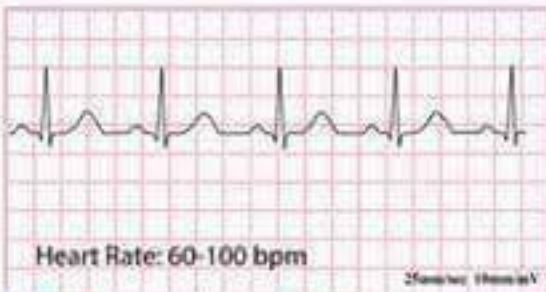


Sinoatrial Node Rhythms

Normal Sinus Rhythm



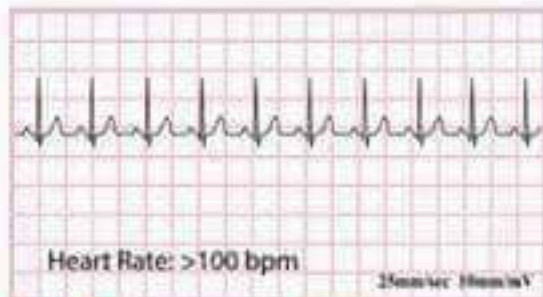
Rhythm Regular **P Wave** Before QRS
PR interval 0.12-0.20s **QRS** <0.12

Sinus Bradycardia



Rhythm Regular **P Wave** Before QRS
PR interval 0.12-0.20s **QRS** <0.12

Sinus Tachycardia



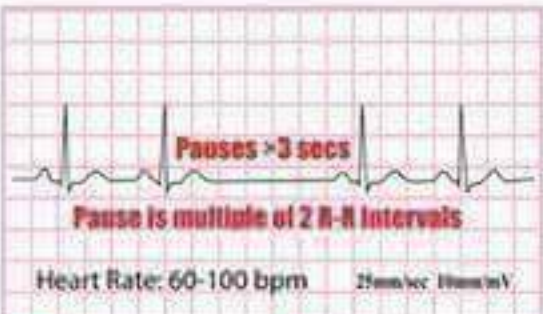
Rhythm Regular **P Wave** Before QRS
PR interval 0.12-0.20s **QRS** <0.12

Sinus Arrhythmia



Rhythm Irregular **P Wave** Before QRS
PR interval 0.12-0.20s **QRS** <0.12

Sinoatrial Exit Block



Rhythm Irregular **P Wave** Before QRS
PR interval 0.12-0.20s **QRS** <0.12

Sinus Pause



Rhythm Irregular **P Wave** Before QRS
PR interval 0.12-0.20s **QRS** <0.12

Atrial Rhythms

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Atrial Fibrillation



Heart Rate: Atria 350 - 650 bpm
Ventricles: Slow to rapid

Rhythm: Irregular
PR interval: N/A
P Wave: Fibrillatory Waves
QRS: <0.12

Atrial Flutter

Types 2:1, 3:1, 4:1 or greater ratio (1:1 conduction is rare)



Heart Rate: Atria 250 - 350 bpm
Ventricles: Slow or rapid

Rhythm: Regular or variable
PR interval: N/A
P Wave: Flutter waves
QRS: <0.12

Atrial Bigeminy



Heart Rate: N/A

Rhythm: Irregular
PR interval: 0.12 - 0.20s
P Wave: Premature or hidden
QRS: <0.12

Supraventricular Tachycardia (SVT)



Heart Rate: 150 - 250 bpm

Rhythm: Regular
PR interval: Not always possible to measure
P Wave: Often buried in the T waves
QRS: <0.12

Wandering Atrial Pacemaker



Heart Rate: 60 - 100 bpm

Rhythm: Irregular
PR interval: 0.12 - 0.20s
P Wave: 3 types or more different P wave morphologies
QRS: <0.12

Multifocal Atrial Tachycardia (MAT)



Heart Rate: >100 bpm

Rhythm: Irregular
PR interval: Variable
P Wave: 3 types or more different P wave morphologies
QRS: <0.12

Premature Atrial Contraction (PAC)



Heart Rate: N/A

Rhythm: Irregular
PR interval: 0.12 - 0.20s
P Wave: Premature (abnormal) or hidden
QRS: <0.12

Wolff-Parkinson White (WPW)



Heart Rate: Depends on rate of underlying rhythm

Rhythm: Regular w/s & tbb
PR interval: Short <0.12
P Wave: Normal unless A-tbb
QRS: >0.10 with delta wave

Junctional Rhythms

Junctional Rhythm with no P-waves



Rhythm: Regular
PR interval: 0.12-0.20s
P Wave: Absent or after QRS
QRS: < 0.10

Junctional Rhythm with retrograde P-waves



Rhythm: Regular
PR interval: 0.12-0.20s
P Wave: Inverted before QRS
QRS: < 0.10

Junctional Escape Rhythm



Rhythm: Regular
PR interval: 0.12-0.20s
P Wave: Absent, hidden, inverted or after QRS
QRS: < 0.10

Accelerated Junctional Rhythm



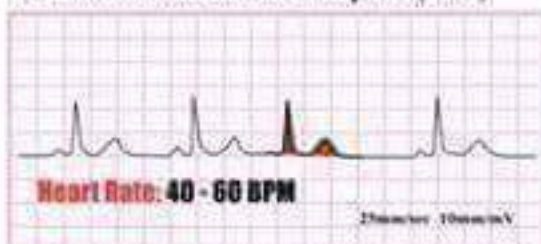
Rhythm: Regular
PR interval: 0.12-0.20s
P Wave: Absent, hidden, inverted or after QRS
QRS: < 0.10

Junctional Tachycardia



Rhythm: Regular
PR interval: Not measurable
P Wave: Absent, hidden, inverted or after QRS
QRS: < 0.10

Premature Junctional Complex (PJC)



Rhythm: Regular with premature beats
PR interval: 0.12-0.20s
P Wave: Absent, hidden, inverted or after QRS
QRS: < 0.10

Heart Blocks

First Degree AV Block



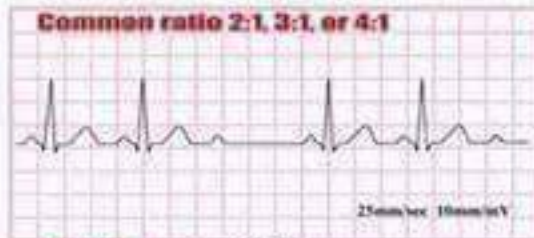
Rhythm: Regular
PR interval: Prolonged >0.20 sec
P Wave: Normal
QRS: <0.12

Second Degree AV Block - Type I (aka Mobitz I, Wenckebach):



Rhythm: Irregular
PR interval: Increasingly Prolonged
P Wave: Normal
QRS: <0.12

Second Degree AV Block - Mobitz Type 2



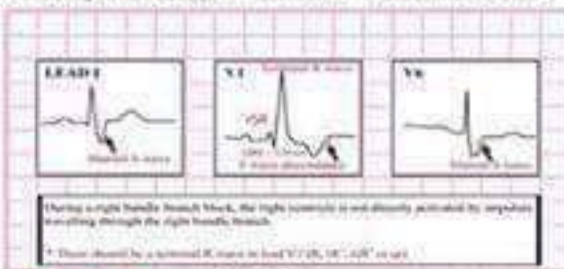
Rhythm: Irregular
PR interval: Normal (more P waves than QRS)
P Wave: Normal
QRS: Usually wide >0.10

3rd Degree AV Block



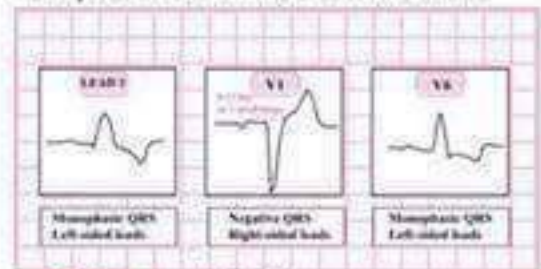
Rhythm: Regular
PR interval: None
P Wave: Normal does not relate to QRS
QRS: Normal or wide

Complete Right Bundle Branch Block



Rhythm: Regular
PR interval: Normal
P Wave: Normal
QRS: Wide >0.12

Complete Left Bundle Branch Block



Rhythm: Regular
PR interval: Normal
P Wave: Normal
QRS: Wide >0.12

Ventricular Rhythms

Idioventricular Rhythm



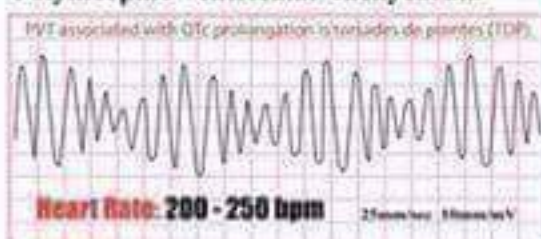
Rhythm: Regular
PR interval: N/A
P Wave: Absent or not related
QRS: Wide >0.12, atypical

Accelerated Idioventricular Rhythm



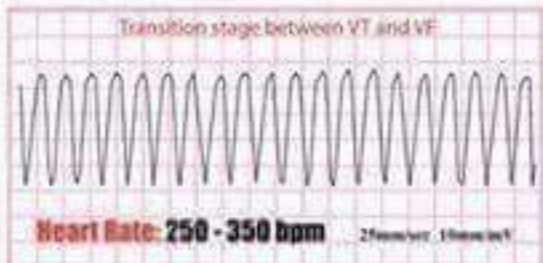
Rhythm: Regular
PR interval: N/A
P Wave: Absent or not related
QRS: >0.12

Polymorphic Ventricular Tachycardia



Rhythm: Irregular
PR interval: N/A
P Wave: Absent
QRS: Wide bizarre appearance

Ventricular Flutter



Rhythm: Regular
PR interval: Not measurable
P Wave: Absent
QRS: >0.12 Sinusoidal waveforms

Ventricular Tachycardia



Rhythm: Regular
PR interval: Not measurable
P Wave: Dissociated atrial rate
QRS: Wide >0.12, atypical

Ventricular Fibrillation



Rhythm: Chaotic fibrillatory activity
PR interval: N/A
P Wave: Absent
QRS: Fibrillatory baseline

Ventricular Ectopics

NSR with isolated PVC



FROM A SINGLE ECTOPIC FOCI

Multifocal PVCs



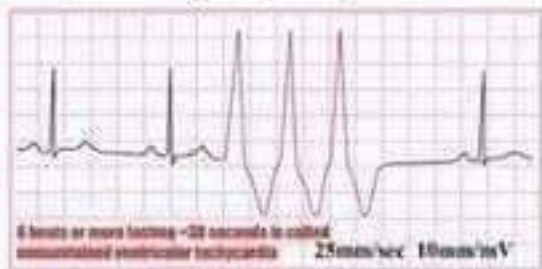
FROM MULTIPLE ECTOPIC FOCI

NSR with Ventricular Couplets



TWO CONSECUTIVE PVCs

Ventricular Triplets (Salvo)



3 CONSECUTIVE PVCs IN A ROW

Ventricular Bigeminy



EVERY OTHER BEAT IS A PVC

Ventricular Trigeminy



EVERY THIRD BEAT IS A PVC

Ventricular Quadrigeminy



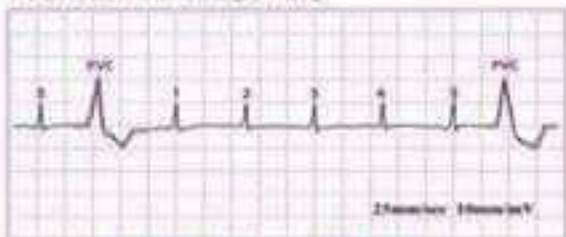
EVERY FOURTH BEAT IS A PVC

Ventricular Pentagemy



EVERY FIFTH BEAT IS A PVC

Ventricular Hexagemy



EVERY SIXTH BEAT IS A PVC