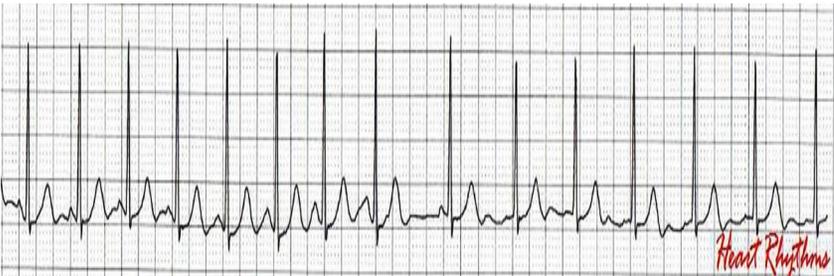


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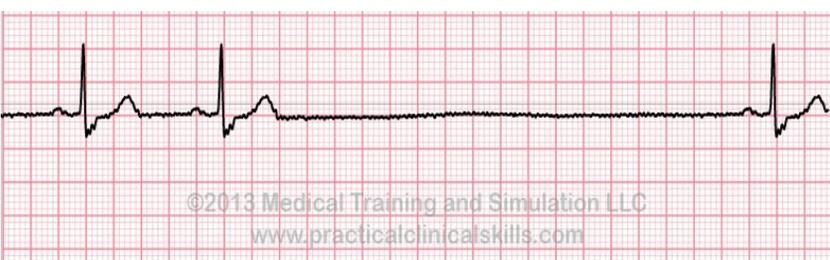
Rhythm	Measurements	Identification & Characteristics	Interventions
	P-P R-R PR QRS QT Rate	Sinus rhythm (SR/NSR) <ul style="list-style-type: none"> Normal rate: 60-100 bpm 	No intervention usually
	P-P R-R PR QRS QT Rate	Sinus bradycardia (SB) <ul style="list-style-type: none"> Rate: < 60 bpm Monitor vital signs & symptoms Athletes live in sinus bradycardia just fine 	<ul style="list-style-type: none"> Monitor closely for symptomatic bradycardia Monitor vital signs If symptoms persist with slow < than 50 bpm, may need PM
	P-P R-R PR QRS QT Rate	Atrial Fibrillation (A-Fib) Small worm like pattern <ul style="list-style-type: none"> Unidentifiable 'P' waves Atrial rate: as high as 400 Ventricular rate: > 100 F-waves / atria are quivering > than 130 bpm = uncontrolled ≤ than 100 bpm = controlled Risk for clots 	<ul style="list-style-type: none"> Monitor closely for Paroxysmal A-fib with RVR Monitor vital signs May need synchronized cardioversion

> = greater than
 < = less than
 ≥ = greater or equal to
 ≤ = less or equal than

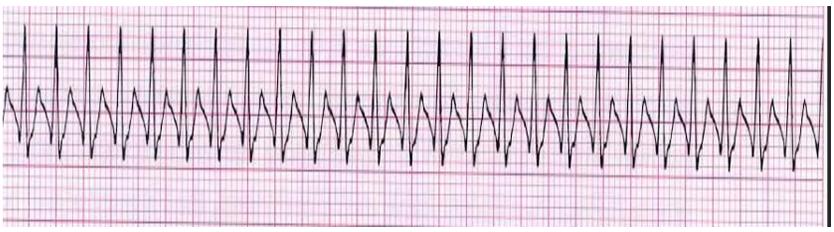
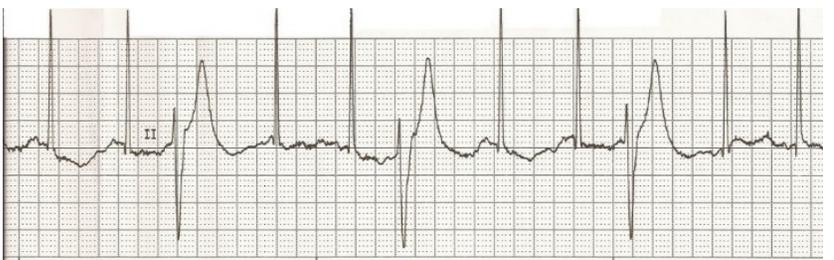
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Rhythm	Measurements	Identification & Characteristics	Interventions
	<p>P-P R-R PR QRS QT Rate</p>	<p>Atrial Flutter (A-Flutter) Sawtooth pattern 'F' waves</p> <ul style="list-style-type: none"> • Rate: generally > 100 bpm • 3:1 AV conduction • Can be 4:1, 3:1, 2:1 • Can control rate with atrial pacing • Risk for clots 	<ul style="list-style-type: none"> • Monitor closely • Monitor vital signs
	<p>P-P R-R PR QRS QT Rate</p>	<p>Sinus Arrhythmia (SA)</p> <ul style="list-style-type: none"> • Related to the respiratory cycle • Speeds up with inspiration • Slows down with expiration • Usually no treatment requirement • Due to slight vagal tone (CN10) due to high pressure in the chest 	<ul style="list-style-type: none"> • Monitor for symptomatic bradycardia or tachycardia • Monitor vital signs
	<p>P-P R-R PR QRS QT Rate</p>	<p>Sinus Block/Sinus Exit Block</p> <ul style="list-style-type: none"> • Only one 'PQRST' is lost with rate picking up on time • Due to SAN firing but impulse cannot get out to produce a complete 'P' wave. • Symptoms are the same as with bradycardia 	<ul style="list-style-type: none"> • Monitor for symptomatic bradycardia • Monitor vital signs

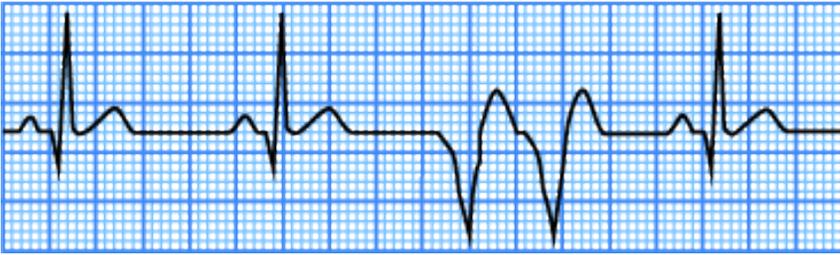
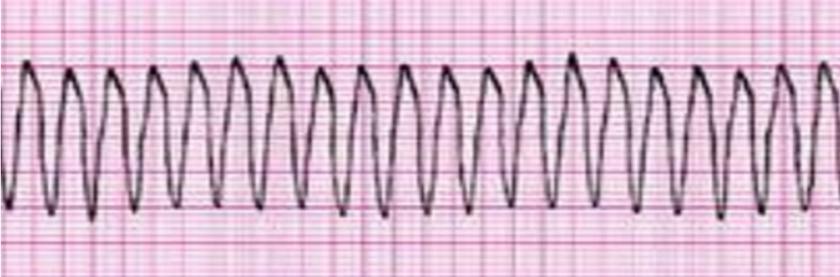
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Rhythm	Measurements	Identification & Characteristics	Interventions
 <p style="font-size: small; color: gray;">©2013 Medical Training and Simulation LLC www.practicalclinicalskills.com</p>	P-P R-R PR QRS QT Rate	Sinus Arrest/Sinus Pause <ul style="list-style-type: none"> • > to 2 second pause needs evaluation = red flag – sinus arrest, sinus pause ≤ 2 seconds • > than one P-P lost • Usually rate: 60-100 • Treat as symptomatic bradycardia, may need pacemaker 	<ul style="list-style-type: none"> • Notify patient nurse & charge nurse • Record • Document • Monitor • Monitor vital signs
	P-P R-R PR QRS QT Rate	Paroxysmal Atrial Tachycardia (PAT) <ul style="list-style-type: none"> • Sudden start, sudden stop • 	<ul style="list-style-type: none"> • Notify patient nurse & charge nurse • Record • Document • Monitor • Monitor vital signs
	P-P R-R PR QRS QT Rate	Sinus Tachycardia (ST) Rate: 101-150 bpm	<ul style="list-style-type: none"> • Immediately notify patient's nurse & charge nurse! • Record rhythm • Document • Monitor vital signs

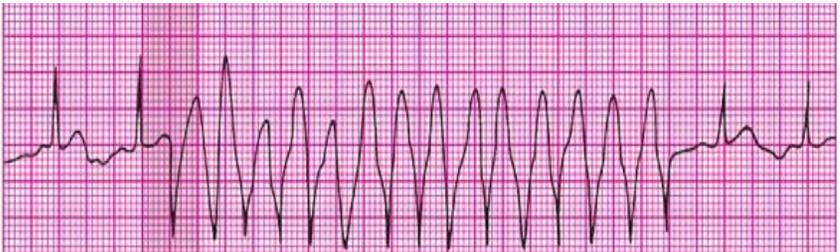
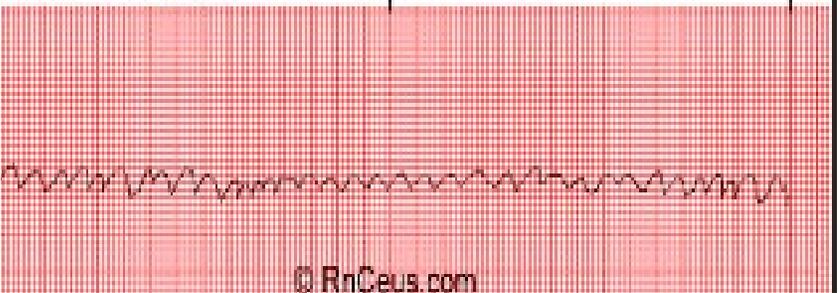
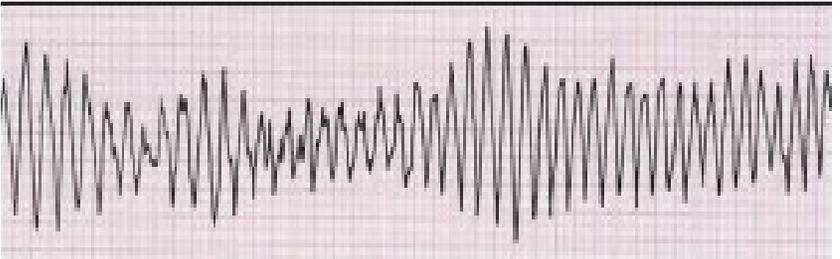
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Rhythm	Measurements	Identification & Characteristics	Interventions
	<p>P-P R-R PR QRS QT Rate</p>	<p>Supraventricular Tachycardia/Atrial Tachycardia/A-fib with Rapid Ventricular Response/Junctional Tachycardia Rate: 160-250 bpm 'P' wave s may be hidden in 'T' wave</p>	<ul style="list-style-type: none"> • Notify patient nurse & charge nurse • Record • Document • Monitor • Monitor vital signs
	<p>P-P R-R PR QRS QT Rate</p>	<p>Bigeminy Premature Ventricular Contractions (Bi-PVC)</p>	<p>Monitor that this is not a frequent occurrence.</p>
	<p>P-P R-R PR QRS QT Rate</p>	<p>Trigeminy Premature Ventricular Contractions (Tri-PVC)</p>	<p>Monitor that this is not a frequent occurrence.</p>

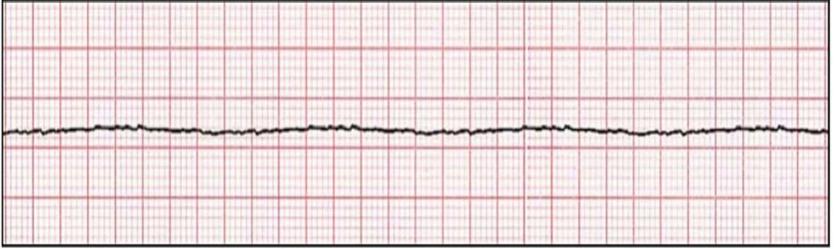
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Rhythm	Measurements	Identification & Characteristics	Interventions
	P-P R-R PR QRS QT Rate	Multifocal Couplet Premature Ventricular Contractions	Monitor that this is not a frequent occurrence.
	P-P R-R PR QRS QT Rate	Unifocal Couplet PVCs	Monitor that this is not a frequent occurrence.
	P-P R-R PR QRS QT Rate	Ventricular Tachycardia (V-Tach) Monomorphic <ul style="list-style-type: none"> • harmful/lethal Rate: 150-250 No 'P' waves 'QRS' wide & bizarre > than 0.12 sec. CPR & ACLS immediately Shockable if pulseless	<ul style="list-style-type: none"> • Immediately notify charge nurse & patient's nurse! • Record rhythm • Document [time & date, person's notified, issue, your initials]

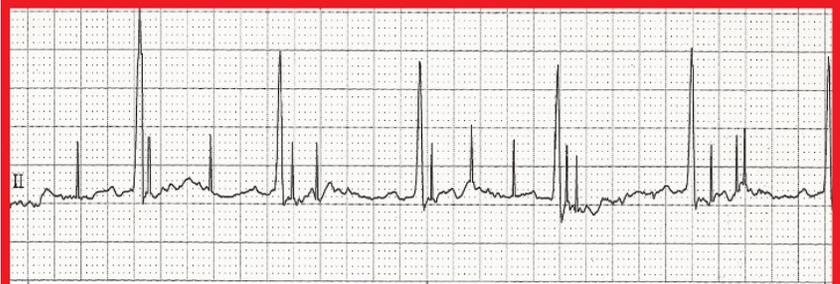
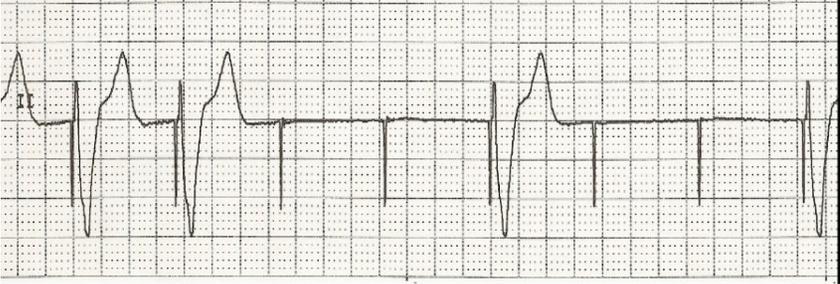
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Rhythm	Measurements	Identification & Characteristics	Interventions
	P-P R-R PR QRS QT Rate	R on T Phenomenon V-Tach <ul style="list-style-type: none"> • harmful/lethal Stimuli hit on the down slope of the 'T' wave CPR & ACLS immediately Shockable if pulseless	<ul style="list-style-type: none"> • Immediately notify charge nurse & patient's nurse! • Record rhythm • Document [time & date, person's notified, issue, your initials]
	P-P R-R PR QRS QT Rate	Ventricular Fibrillation (V-Fib) <ul style="list-style-type: none"> • harmful/lethal CPR & ACLS immediately Shockable	<ul style="list-style-type: none"> • Immediately notify charge nurse & patient's nurse! • Record rhythm • Document [time & date, person's notified, issue, your initials]
	P-P R-R PR QRS QT Rate	Torsades De Pointes Polymorphic <ul style="list-style-type: none"> • harmful/lethal CPR & ACLS immediately Shockable if pulseless	<ul style="list-style-type: none"> • Immediately notify charge nurse & patient's nurse! • Record rhythm • Document [time & date, person's notified, issue, your initials]

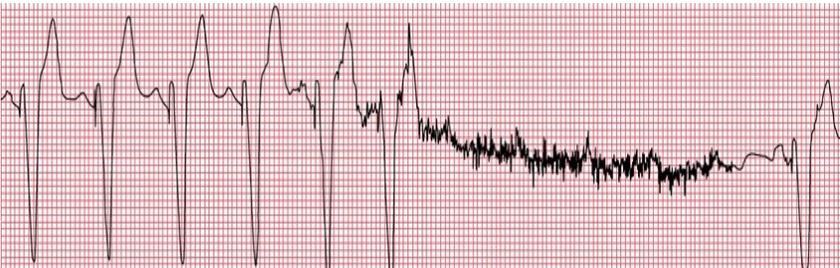
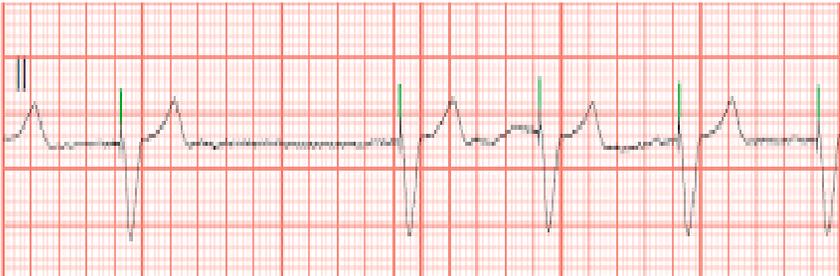
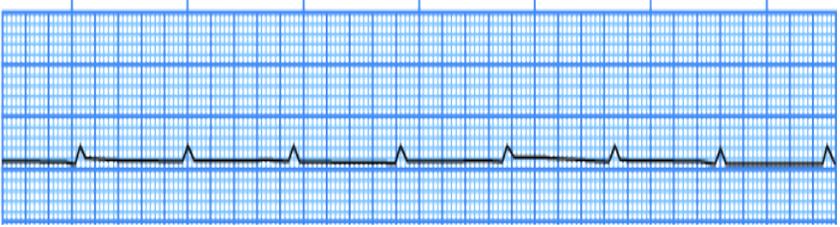
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Rhythm	Measurements	Identification & Characteristics	Interventions
	P-P R-R PR QRS QT Rate	Asystole <ul style="list-style-type: none"> • harmful/lethal • No cardiac output • Complete standstill • Dead!! • CPR • Epinephrine NO DEFIBRILLATION (NO SHOCK)!!!	<ul style="list-style-type: none"> • Immediately notify charge nurse & patient's nurse! • Record rhythm • Document [time & date, person's notified, issue, your initials]
	P-P R-R PR QRS QT Rate	Atrial Paced (A-paced)	
	P-P R-R PR QRS QT Rate	Ventricular Paced (V-paced)	

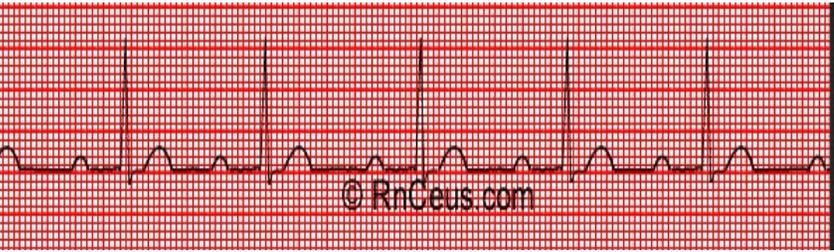
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Rhythm	Measurements	Identification & Characteristics	Interventions
	P-P R-R PR QRS QT Rate	Atrial Ventricular Paced (AV-paced) or AV-Sequential	
	P-P R-R PR QRS QT Rate	Failure to Sense/Under-sensing <ul style="list-style-type: none"> • Very concerning due to causing R on T phenomenon • Can be BAD! 	<ul style="list-style-type: none"> • Immediately notify charge nurse & patient's nurse! • Record rhythm • Document [time & date, person's notified, issue, your initials] • Monitor vital signs
	P-P R-R PR QRS QT Rate	Failure to Capture <ul style="list-style-type: none"> • Spike but no response • Can cause symptoms cause of no perfusion 	<ul style="list-style-type: none"> • Immediately notify charge nurse & patient's nurse! • Record rhythm • Document [time & date, person's notified, issue, your initials]

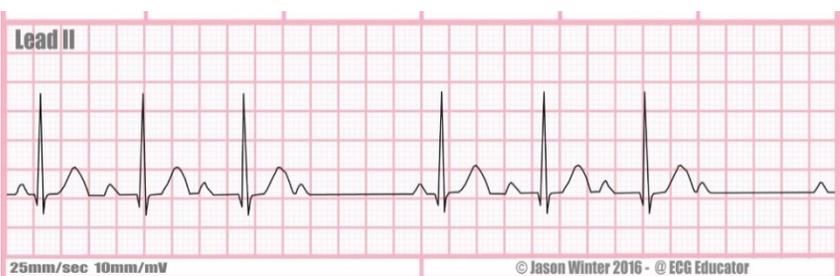
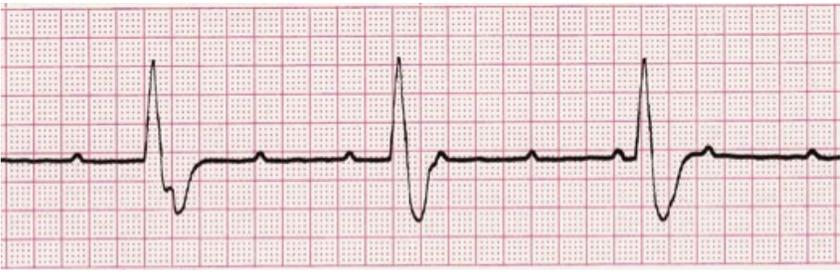
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Rhythm	Measurements	Identification & Characteristics	Interventions
	P-P R-R PR QRS QT Rate	Over-sensing Sees movement as inherit beat and will not pace.	Monitor that this is not a frequent occurrence.
	P-P R-R PR QRS QT Rate	Failure to Pace Missed or dropped complex, continues on time.	Monitor that this is not a frequent occurrence.
	P-P R-R PR QRS QT Rate	Ventricular Standstill <ul style="list-style-type: none"> • lethal/harmful • SA node functioning, P-wave present, No ventricular response, no contraction, Complete heart block w/o an escape rhythm, No cardiac output • CPR • Epinephrine NO DEFIBRILLATION (NO SHOCK)!!!	<ul style="list-style-type: none"> • Immediately notify charge nurse & patient's nurse! • Record rhythm • Document [time & date, person's notified, issue, your initials]

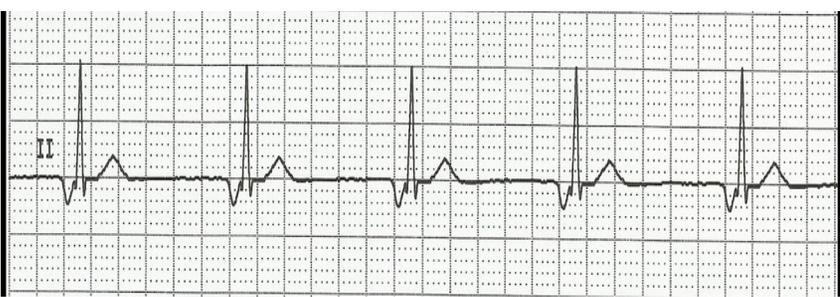
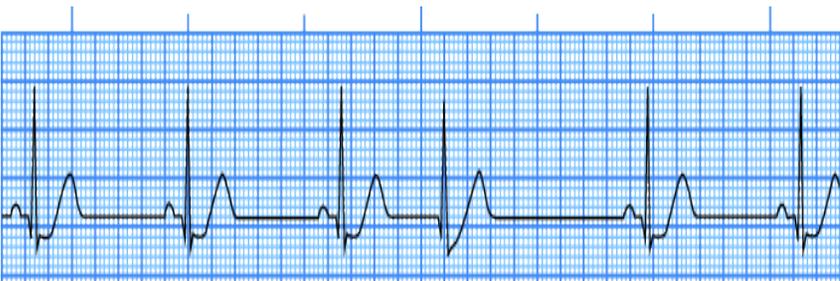
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Rhythm	Measurements	Identification & Characteristics	Interventions
	P-P R-R PR QRS QT Rate <20 bpm	Agonal Rhythm <ul style="list-style-type: none"> lethal/harmful <ul style="list-style-type: none"> CPR Epinephrine NO DEFIBRILLATION (NO SHOCK)!!!	<ul style="list-style-type: none"> Immediately notify charge nurse & patient's nurse! Record rhythm Document [time & date, person's notified, issue, your initials]
	P-P R-R PR QRS QT Rate	Pulseless Electrical Activity (PEA) AKA Electromechanical Dissociation (EMD) <ul style="list-style-type: none"> lethal/harmful Most common causes hypovolemia & hypoxemia Look at H's & T's for cause of <ul style="list-style-type: none"> CPR Epinephrine NO DEFIBRILLATION (NO SHOCK)!!!	<ul style="list-style-type: none"> Immediately notify charge nurse & patient's nurse! Record rhythm Document [time & date, person's notified, issue, your initials]
	P-P R-R PR QRS QT Rate	1st Degree Atrioventricular Block (1st AV-Block) <ul style="list-style-type: none"> PR- interval consistently prolonged > than 0.20 sec. Rate varies but generally < than 60 bpm 	

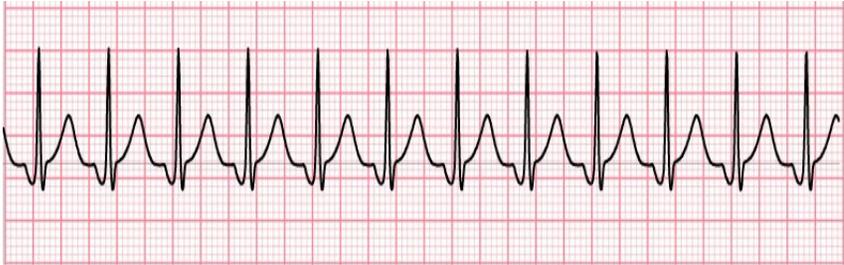
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Rhythm	Measurements	Identification & Characteristics	Interventions
 <p>Lead II 25mm/sec 10mm/mV © Jason Winter 2016 - @ ECG Educator</p>	P-P R-R PR QRS QT Rate	2nd Degree Atrioventricular Block (2nd AV-Block Type 1) Wenckebach <ul style="list-style-type: none"> • Normal, longer, longer, drop then you have a wenckebach • Groups of waves then drops QRS 	
	P-P R-R PR QRS QT Rate	2nd Degree AV-Block Type 2/Mobitz II <ul style="list-style-type: none"> • harmful/lethal 	<ul style="list-style-type: none"> • Immediately notify charge nurse & patient's nurse! • Record rhythm • Document [time & date, person's notified, issue, your initials]
	P-P R-R PR QRS QT Rate	3rd Degree AV-Block <ul style="list-style-type: none"> • harmful/lethal • Complete heart block • In need of a pacemaker immediately 	<ul style="list-style-type: none"> • Immediately notify charge nurse & patient's nurse! • Record rhythm • Document [time & date, person's notified, issue, your initials]

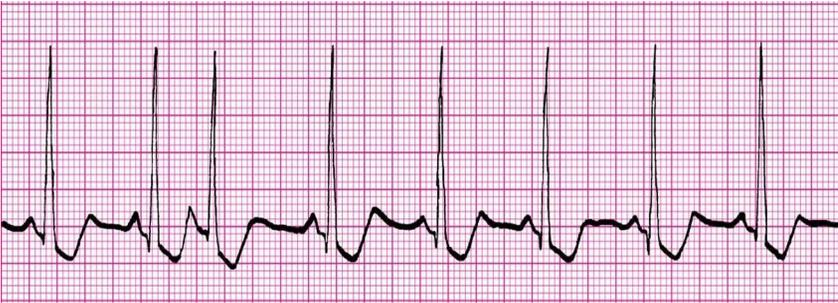
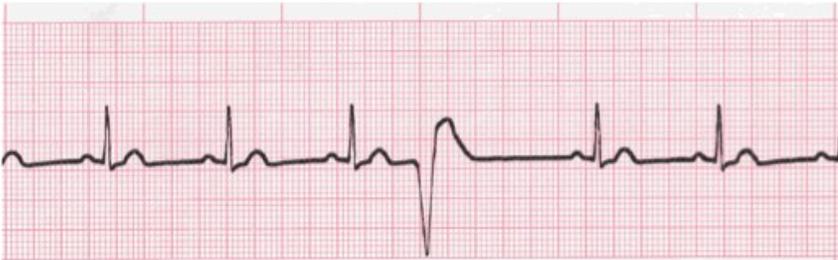
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Rhythm	Measurements	Identification & Characteristics	Interventions
	<p>P-P R-R PR QRS QT Rate</p>	<p>Junctional Rhythm (JR)</p> <ul style="list-style-type: none"> • Rate: 40-60 bpm • Invert, absent, or abnormal 'P' waves 	
	<p>P-P R-R PR QRS QT Rate</p>	<p>Premature Junctional Rhythm (PJR)</p> <ul style="list-style-type: none"> • Premature beat with absent 'P' wave 	
	<p>P-P R-R PR QRS QT Rate</p>	<p>Accelerated Junctional Rhythm (AJR)</p> <ul style="list-style-type: none"> • Rate: 60-100 bpm • Invert, absent, or abnormal 'P' waves 	

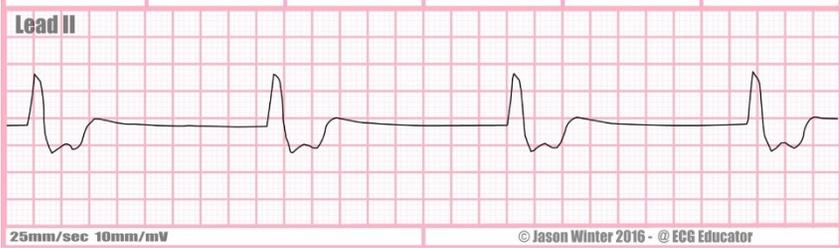
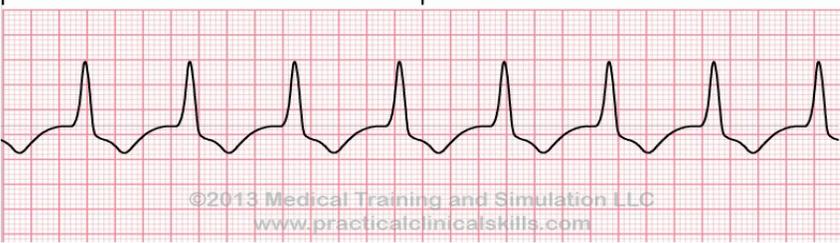
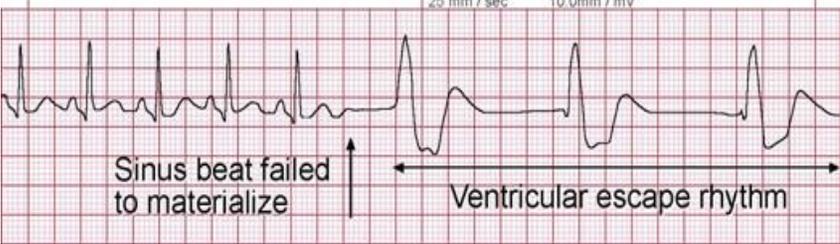
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Rhythm	Measurements	Identification & Characteristics	Interventions
	P-P R-R PR QRS QT Rate	Junctional Tachycardia (JT) <ul style="list-style-type: none"> • Rate: > than 100 bpm • 'P' wave may be hidden in 'QRS' or come after the 'QRS' 	
	P-P R-R PR QRS QT Rate	Wandering Atrial Pacemaker <ul style="list-style-type: none"> • 'P' wave vary in appearance • R-R regularity 	
	P-P R-R PR QRS QT Rate	Multifocal Atrial Tachycardia (MAT)	

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Rhythm	Measurements	Identification & Characteristics	Interventions
	P-P R-R PR QRS QT Rate	Premature Atrial Contraction (PAC) <ul style="list-style-type: none"> • Early atrial contraction • This strip with 'ST' depression = injury 	
	P-P R-R PR QRS QT Rate	Quadgeminy PVCs <ul style="list-style-type: none"> • Every fourth beat is a PVC 	
	P-P R-R PR QRS QT Rate	Premature Ventricular Contraction (PVC)	

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Rhythm	Measurements	Identification & Characteristics	Interventions
	<p>P-P R-R PR QRS QT Rate 20-40 bpm</p>	<p>Idioventricular Rhythm (IVR) aka Ventricular Escape Rhythm</p> <ul style="list-style-type: none"> • Rate: 20-40 bpm • No 'P' waves • 'QRS' wide & bizarre > than 0.12 sec • Heart's last effort 	<ul style="list-style-type: none"> • Immediately notify charge nurse & patient's nurse! • Record rhythm • Document [time & date, person's notified, issue, your initials]
	<p>P-P R-R PR QRS QT Rate 41-100 bpm</p>	<p>Accelerated idioventricular Rhythm (AIVR)</p>	
	<p>P-P R-R PR QRS QT Rate</p>	<p>Ventricular Escape Rhythm (VER) aka Idioventricular Rhythm</p>	

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Rhythm	Measurements	Identification & Characteristics	Interventions
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