

Information Handout

Provided by the National Anemia Action Council, Inc., a nonprofit corporation.



Anemia & Diabetes

What is anemia?

Anemia is a below-normal level of hemoglobin* or hematocrit*. Hemoglobin is the protein in red blood cells that carries oxygen to all parts of the body. Anemia can be a temporary condition, a consequence of other health conditions, or it can be a chronic problem. People with mild anemia may not have any symptoms or may have only mild symptoms. People with severe anemia may have problems carrying out routine activities and can feel tired or experience shortness of breath with activity.¹

How common is anemia in people with diabetes?

There are over 17 million people in the United States who have diabetes. About 5-10% have type 1 diabetes and 90-95% have type 2 diabetes.¹ Diabetic kidney disease is a common cause of kidney failure. Approximately one-third of people who have type 1 diabetes for at least 15 years develop kidney disease.² Many people with kidney disease develop anemia.

What causes anemia in people with diabetes?

Kidney disease is a common complication of diabetes. Damaged kidneys may not produce enough erythropoietin (EPO), a hormone that regulates red blood cell production. Less EPO in turn means fewer red blood cells and their protein hemoglobin to deliver oxygen to your body's organs. If there are not enough red blood cells, your body does not get the right amount of oxygen, resulting in anemia. Additional causes of anemia are low levels of iron or low levels of certain vitamins that your body needs to produce hemoglobin and make healthy red blood cells.¹

What are the effects of untreated anemia in diabetes?

Studies show that having anemia along with diabetes may increase the likelihood of developing diabetic eye disease, developing heart disease or having a stroke.^{3,4} People who have both diabetes and anemia are more likely to die early than those who have diabetes but not anemia.¹ High death rates are even more common in anemic people with diabetes who also have heart failure and/or kidney disease.⁵ While managing anemia may be life saving in some circumstances, treatment has not proven to guarantee a longer lifespan.

How do I know if I have anemia?

The best way to determine if you have anemia is to discuss your blood counts and changes in hemoglobin and hematocrit with your doctor. Symptoms usually develop when anemia is moderate to severe, and can include fatigue, weakness, pale skin, chest pain, dizziness, irritability, numbness or coldness in your hands and feet, trouble breathing, a fast heartbeat, and headache. It is important to see your doctor on a regular basis in order to be tested for possible anemia.

What treatments are available to help me?

Treatment will vary by the cause of the anemia. Iron or vitamin supplements may be recommended. Anemia that is associated with kidney disease often requires treatment with drugs that stimulate red blood cell production. Noteworthy though are recent studies which suggest that it is best not to try to correct the anemia to normal levels.⁶ Close communication with your doctor will help him or her provide the treatment that is best for you based on what is causing the anemia.

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*Normal Lab Values: Normal hemoglobin >12 g/dL for women, >13 g/dL for men; normal hematocrit >36% for women, >39% for men.

Anemia & Diabetes ...Continued

Glossary

Diabetes: Disease which causes your body to either not make enough insulin (type1) or not use insulin the right way (type2)

Diabetic eye disease: Damage to small blood vessels of the retina

Erythropoietin: Hormone that regulates red blood cell production

Hematocrit: Percentage of red blood cells in a blood sample

Hemoglobin: Protein carried by red blood cells that transports and delivers oxygen throughout your body

References

1. National Anemia Action Council. Anemia: A Hidden Epidemic. Los Angeles, CA: HealthVizion Communications, Inc; 2002.
2. NIDDK: Diabetes Control and Complications Trial. Available at: <http://diabetes.niddk.nih.gov/dm/pubs/control/#kidney>.
3. Friedman EA, et al. Am J Kidney Dis. 1995;26:202-208.
4. Qiao Q, et al. J Clin Epidemiol. 1997;50:153-158.
5. Collins A, et al. Adv Stud Med. 2003;3(3C):S14-S17.
6. Singh A, et al. New Eng J Med. 2006;355:2085-2098.

NAAC's Online Resources for Patients & Consumers (www.anemia.org)

Information Handouts – Educational handouts describing anemia caused by different conditions including: aging, cancer, diabetes, vitamin deficiency, chronic kidney disease and more; free print or download access

Frequently Asked Questions – Answers to patients' common questions regarding anemia

Anemia Glossary – Definitions for medical terms relating to anemia which are used in NAAC's educational material

Feature Articles – Short articles covering anemia-related topics for patients, caregivers and allied healthcare providers

Anemia Watch – Our free quarterly e-newsletter covering current anemia-related topics and news

Anemia Symptoms Quiz – Printable questionnaire to fill out and take to a physician

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