



33rd Annual Cardiologists Conference

Electrocardiogram in athletes, limits of normal

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Normal ECG Findings: Increased QRS voltage for LVH or RVH, Incomplete RBBB, Early repolarization/ST segment Sinus bradycardia or arrhythmia, Ectopic atrial or junctional rhythm, 1° AV block, Mobitz Type I 2° AV block.

Borderline ECG Findings: Left axis deviation, Left atrial enlargement (>42 mm), Right axis deviation, Right atrial enlargement Complete RBBB. Abnormal ECG Findings: T wave inversion, ST segment depression, Pathologic Q waves Complete LBBB, QRS ≥ 140 ms duration, Epsilon wave, Ventricular pre-excitation, Prolonged QT interval, Brugada Type 1 pattern Profound sinus bradycardia < 30 bpm, PR interval ≥ 400 ms, Mobitz Type II 2° AV block, 3° AV block, >2 PVCs per 10 s tracing (>12/min), Atrial tachyarrhythmias, Ventricular arrhythmias.

Summary:

- ECG interpretation in athletes has evolved to help distinguish physiologic ECG findings from pathologic ECG findings.
- Some form of T-wave abnormality (inferior, anterior, or lateral) accounted for 35% of ECGs which were not normal but not pathological.
- Other common themes included the application of the IC definition of IVCD (≥140ms), sinus bradycardia (<40bpm), and right axis deviation (≥120 degrees). IC=International criteria.

Biography

Samir Morcos Rafla Emeritus professor of cardiology, Alexandria University, Egypt Fellow American College of Cardiology FACC Emeritus Fellow European Society of Cardiology EFESC Fellow Heart Rhythm Society FHRs (American society of arrhythmia) Member European Heart Rhythm Society HER Reviewer in many journals and assessor of abstracts and papers in conferences. Publications in Researchgate and Google Scholar.