

New MTWA study published in the Heart Rhythm 2012 Journal.

The study, originally presented in abstract form at Heart Rhythm 2011, represents a pooled analysis of 2,883 patients and is a strong endorsement of MTWA testing in patients with a broad spectrum of ejection fractions.

“In patients without ICDs, MTWA testing is a powerful predictor of SCD. Among patients with LVEF \leq 35%, a negative MTWA test is associated with a low risk for SCD. Conversely, among patients with LVEF $>$ 35%, a positive MTWA test identifies patients at significantly heightened SCD risk. These findings may have important implications for refining primary prevention ICD treatment algorithms.”

Some key points:

- A **negative** MTWA test result identified a population of patients at very low risk of SCA, regardless of ejection fraction. The annual event rate was 0.9% in patients with EF \leq 35% and 0.3% in patients with EF $>$ 35%. This corresponds to an NPV of 99.1% and 99.7%, respectively, at one year.
- In the overall cohort, a patient with a **positive** test was almost 9.0 times more likely to experience SCD than a patient with a negative test. The authors note that “even among patients with LVEF $>$ 35%, a positive MTWA test identifies a cohort at significantly heightened risk of SCD for whom targeted therapies may be beneficial to mitigate arrhythmic risk.”
- The study confirms the prognostic value of a test that is **indeterminate** (due to physiologic reasons) in patients with a reduced EF: “The risk of SCD among patients with indeterminate MTWA results is highly dependent on ejection fraction. Among patients with LVEF \leq 35%, an indeterminate MTWA test – particularly among those who are indeterminate due to excessive ectopy or inadequate HR – predicts an increased risk of SCD at least as well as a positive test. In contrast, an indeterminate MTWA test in patients with LVEF $>$ 35% does not predict an increase SCD and therefore, these patients should not be grouped with patients who test positive.”

The study is currently in press and the [abstract](#) can be found on the Heart Rhythm website.