

Women sometimes benefit more from cardiac resynchronization therapy than men

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Cardiac resynchronization therapy plus defibrillator implantation (CRT-D) sometimes helps women with heart failure more than men, although women are less likely to receive CRT-D than men.

Women are underrepresented in CRT trials for [heart failure](#), making up only about 20 percent of participants. In selected [heart failure patients](#) CRT, or biventricular pacing, is used to help improve the heart's rhythm. In addition to improving symptoms, CRT can decrease hospitalizations and reduce risk of death in [patients](#) with heart failure.

The authors combined data from three large trials of CRT-D vs. [implantable cardioverter defibrillator](#) (ICD) in patients with mild heart failure (predominantly New York Heart Association Class II). The authors examined whether [women](#) with left bundle branch block (LBBB) benefit from CRT-D at a shorter QRS duration (portion of the EKG tracing that corresponds to ventricular depolarization) than men with LBBB.

Women benefitted more than men and the main difference came in patients with LBBB and a QRS of 130 to 149 [milliseconds](#). In this group, women had a 76 percent reduction in heart failure (absolute difference 23%) or death and a 76 percent reduction in death alone (absolute difference 9%), but there was no significant benefit in men. Neither sex benefitted from CRT-D at QRS shorter than 130 milliseconds and both sexes benefitted at QRS of 150 milliseconds or longer. The finding is important because recent guidelines limit the class I indication for CRT-

D to patients with LBBB and QRS of 150 milliseconds or longer.

"Overall, this study highlights the importance of sex-specific analysis in medical device clinical studies and the public health value of combining individual-patient data from clinical trials submitted to the FDA."

Robbert Zusterzeel, M.D., and colleagues at the Center for Devices and Radiological Health at the U.S. Food and Drug Administration, Silver Spring, Md. said in their *JAMA Internal Medicine* article.

In a related commentary, C. Noel Bairey Merz, M.D., of the Cedars Sinai Heart Institute, Los Angeles, Calif., and Vera Regitz-Zagrosek, M.D., of Charite University Medicine, Berlin, write: "There are numerous differences in cardiovascular disease (CVD) between men and women. ... There are also important sex differences in use of cardiac devices."

"These results also shed light on a major contributor to the misdiagnosis and suboptimal treatment of CVD in women: guidelines are typically based on a male standard and do not address important differences in women."

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