

## Treatment of Anemia in Patients With Heart Disease: A Clinical Practice Guideline From the American College of Physicians

The full report is titled “Treatment of Anemia in Patients With Heart Disease: A Clinical Practice Guideline From the American College of Physicians.” It is in the 3 December 2013 issue of *Annals of Internal Medicine* (volume 159, pages 770-779). The authors are A. Qaseem, L.L. Humphrey, N. Fitterman, M. Starkey, and P. Shekelle, for the Clinical Guidelines Committee of the American College of Physicians.

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### Who developed these recommendations?

The Clinical Guidelines Committee of the American College of Physicians (ACP) developed these guidelines. The ACP is a professional organization for internal medicine doctors, who are specialists in adult care.

### What is the problem and what is known about it so far?

Patients with heart problems, including coronary heart disease, a heart attack, or congestive heart failure, may develop anemia. Red blood cells and a protein inside them called hemoglobin are needed to carry oxygen throughout the body. Anemia is when the number of red blood cells or amount of hemoglobin is lower than normal. Anemia has many causes, including not having enough iron in the blood to make hemoglobin.

Although anemia is common in patients with heart disease and is associated with poor outcomes (such as worsened quality of life, exercise intolerance, or an increased risk for death), it is not clear whether anemia is the cause of these poor outcomes or a marker of patients with heart disease who are sicker and more likely to do worse. Severe anemia would be treated in most situations, but whether it is beneficial or harmful to treat milder anemia with blood transfusions, drugs to induce the body to make more red blood cells (called erythropoiesis-stimulating agents or ESAs), or iron given intravenously (through veins) is not clear.

The ACP wanted to determine whether treating anemia in patients with heart disease is beneficial or harmful.

### How did the ACP develop these recommendations?

The ACP reviewed research on the benefits and harms of treating anemia in patients with heart disease.

### What did the authors find?

Although only limited-quality data were available, the evidence suggests that using blood transfusions in patients with coronary heart disease when anemia is milder than only when it is more severe does not improve mortality. Studies are lacking to show whether treating milder anemia (rather than only more severe anemia) improves exercise capacity or quality of life.

The use of ESAs did not improve mortality, exercise capacity, quality of life, or how often patients with heart disease and mild to moderate anemia needed to be hospitalized. The use of ESAs did, however, increase the risk for a blood clot in patients with heart failure.

Evidence was insufficient to determine whether there is a benefit to giving iron intravenously to treat patients with heart disease who have iron-deficiency anemia.

### What does the ACP recommend that patients and doctors do?

Blood transfusions should be restricted to treating more severe anemia rather than milder anemia in patients with heart disease, and ESAs should not be used to treat mild to moderate anemia in patients with heart failure or coronary heart disease.

### What are the cautions related to these recommendations?

What level of anemia is mild or moderate was not always or consistently defined in the available studies.