

# New research finds link between red cell distribution width levels and depression in heart patients

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Researchers at the Intermountain Medical Center Heart Institute have discovered a link between elevated red cell distribution width levels and depression in patients being treated for heart disease. This new discovery can help physicians provide earlier diagnosis and treatment for possible depression in heart patients.

Red cell distribution width or RDW is a parameter that measures variation in red blood cell size or red blood cell volume. A high RDW (over 14.5%) means that the [red blood cells](#) vary a lot in size. A normal RDW is 11.6 to 14.6%, but researchers from the Intermountain Medical Center Heart Institute found that patients with a RDW level greater than or equal to 12.9% had an increased risk for [depression](#).

The new study found that the higher the RDW, the greater the risk for depression for patients. This is the first time this association has been discovered.

Results of the study will be presented during the American Heart Association Scientific Sessions in Dallas, on Monday, November 18 at 10:30 am, ET.

"Elevated red blood distribution widths are associated with anemia, but it also appears to be associated with other poor outcomes, like [heart](#) attacks, heart failure, death and now depression," said Heidi May, PhD,

MSPH, the study's principal researcher at the Intermountain Medical Center Heart Institute in Murray, Utah.

This study looked at 43,226 patients and evaluated them for an average of 5.3 years, identifying RDW levels of patients at time of diagnosis and comparing them to a follow-up diagnosis of depression.

RDW is routinely tested as part of the complete blood count panel and is generally used in combination with other tests to differentiate forms of anemia. The tests detect pulses that are produced by red [blood cells](#). The stronger the pulses are, the greater the red blood cells are in size. Likewise, the weaker the pulses are, the smaller the red blood cells are in size.

"Patients and physicians should be more aware that depression may be one of those poor outcomes and should be more diligent in screening for depression among patients who have an elevated RDW," Dr. May said.

Previous studies have also shown RDW to be a powerful indicator of poor outcomes, particularly among cardiovascular patients. However, depression has never been studied as a possible outcome for heart patients, according to Dr. May.

"With these findings, physicians should be more aware of this association and note that heart [patients](#) with an elevated RDW are at a higher risk for depression," she said. "This should encourage physicians to be more diligent in screening for depression and treating it accordingly."

"This study is important as it's the first to show an association between elevated RDW and depression in [heart patients](#)," said Dr. May. "Our hope is that other studies can be done to look at this association in different populations, even a more general medical population, to see if

an association remains."

The findings of this study persisted despite adjustment for risk factors, medications, and indicators of other diseases. Additional studies will be required to determine if the association is causal, wherein depression is a result of abnormal red cell size, anemia or some other co-morbidity.

Provided by Intermountain Medical Center

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