Ischemia
Injury
Infarction

Ischemia (decreased blood supply)
- Inverted T wave (symmetrical)

Injury
- Acute or recent infarct
- ST segment elevation

Figure 6-9. Anterior wall infarction. Notice the QS complexes in leads V₁ and V₂, indicating an inversed T wave. In addition, note the different shapes of the QRS complexes, consistent with infarction. In lead II, note the different shapes of the QRS complexes, consistent with infarction.)

Injury: means acute or recent

ST Elevation

Injury indicates the acuteness of an infarct. Elevation of the ST segment indicates a recent infarct.
Infarct

• Results from complete occlusion of a CA
• Creates electrical void
• Significant Q waves
  – Q > 1 mm wide
  – Q is 1/3 of entire QRS amplitude

Location of Infarction, etc

• Anterior - V1-V4
• Lateral – I and aVL
• Inferior – II, III, and aVF
• Posterior
  Note – cannot diagnose infarction with LBBB

Name That Infarct!

Old Inferior Infarct – significant Q’s in II, III, and aVF

Old anterior wall MI

Acute Inferior Infarction
ST segment depression

- Subendocardial infarction – does not extend through full thickness of ventricular wall
- Can enlarge if not treated appropriately
- Positive Stress Test – indicates narrowed arteries if develops during a stress test and not seen on pre-exercise ECG
- Drugs
- Anginal attack – ST depression or T wave inversion or both
Subendocardial Infarction

(Flat) ST depression

Three examples of the EKG changes that can accompany angina:

A. ST wave inversion.
B. ST segment depression.
C. ST segment depression with T wave inversion.

Fig. 9.2. Physiologic ST segment depression with exercise. Notice the J point depression accompanied by a sharp, upsloping ST segment. (From Goldberg AL. Electrocardiographic effects of exercise. J Am Coll Cardiol 4: 10, 1984. Modified.)