

Tachy-Brady Syndrome Tachycardia-bradycardia (tachy-brady) syndrome is a subset of sick sinus syndrome/sinus node disease that consists of high heart rates (most commonly atrial fibrillation) with alternating symptomatic bradycardia or offset pauses (**Fig. 244-5**). Commonly, medications that are needed for rate control of tachycardia exacerbate bradycardia episodes, and thus the presence of tachy-brady syndrome is often a reason to consider pacemaker implantation.

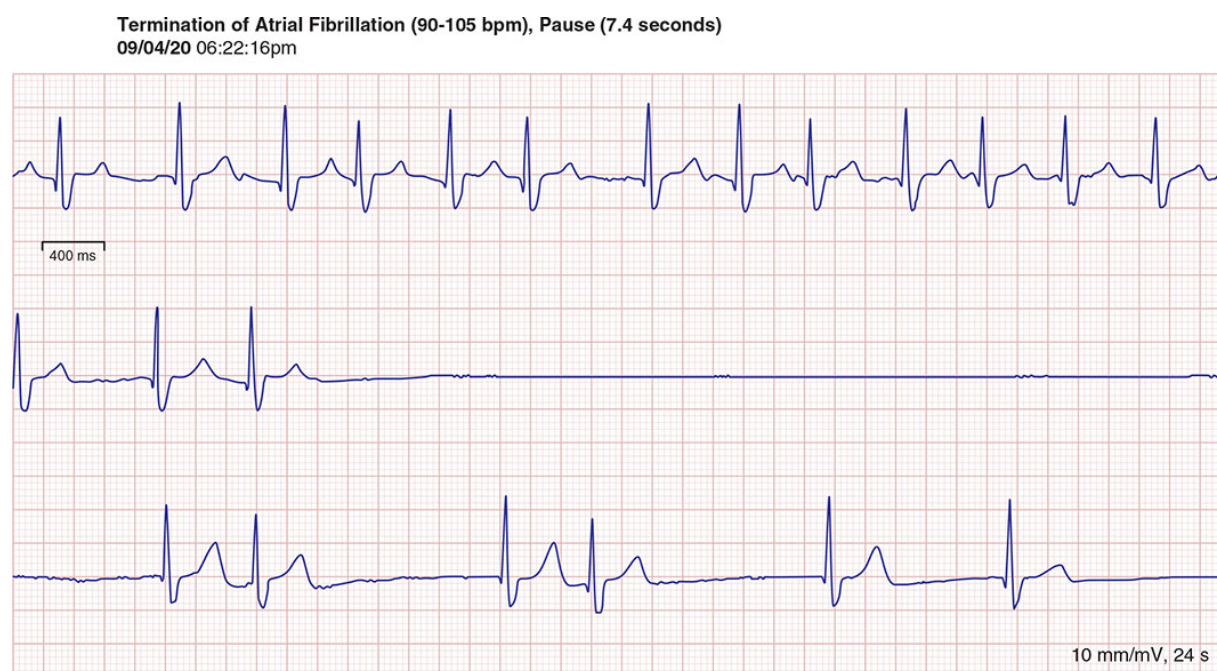


FIGURE 244-5 Offset pause and tachy-brady syndrome. An offset pause after termination of atrial fibrillation is seen and is consistent with tachy-brady syndrome.

Chronotropic Incompetence Chronotropic incompetence (CI) is broadly defined as the inability of the heart to increase its rate to meet activity or demand. Compared to an increase stroke volume, the increase in heart rate is a stronger contributor to the increase in oxygen uptake (VO_2) during aerobic exercise. Therefore, CI can be associated with severe exercise intolerance and increased cardiovascular events and overall mortality. CI can take many forms including failure to achieve a maximum heart rate [$208 - (0.7 \times \text{age})$], heart rate instability with exercise, or failure to achieve submaximal heart rate. Due to this latter category, standard exercise