



Normal ST segments manifest a gentle rise into the T wave with a slight upward concavity. The junction of the end of the ST segment and the beginning of the T wave is always very indistinct. One cannot distinguish where the ST segment ends and the T wave begins. And, of course, the normal T wave is asymmetrical.

When acute epicardial ischemia occurs, the normal-appearing ST segments begin to change - to evolve. The ST segment will change from an upward concavity to an upward convexity. This is a transitional change - it doesn't occur instantly. Occasionally, the ECG is done during this evolution and it finds the ST segment midway between upward concavity and upward convexity. In such cases the ST segment is upward-sloping but straight: there is no curvature. *This straight, upward-sloping ST segment usually continues directly to the peak of the T wave.* It often occurs even before there is any significant J-point elevation.

This is **Jones's Sign**: *a straight, upward-sloping ST segment that ends at the peak of the T wave.* This is one of the *early signs of acute epicardial ischemia.*

**Jones's Sign** is often seen following a very small QRS complex. For most normal frontal plane QRS axes, that would be Lead aVL. For more horizontal axes, that would be one or more of the inferior leads (II, III and/or aVF). For a vertical heart (tall, thin person or someone with advanced pulmonary emphysema), that would be Lead I.

Because J-point elevation has not yet begun - or perhaps because it has been overlooked due to the small voltage of the QRS complex - the significance of this sign is also often not appreciated and an opportunity to diagnose an acute MI is missed. When **Jones's Sign** is present and the patient has credible chest pain, either get a magnifying lens to look more closely at the ECG or repeat it after increasing the standardization of the machine. Certainly, repeat the ECG after about 15 minutes. However, just recognizing that straight, upward-sloping ST segment should be sufficient.