

impulses conducted down the His bundle and bundle branches.

Sinus rhythm is regular with the exception of a phenomenon called sinus arrhythmia during which there is a minimal increase in heart rate during inspiration and a minimal decrease in heart rate during expiration. Although arrhythmia means abnormal cardiac rhythm, sinus arrhythmia is truthfully not an abnormal rhythm.

### Sinus Pause or Arrest



In disease (e.g. sick sinus syndrome) the SA node can fail in its pacing function. If failure is brief and recovery is prompt, the result is only a missed beat (sinus pause). If recovery is delayed and no other focus assumes pacing function, cardiac arrest follows.

### Escape rhythms

An escape beat is a heart beat arising from an ectopic focus in the atria, the AV junction, or the ventricles when the sinus node fails in its role as a pacemaker or when the sinus impulse fails to be conducted to the ventricles as in complete heart block (see section on “Heart Blocks” below). The ectopic impulse in this instance is always late, appearing only after the next anticipated sinus beat fails to materialize. If the sinus node failure or heart block is only brief, the ectopic focus may generate only a single escape beat; if the sinus node failure or heart block is prolonged, the ectopic focus produces a rhythm of escape beats to assume full pacing function. This escape mechanism offers protection against total cardiac standstill in the event of sinus node failure or complete heart block.