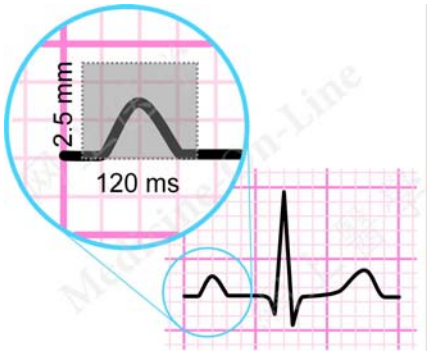
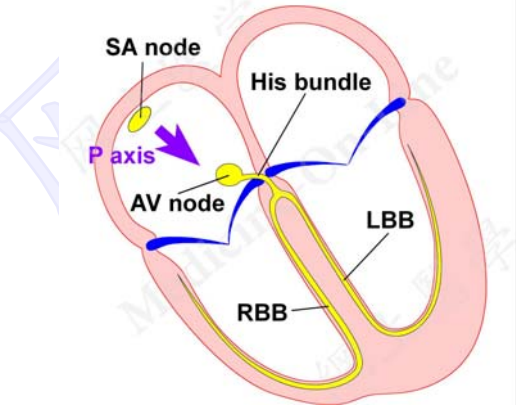
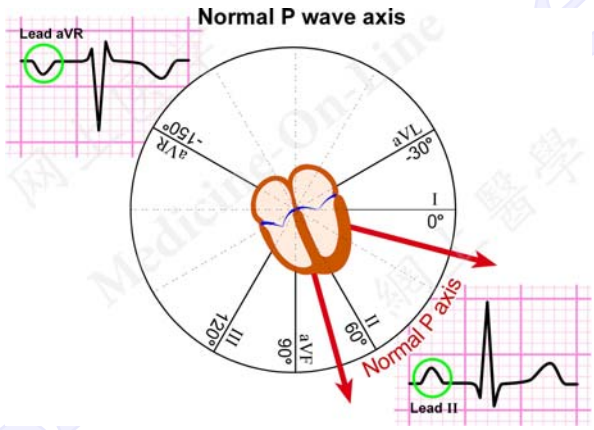
Normal P wave is no more than 2.5 mm (two-and-a half 1-mm-divisions) tall and less than 120 ms (three 1-mm-divisions) in width in any lead.



In sinus rhythm when the SA node is the pacemaker, the mean direction of atrial depolarization (the P wave axis) points downward and to the left, in the general





direction of lead II within a coordinate between 15° and 75° and away from lead aVR. On this count the P wave is always positive in lead II and always negative in lead aVR during sinus rhythm. Conversely, a P wave that is positive in lead II and negative in lead aVR indicates normal P wave axis and sinus rhythm.

The QRS Complex

The second wave is the QRS complex. Typically this complex has a series of 3 deflections that reflect the current associated with right and left ventricular depolarization. By convention the first deflection in the complex, if it is negative, is called a Q wave. The first positive deflection in the complex is called an R wave. A negative deflection after an R wave is called an S wave. A second positive deflection after the S wave, if there is one, is called the R' wave. Some QRS complexes do not have all three deflections. But irrespective of the number of waves present, they are all QRS complexes: