

RefID	Ref Title & Link	Patient Info	Validation Metrics	Remarks	Where is it Published	Year and Citations	Rank
Charbit et al., 2006	QT Interval Measurement: Evaluation of Automatic QTc Measurement and New Simple Method to Calculate and Interpret Corrected QT Interval	108 patients enrolled; The mean age of the patients was 45 ± 16 year, and 57% of the patients were women; they have surgeries like: vascular (14%), neurosurgical (18%), ear, nose, and throat (23%), orthopedic (14%), gynecologic (10%), other surgeries (16%). 92 % of these procedures were performed during general anesthesia.	1. Linear regression between the difference and the mean of the predicted-QT and annotations (similar to Bland-Altman plot.) 2. Paired T-test for predicted-QT and annotations		Anesthesiology	2006 (97)	1
R. Jané et al. 1997	Evaluation of an Automatic Threshold Based Detector of Waveform Limits in Holter ECG with the QT database	Physionet QT Database which has a wide variety of QRS and ST-T morphologies. A total of 105 records, each record contains 15min 2-channel ECGs. Records source from: MIT-BIH Arrhythmia Database and European Society of Cardiology ST-T Database	Mean absolute error and std		Computers in Cardiology	1997 (162)	2
Willems et al., 1985	Assessment of the performance of electrocardiographic computer programs with the use of a reference database	250 ECG samples representing a wide variety of ecg morphologies	Mean absolute error		Circulation	1985(181)	2
Hermans et al., 2017	The development and validation of an easy to use automatic QT-interval algorithm	73 LQTS patients and 54 subjects in control group. The patients had a confirmed pathogenic mutation. Controls were genotype-negative family members or healthy volunteers.	1. Mean absolute error and std for normal sinus rhythm, bradycardia and tachycardia. 2. Pearson correlation coefficient between predicted-QT and annotation. 3. Bland-Altman analysis for QT analysis.	Sampling QT intervals with different heart rate can provide a more complete situation.	PLoS One	2017 (6)	4
Martinez et al. 2006	Stability of QT Measurements in the PTB Database	549 records from 294 subjects (54 of them healthy control). Each record contains the standard 12-lead ECG and the simultaneously recorded 3 Frank lead ECG [online].	1. Select and measure the standard deviation of measured QT intervals in 10 consecutive non-ectopic beats. 2. Bland-Altman plots	It selects the earliest run of 10+ beats with stable RR interval (beats whose RR intervals do not differ from the median RR in more than 20% of the median RR)	IEEE [Challenge paper]	2006 (11)	4
Kligfield, Paul, et al. 2014	Comparison of automated measurements of electrocardiographic intervals and durations by computer-based algorithms of digital electrocardiographs	Standard 800 (12 lead) ECG waveforms sourced from FDA with equal split to four groups (normal, moxifloxacin drug induced, LQT1 and LQT2)	Mean absolute error and std		American Heart Journal	2014(42)	1
Salvi, Vaibhav, et al. 2011	Comparison of 5 methods of QT interval measurements on electrocardiograms from a thorough QT/QTc study: effect on assay sensitivity and categorical outliers	2730 digital ECGs from 39 subjects during placebo and moxifloxacin treatment; 12 lead 10 sec ECG Recording with QT annotation from 12 trained tech. Twelve trained, experienced ECG readers	Mean and std for QT absolute error and delta-QT error		Journal of Electrocardiology	2011(38)	2
James Tooley, et al. 2019	Comparison of QT Interval Measurement Methods and Correction Formulas in Atrial Fibrillation	Computerized qt measurements from 715 patients, manual measurements from 50 patient subset 12 lead ECG recording Patients who had an ECG in AF and a subsequent ECG in sinus rhythm (SR) within 24 hours were considered	Mean and std for QT absolute error and delta-QT error	It also evaluates QT performance for under AF ECG.	American Journal of Cardiology	2019(6)	3
Biofourmis Prototype 1	N.A	Physionet QT Database which has a wide variety of QRS and ST-T morphologies. A total of 105 records, each record contains 15min 2-channel ECGs. Records source from: MIT-BIH Arrhythmia Database and European Society of Cardiology ST-T Database (Hermans et al., 2017).	Mean absolute error and std for normal sinus rhythm, bradycardia and tachycardia (Hermans et al., 2017).		N.A	N.A	
Biofourmis Prototype 2	N.A	Physionet QT Database which has a wide variety of QRS and ST-T morphologies. A total of 105 records, each record contains 15min 2-channel ECGs. Records source from: MIT-BIH Arrhythmia Database and European Society of Cardiology ST-T Database (Further goal annotation HHP QT and verify the performance)	1. Extract ECG strip per subject with random length and random position, and take the averaged predicted-QT and annotations. (Dr. Levin suggested) 2. Mean and std for QT detection error and delta-QT error (Salvi, Vaibhav, et al. 2011); 3. Bland altman analysis (Charbit et al., 2006) 4. T test for annotated QT vs predicted QT (Charbit et al., 2006)	Maybe we can also evaluates QT performance for under AF ECG (James Tooley, et al. 2019)	N.A	N.A	now
AliveCor	510k medical device, QTc	https://www.accessdata.fda.gov/cdrh_docs/pdf21/K212662.pdf			FDA	2022	1