

## **GLOBAL MEDIAN BEAT (GMB)** An automated approach for ECG interval measurements



Figure 1. A global PQRST complex composed of 12 median (representative) beats superimposed from 12 leads. For comparison, a representative beat from a single lead is shown below.



## What is Global Median Beat?

The Global Median Beat (GMB) approach for measuring QT intervals uses an algorithm to derive representative beats from each of the 12 standard ECG leads. The summation of representative beats is used to generate a temporally-aligned, simultaneously-acquired, superimposed GMB from which interval measurements are calculated.

- Commonly used method by most ECG machines
- Integrates data from all 12 individual ECG leads
- Robust and accurate cardiac interval measurements
- Acquired from standard 12-Lead ECGs or 12-Lead Holter extracted ECGs
- All ECG interval measurements confirmed by an expert Cardiologist

## The GMB approach: a more robust and accurate estimation of the QT interval

- Improved definition of QRS onset and T wave end
- Excludes cardiac cycles which are non-representative (e.g. premature ventricular complexes)
- Eliminates isoelectric projections from single leads
- Reduces positional and lead placement variability of single ECG leads
- Better aligned with FDA requirements for lead consistency and harmonization

Global Median Beat measurements provide multiplane projections of the T wave and better delineate the T wave end. Single lead measurements, on the other hand, are limited to only a single projection of the T wave and are more likely to systematically underestimate the true QT interval, as well as being more susceptible to variability resulting from noise and lead placement.