Example 1: Pre-excitation

Classic Wolff-Parkinson-White (WPW) pattern with prolonged QRS, short PR interval and Delta wave of pre-excitation. This pattern mandates evaluation by electrophysiologist who can perform tests to see how fast the accessory pathway conducts. If it is too fast, dangerous arrhythmia can occur but these can be prevented by catheter ablation of the pathway.

Q waves or ST shifts are due to the abnormal activation of the left ventricle and not other pathology. An echocardiogram is usually also recommended since WPW can be associated with cardiomyopathies.
Example 2: QT prolongation & hypertrophic cardiomyopathy

This ECG exhibits many of the criteria for HCM: Left Atrial Abnormality, Q waves and prolonged QT interval. The QT interval is usually prolonged if it persists through more than half of the RR interval. This ECG requires that an echocardiogram be performed prior to participation.
Example 3: Cardiomyopathy vs Other and Early Repolarization

T wave inversion over the inferior and/or lateral surfaces of the heart can be due to hemodynamic or tissue abnormalities in the left ventricle and require an echocardiogram to be performed. In older athletes this could be due to coronary artery disease.

This ECG also shows evidence of J point elevation with early repolarization, which can be a normal finding in a healthy athlete.
Example 4: T Wave Inversion

T wave inversion can be normal in female athletes in precordial leads V1 and V2 but it is abnormal when present in V4, V5 or V6. This ECG requires that an echocardiogram be performed prior to participation.
Example 5: T Wave Inversion

ST elevation with the appearance of a dome followed by T wave inversion in the anterior precordial leads can be a normal variant in athletes of African descent. This athlete also has right axis deviation and persistent S waves in V5-6 suggestive of right ventricular enlargement that can be a normal variant. These latter findings would trigger an ECHO prior to participation.
Example 6: Sinus bradycardia, first degree AV block

Sinus bradycardia can be normal in highly conditioned athletes, but a PR interval $>400$ ms warrants further risk stratification.
Excessive QRS voltage occurring without abnormal T wave inversion or ST depression is not considered an abnormality in athletes per the International guidelines. Most experts acknowledge that QRS voltage does not correlate well with LV mass. This ECG is normal in athletes and does not require an Echocardiogram.

Example 8:
Early Repolarization

Early repolarization noted in this tracing with J point elevation and gentle upsloping of ST segment does not require further evaluation in the asymptomatic athlete.
Example 9: Right Bundle Branch Block

Right bundle branch block can be normal in the athlete, however echocardiogram can be pursued to ensure normal structure and function. If QRS >140 ms, then suggest echocardiogram.
Example 10: Ectopic Atrial Rhythm

P wave morphology is not of sinus origin, suggesting presence of an ectopic atrial pacemaker in this ECG. This can be a normal finding.
Example 11: Sinus Bradycardia

HR 35-40 bpm in this ECG. Sinus bradycardia in an asymptomatic, young athlete is a normal finding, relating to their heightened vagal tone. If HR<30 while awake, then suggest investigating further.
Example 12: Mobitz I Heart Block: Wenckebach

Progressively prolonging PR interval with a dropped QRS complex after final p wave is characteristic of Wenckebach. Asymptomatic, young athletes can have this as a normal finding, given heightened vagal tone. Conduction will usually normalize during exercise.
Example 13: Sinus Arrhythmia

Sinus arrhythmia is a normal finding in the athlete. Sinus arrhythmia (variation of heart rate with respiration) is a healthy phenomenon and especially obvious in athletes with bradycardia.