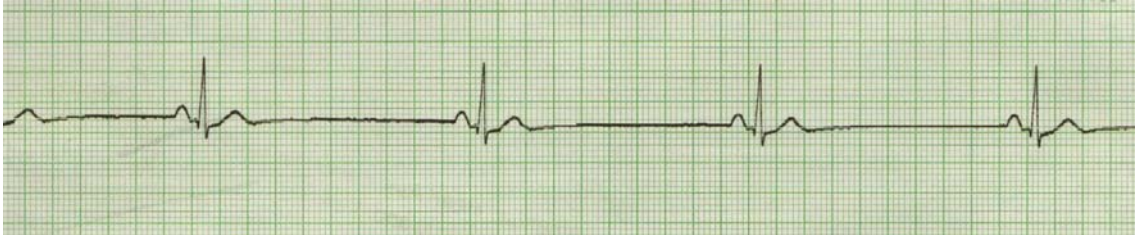




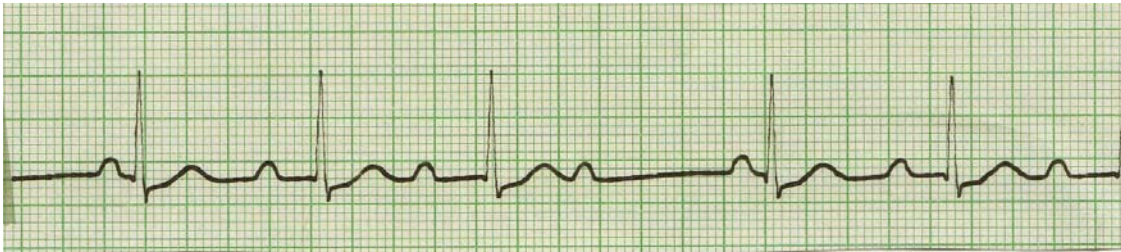
# **BASIC CARDIAC ARRHYTHMIAS**

Revised 10/2001

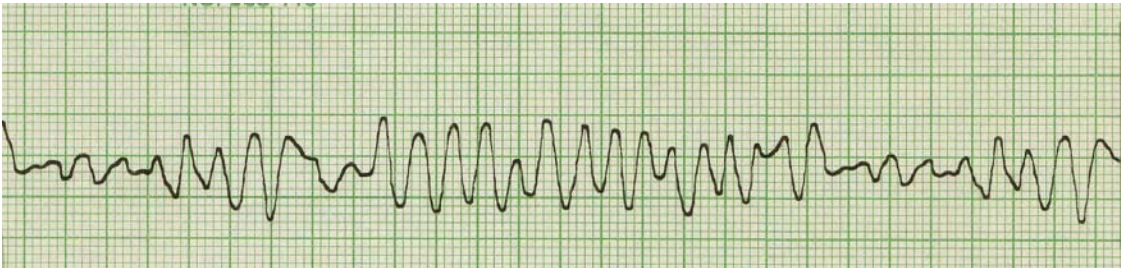
A Basic Arrhythmia course is a *recommended* prerequisite for ACLS. A test will be given that will require you to recognize cardiac arrest rhythms and the most common bradycardias & tachycardias. Arrhythmias will be *reviewed* in teaching and skills stations in order to improve your skills. The instructors will assist you in developing skills to differentiate the rhythms required for successful completion. Arrhythmia identification classes are available. Call our office for course information.



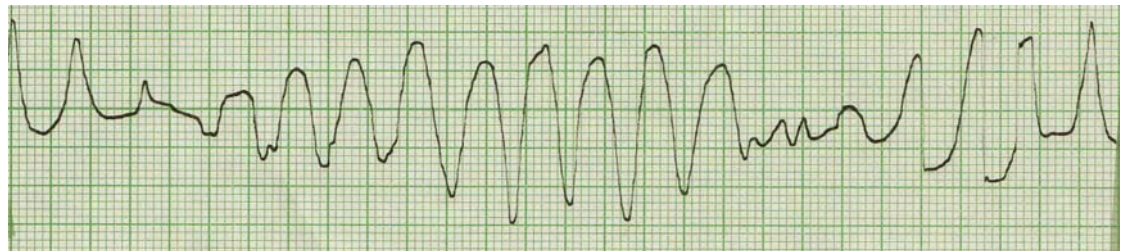
**#1 Name of Rhythm and Description of Identifying Characteristic**



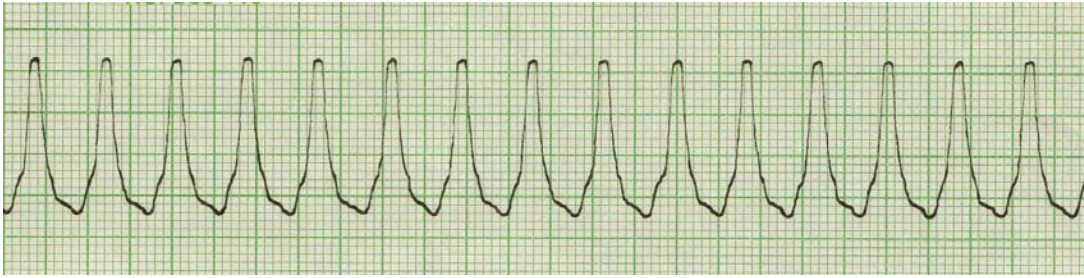
**#2 Name of Rhythm and Description of Identifying Characteristic**



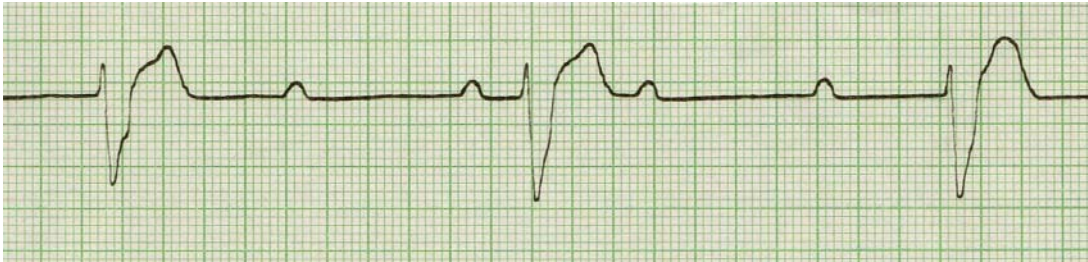
**#3 Name of Rhythm and Description of Identifying Characteristic**



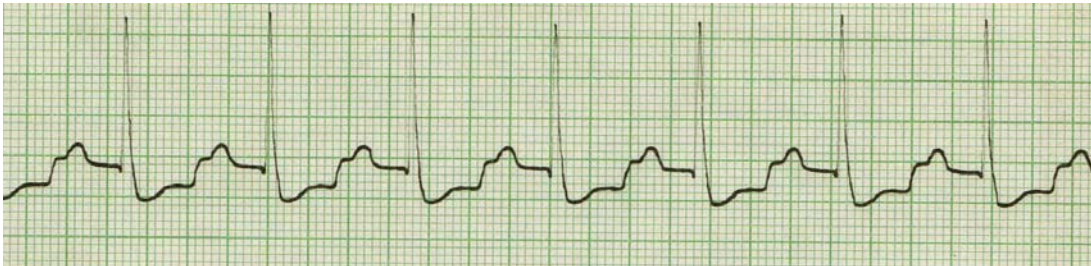
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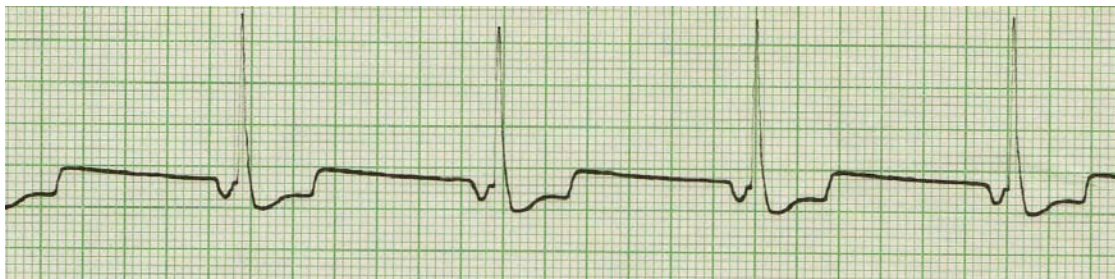
**#5 Name of Rhythm and Description of Identifying Characteristic**



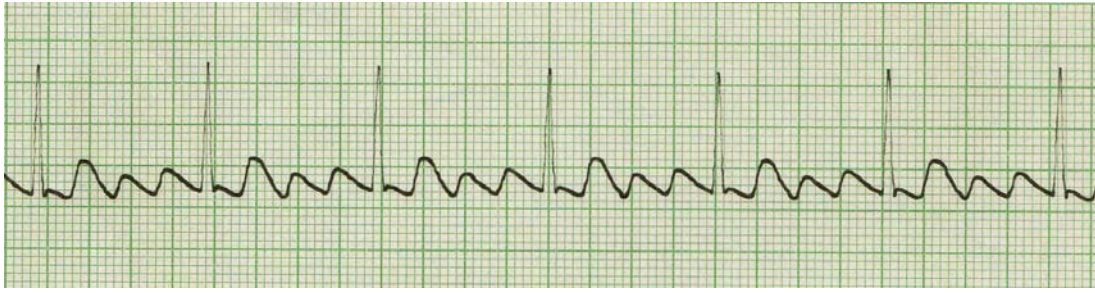
**#6 Name of Rhythm and Description of Identifying Characteristic**



**#7 Name of Rhythm and Description of Identifying Characteristic**



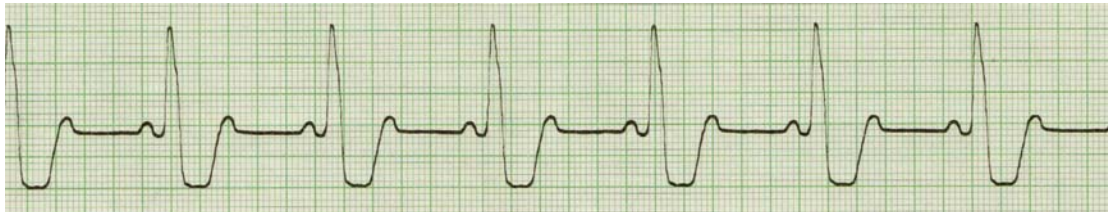
**#8 Name of Rhythm and Description of Identifying Characteristic**



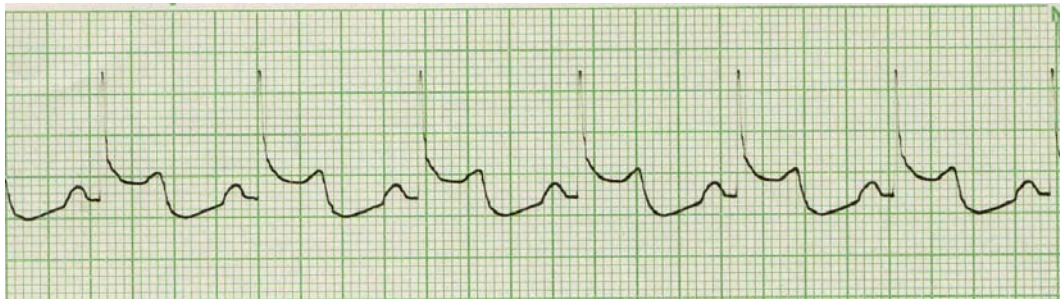
**#9 Name of Rhythm and Description of Identifying Characteristic**



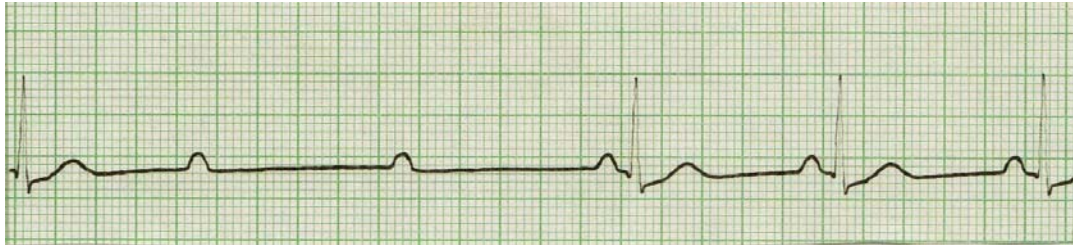
**#10 Name of Rhythm and Description of Identifying Characteristic**



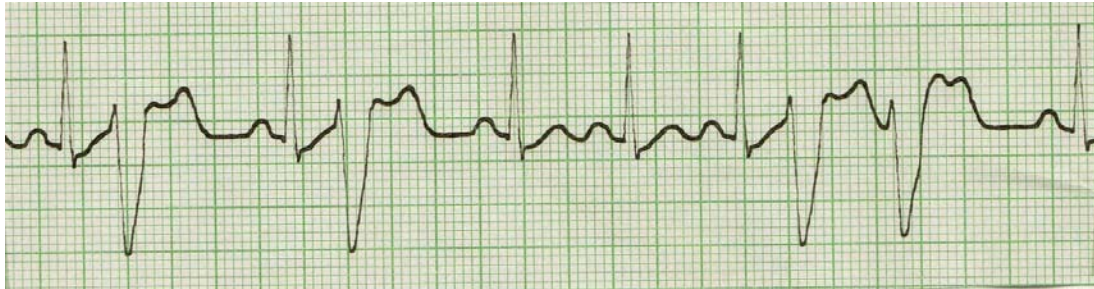
**#11 Name of Rhythm and Description of Identifying Characteristic**



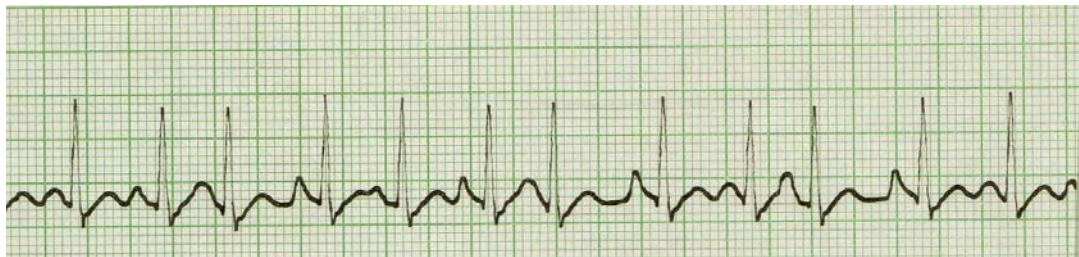
**#12 Name of Rhythm and Description of Identifying Characteristic**



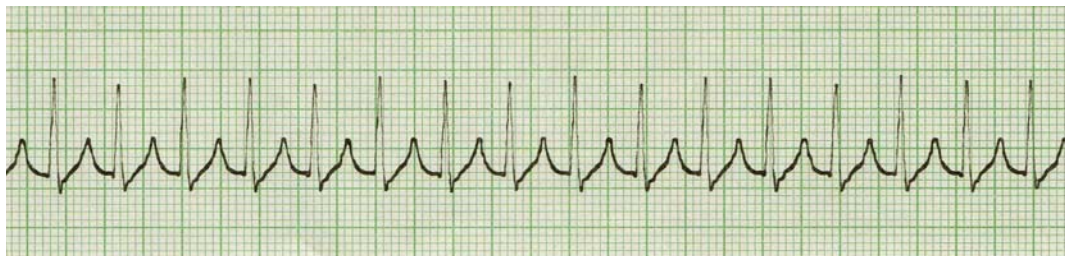
**#13 Name of Rhythm and Description of Identifying Characteristic**



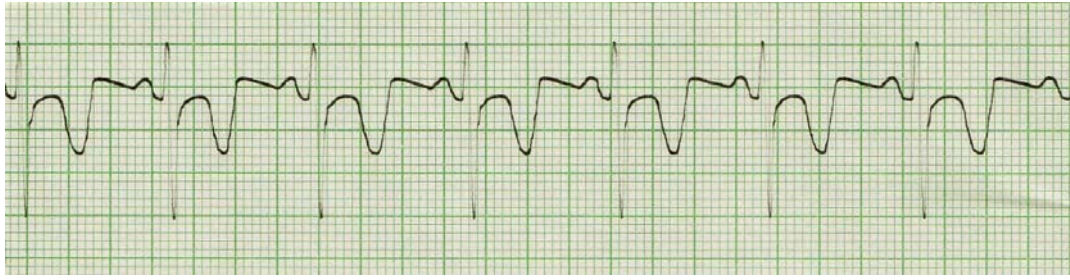
**#14 Name of Rhythm and Description of Identifying Characteristic**



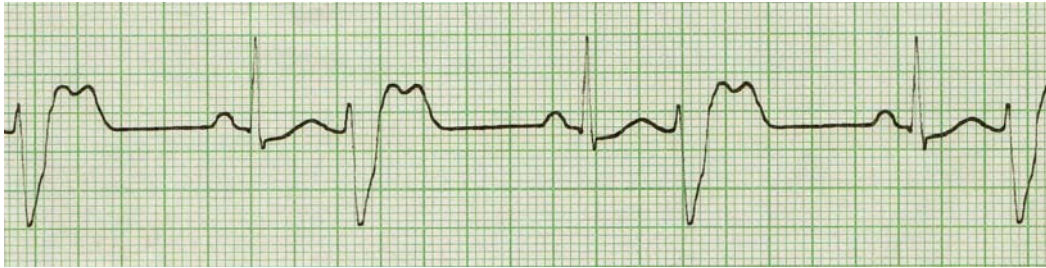
**#15 Name of Rhythm and Description of Identifying Characteristic**



**#16 Name of Rhythm and Description of Identifying Characteristic**



**#17 Name of Rhythm and Description of Identifying Characteristic**



**#18 Name of Rhythm and Description of Identifying Characteristic**

## Answers

1. **Sinus Bradycardia**
  - Regular rhythm, heart rate < 60
  - There is a P wave before QRS and QRS after P wave
2. **2<sup>nd</sup> Degree Type I (aka Mobitz I or Wenckebach) Heart Block**
  - Irregular rhythm (grouped QRS's)
  - P-R interval: progressive lengthening until beat is dropped
3. **Ventricular Fibrillation**
  - Chaotic, disorganized electrical depolarization of the ventricles
4. **Polymorphic Ventricular Tachycardia**
  - Torsades de Pointes "Twisting of the Points"
  - This is a polymorphic Vtach in that the shape of the QRS complexes varies significantly.
5. **Ventricular Tachycardia**
  - Regular rhythm; heart rate: >100; organized ventricular depolarization
  - This is a sustained monomorphic VTach.
6. **Third Degree Heart Block**
  - Ventricular rhythm and atrial rhythm are regular, but at different rates
  - (you have more Ps than QRSs); P-R intervals are variable. The atria and ventricles are depolarizing independently.
7. **First Degree Heart Block**
  - Rhythm is regular; PR interval: >.20 seconds
8. **Junctional or Nodal Rhythm**
  - Rhythm is regular; P wave before every QRS is inverted representing retrograde depolarization from the nodal tissue into the atria.
9. **Atrial Flutter**
  - No definable P waves; "sawtooth" appearing flutter waves from atrial depolarization.
10. **Atrial Fibrillation**
  - Rhythm: irregular, no identifiable P waves. Chaotic fibrillatory depolarization in the atria.

11. **2<sup>nd</sup> Degree Type II (aka Mobitz II) Heart Block**
  - Atrial rate is faster than the ventricular rate (you have more Ps than QRSs) The P-R intervals are constant. This example is regular due to it dropping every other beat (2:1 conduction ratio). 2<sup>nd</sup> degree Type II is more often an irregular rhythm.
12. **Sinus Rhythm with ST elevation**
  - The ST segment tells us about the status of the myocardium. This elevation may signify that injury is being done to the heart. In order to be diagnostic, a 12 lead EKG must be done to see if the elevation is seen in 2 or more consecutive leads.
13. **2<sup>nd</sup> Degree Type II (aka Mobitz II) Heart Block**
  - Atrial rate is faster than the ventricular rate (you have more Ps than QRSs) The P-R intervals are constant. This example is irregular due to it dropping every so often (variable conduction ratio).
14. **Sinus Tachycardia with unifocal PVC's and couplets**
  - Underlying sinus rhythm >100; PVC's are shaped the same; two PVC's together.
15. **Multifocal Atrial Tachycardia (MAT)**
  - Narrow complex tachycardia, irregular, with P waves of multiple shapes. This tachycardia is caused by "irritable foci" in the atria and does not respond to cardioversion.
16. **Paroxysmal Supraventricular Tachycardia (PSVT)**
  - Narrow complex tachycardia, usually regular of sudden onset. P waves may be present but difficult to identify due to the rate. This tachycardia is caused by a "reentry circuit" (repetitive loop of electrical impulses) within the conduction system. Reentry tachycardias usually respond well to Adenosine and cardioversion.
17. **Normal Sinus Rhythm**
  - Rate 60-100, rhythm regular, P waves present and upright, a P for every QRS.
  - This strip was not taken in lead II. The QRS has a somewhat negative deflection and the T wave is inverted simply due to lead placement. This strip was taken in MCL<sub>1</sub>.
18. **Sinus Rhythm with Ventricular Bigeminy**
  - A PVC is seen every other beat.