T-wave alternans (TWA), a beat-to-beat fluctuation in the morphology and amplitude of the ST-segment or T-wave, indicates an electrically unstable myocardium. Two TWA techniques have been validated in clinical studies for arrhythmia risk stratification. The time-domain Modified Moving Average (MMA) method is applicable in the presence of varying heart rates. The method has shown predictivity of mortality and sudden cardiac death (SCD) in the largest TWA study thus far, the Finnish Cardiovascular Study (FINCAVAS) with nearly 4,000 patients undergoing standard clinical exercise test. The initial report of the MMA method in Holter monitoring, published in 2003, consisted of post-myocardial infarction patients. Risk of lethal arrhythmia was 4- to 7-fold when TWA exceeded the cutpoint based on predefined criteria. The largest prospective follow-up investigation of TWA on ambulatory ECGs has been performed in Kyorin University Hospital, Japan. The study recruited 295 patients with cardiomyopathy. TWA identified one-year risk for cardiovascular mortality and SCD with hazard ratios of 17.1 and 22.6, respectively. In addition, several Holter TWA studies with the data from cardiovascular drug studies have been published. The cutpoints for abnormal TWA in these studies have varied from 37 to 75 μ. TWA has been shown to elevate 8-15 minutes prior to the onset of ventricular tachyarrhythmias during Holter monitoring. In conclusion, elevated Holter-based TWA has consistently been linked to ventricular tachyarrhythmia and mortality. Investigations are needed to assess the value of TWA as a part of clinical decision-making. **Keyword:** T-wave alternans, holter, risk stratification