

For accurate ~~measurement of~~ QT interval measurement, the relationship between QT and ~~the~~ R-R intervals should be reproducible/repeatable, particularly in cases with ~~This~~ issue is important when the heart rate of <-50 bpm and >120 bpm. Moreover, ~~Accurate measurement of the QT interval is also~~ important in athletes and children who have a significant beat-to-beat variability of the R-R interval may need. ~~In such cases,~~ prolonged and numerous recordings ~~for accuracy~~ may be necessary. The longest ~~Longest~~ QT interval is generally observed in the right precordial leads.

Comment [A1]: Two sentences have been joined here for a better flow of ideas in a more concise manner.

Long QT syndrome (LQTS) is a congenital disorder characterized by, ~~which shows~~ a protracted QT interval on the electrocardiogram ECG. This condition predisposes patients to the development of ~~This~~ condition influences ventricular tachyarrhythmia ~~tachyarrhythmias to develop in people~~, which may lead to syncope, cardiac arrest, or sudden cardiac death. Additionally ~~In LQTS~~, QT prolongation can lead to polymorphic ventricular tachycardia, ~~which is~~ also referred to as torsade de pointes, which in ~~This~~ condition itself may result in ~~lead to~~ ventricular fibrillation and sudden cardiac death.

Considerably, ~~torsade~~ Torsade de pointes is ~~widely thought to be~~ triggered by calcium channel reactivation, ~~a~~ delayed sodium current reactivation, or a diminished outward potassium current that results in early afterdepolarization (EAD). This leads to enhanced transmural dispersion of repolarization (TDR) and is usually associated with a prolonged QT interval. TDR serves as a functional reentry background to maintain torsade de pointes. ~~TDR~~ It provides a reentry background ~~for reentry~~ and increases the risk likelihood of EAD, the trigger for torsade de pointes, by extending ~~the extension of~~ the time window for calcium channels to remain open. Any ~~additional~~ further condition that accelerates ~~ing the reactivation of~~ calcium channels reactivation (e.g., increased sympathetic tone); increases the risk of EAD.

Comment [A2]: An abbreviation is generally defined at its first use in the text and the abbreviated form is consistently used thereafter.

Prolonged recovery from excitation increases the probability ~~chance~~ of dispersion of refractoriness dispersion, when some parts of the myocardium are refractory to subsequent depolarization. From a

Comment [A3]: Some singular nouns refer to one specific thing (the only one of its kind), and therefore, "the" is placed before the noun. Here, the has been used to denote specificity.

physiological viewpoint, dispersion occurs with repolarization ~~between~~ of the three layers of the heart, and the repolarization phase tends to be prolonged in the myocardium. ~~This is the reason~~ Therefore, why the T wave is usually wide and the interval from ~~the~~ peak of the T-wave to its end (Tp-e) represents ~~the~~ ~~transmural dispersion of repolarization~~ (TDR). In ~~long QT syndrome~~ (LQTS), TDR increases and creates a functional background for transmural reentry.

SAMPLE