

Researchers discover how to treat diastolic heart failure

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Research out of University Minnesota Medical School and published in the *Journal of Clinical Investigation Insight* uncovers what causes diastolic heart failure and how it can be treated.

In the article, "Magnesium supplementation improves diabetic mitochondrial and cardiac diastolic function," author Samuel Dudley, MD, Ph.D., Academic Chief of Cardiology at the University of Minnesota Medical School and his fellow researchers found that magnesium can be used to treat diastolic heart failure.

"We've found that cardiac mitochondrial oxidative stress can cause [diastolic dysfunction](#). Since magnesium is an essential element for mitochondrial function, we decided to try the supplement as a treatment," explained Dudley. "It eliminated the poor heart relaxation that causes diastolic heart failure."

Obesity and diabetes are known [risk factors](#) for [cardiovascular disease](#). Researchers discovered the magnesium supplement also improved the mitochondrial function and blood glucose in the subjects.

Patients with diastolic heart failure have a high morbidity, mortality, and healthcare costs. Patients with this condition have similar annual mortality to [patients](#) with systolic heart failure, and up until now there was no known specific treatments for this type of heart failure.

"This is an exciting step forward in the cardiovascular field," said

Dudley, "Right now there are no specific treatments for patients with diastolic heart failure, but now we have a theory of why diastolic [heart failure](#) occurs and what we can do to get rid of it."

The next step is human trials. Dudley says this work could also open doors for answers for a related condition, atrial fibrillation.

More information: Man Liu et al. Magnesium supplementation improves diabetic mitochondrial and cardiac diastolic function, *JCI Insight* (2019). [DOI: 10.1172/jci.insight.123182](https://doi.org/10.1172/jci.insight.123182)

Provided by University of Minnesota

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