

# Recent improvement in 3D ECHO accuracy for LV mass

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(HealthDay) -- In the past decade there has been an improvement in the accuracy of three-dimensional echocardiography (3DE) for measurement of left ventricular (LV) mass, according to a meta-analysis published online April 30 in *The American Journal of Cardiology*.

Yuichi J. Shimada, M.D., of the Beth Israel Medical Center in New York City, and Takahiro Shiota, M.D., Ph.D., of the University of California in Los Angeles, conducted a literature review and meta-analysis to investigate the accuracy of 3DE for measurement of LV mass, and the change in accuracy over time.

The researchers identified 25 studies, which included 671 comparisons.

High heterogeneity was seen in studies published in or before 2004 ( $I^2 = 69$  percent), with a significant underestimation of LV mass ( $-5.7$  g;  $P = 0.04$ ). [Heterogeneity](#) was still seen in studies published from 2005 to 2007 ( $I^2 = 60$  percent) but there was less systematic bias ( $-0.5$  g;  $P = 0.63$ ). Studies published in or after 2008 were very homogenous ( $I^2 = 3$  percent) and highly accurate ( $-0.1$  g;  $P = 0.90$ ). The comparison of cardiac patients with healthy volunteers led to a significantly larger bias.

"This meta-analysis elucidates the underestimation of LV mass by 3DE, its improvement over the past decade, and factors affecting the bias," the authors write. "These data provide a more detailed basis for improving the accuracy of 3DE, an indispensable step toward further clinical application."

**More information:** [doi:10.1016/j.amjcard.2012.03.046](https://doi.org/10.1016/j.amjcard.2012.03.046)

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