LEARNING SUPPLEMENT

Identifying Arrhythmias

Sinus Rhythm

Rhythm: regular (atrial and ventricular)

Rate: 60–100 beats/min (atrial and ventricular)

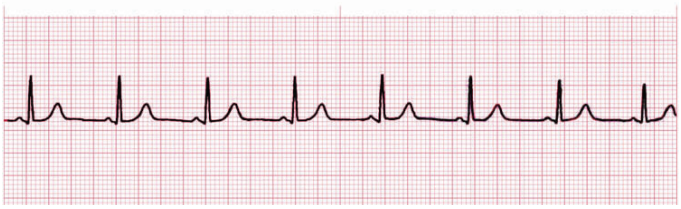
P wave: precedes every QRS complex

QRS complex: < 0.12 second, regular

T wave: normal

PR interval: 0.12 –0.20 second

QT interval: < 0.46 second



Sinus Bradycardia

Rhythm: regular (atrial and ventricular)

Rate: < 60 beats/min (atrial and ventricular)

P wave: precedes every QRS complex

QRS complex: < 0.12 second, regular

T wave: normal

PR interval: 0.12 –0.20 second

QT interval: < 0.46 second

First-degree AV Block

Rhythm: regular (atrial and ventricular)

Rate: 60–100 beats/min (atrial and ventricular)

P wave: precedes every QRS complex, normal morphology

QRS complex: < 0.12 second if delay in AV node, > 0.12 second if delay distal to AV node

T wave: normal unless QRS complex is prolonged

PR interval: > 0.20 second

QT interval: < 0.46 second

Identifying Arrhythmias *(continued)*

Second-degree AV Block Type I

Rhythm: regular (atrial), irregular (ventricular); RR interval becomes progressively shorter leading up to the dropped beat, then cycle repeats

Rate: 60–100 beats/min (atrial and ventricular); atrial rate > ventricular rate

P wave: Normal morphology

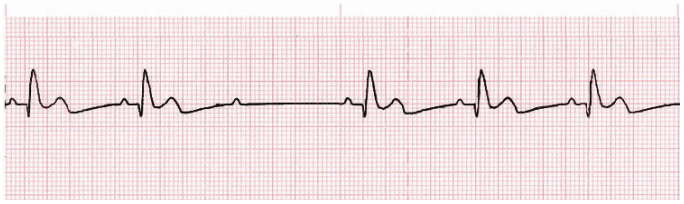
QRS complex: usually < 0.12 second; occasionally dropped

T wave: normal

PR interval: becomes progressively longer until QRS complex is dropped; then resets

QT interval: < 0.46 second

Second-degree AV Block Type II



Rhythm: regular (atrial), regular or irregular (ventricular); if blocked impulses occur in a pattern the rhythm is regular

Rate: usually 60–100 beats/min (atrial and ventricular); atrial rate > ventricular rate

P wave: normal morphology

QRS complex: usually < 0.12 second; occasionally dropped

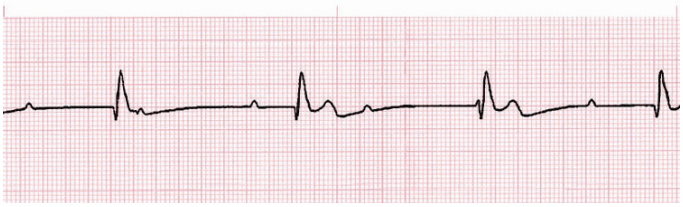
T wave: normal morphology

PR interval: < 0.20 second or prolonged; constant

QT interval: < 0.46 second

Identifying Arrhythmias *(continued)*

Third-degree AV Block



Rhythm: regular (atrial and ventricular), atrial and ventricular rhythms are dissociated

Rate: 60–100 beats/min (atrial): 20–60 beats/min (ventricular); atrial rate > ventricular rate

P wave: normal morphology

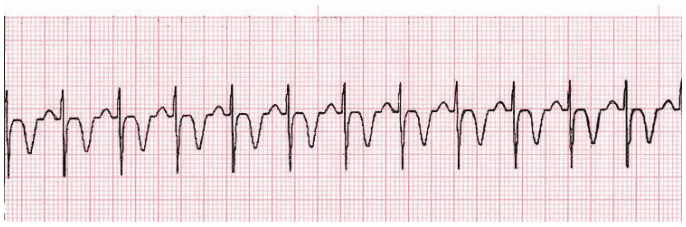
QRS complex: morphology and duration depend on location of pacemaker; AV junctional pacemaker = narrow QRS complexes; ventricular pacemaker = wide, bizarre QRS complexes

T wave: normal unless ventricular pacemaker

PR interval: unmeasurable (AV dissociation)

QT interval: < 0.46 second

Sinus Tachycardia



Rhythm: *regular (atrial and ventricular)*

Rate: 100–150 beats/min (atrial and ventricular)

P wave: precedes every QRS complex

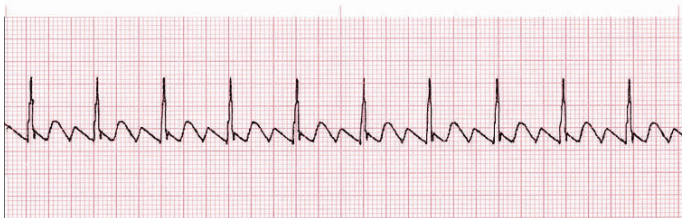
QRS complex: < 0.12 second, regular

T wave: normal

PR interval: 0.12 – 0.20 second

QT interval: < 0.46 second

Atrial Flutter



Rhythm: regular (atrial), usually regular but may be irregular (ventricular)

Rate: 250–350 beats/min (atrial), 60–100 beats/min (ventricular; dependent on degree of AV block)

P wave: sawtooth pattern

QRS complex: < 0.12 second, regular

T wave: not identifiable

PR interval: unmeasurable

QT interval: unmeasurable

Identifying Arrhythmias *(continued)*

Atrial Fibrillation

Rhythm: irregularly irregular (atrial and ventricular)

Rate: >350 beats/min (atrial), 40–250 beats/min (ventricular)

P wave: not identifiable (fibrillation waves)

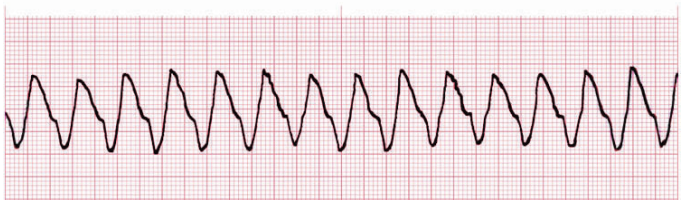
QRS complex: irregularly irregular

T wave: not identifiable

PR interval: unmeasurable

QT interval: unmeasurable

Monomorphic Ventricular Tachycardia



Rhythm: indiscernible (atrial), usually regular (ventricular)

Rate: unmeasurable (atrial), > 100 beats/min (ventricular)

P wave: usually absent

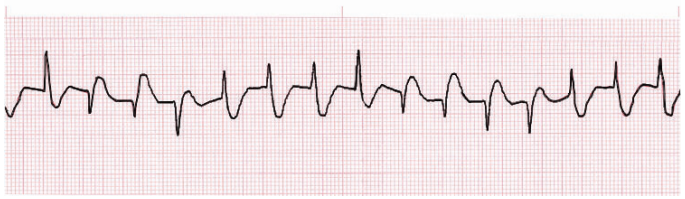
QRS complex: > 0.12 second, bizarre

T wave: opposite direction from QRS complex

PR interval: unmeasurable

QT interval: unmeasurable

Polymorphic Ventricular Tachycardia



Rhythm: indiscernible (atrial), irregular (ventricular)

Rate: unmeasurable (atrial), > 100 beats/min (ventricular)

P wave: absent

QRS complex: > 0.12 second, bizarre

T wave: abnormal morphology

PR interval: unmeasurable

QT interval: unmeasurable

Identifying Arrhythmias *(continued)*

Ventricular Fibrillation

Rhythm: absent (atrial), irregular (ventricular)

Rate: unmeasurable (atrial, ventricular)

P wave: absent

QRS complex: unmeasurable

T wave: absent

PR interval: unmeasurable

QT interval: unmeasurable

Pulseless Electrical Activity

Monitor shows identifiable rhythm but no pulse can be palpated.

Rhythm may be sinus, atrial, junctional or ventricular in origin.

QRS complexes are similar in appearance.

Asystole

Rhythm: indiscernible (atrial), absent (ventricular)

Rate: indiscernible (atrial), absent (ventricular)

P wave: usually absent

QRS complex: absent

T wave: absent

PR interval: unmeasurable

QT interval: unmeasurable