Anemia in CHRONIC KIDNEY DISEASE

AWARENESS / COMMUNICATION / TREATMENT
What is anemia?

Anemia happens when there are not enough red blood cells in your body.

Red blood cells carry oxygen through your bloodstream, giving you energy and helping your muscles, bones and organs work properly.

Anemia can make you feel weak and tired because you are not getting the energy you need.
Doctors and researchers are working on potential new treatments for anemia. New treatments in development are tested in clinical trials. If you're interested in joining a clinical trial to try an investigational new treatment for anemia, talk to your doctor.

How does chronic kidney disease (CKD) cause anemia?

Anybody can develop anemia, but it is very common in people with CKD. People with CKD may start to have anemia in the early stages of CKD, and anemia usually gets worse as CKD gets worse. If your kidneys are not working as well as they should, you are more likely to get anemia.

Anemia in CKD is more common if you:

- Have diabetes
- Have heart disease
- Have high blood pressure
- Are African-American
- Are older than 75 years

If you think you might be at risk, talk to your doctor about getting tested. Management of anemia and its symptoms may lead to a better quality of life.
What are the signs of anemia in CKD?

Anemia can happen with or without symptoms. Many of the symptoms of anemia can also be caused by other problems. The only way to check if you have anemia is to get tested. If you are having symptoms, it is important that you talk to your doctor.

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There are two main causes of anemia in CKD:

Less erythropoietin than normal

- All of the cells in your body live for a certain amount of time and then die. Red blood cells live for about 115 days. Your body is always working to make new cells to replace the ones that have died. Your kidneys help your body make red blood cells. Healthy kidneys make a hormone called erythropoietin (EPO). EPO sends a signal to the body to make more red blood cells. If your kidneys are not working as well as they should, they can’t make enough EPO. Without enough EPO, your body doesn’t know to make enough red blood cells. This means fewer red blood cells are available for carrying oxygen through your body.

- Less erythropoietin than normal
- Anemia in CKD can increase your risk of heart problems because the heart has to work harder to provide blood to your body. If you experience an unusually fast heart rate or are worried about your heart health, please speak to your doctor.

Less iron than normal

- Iron is a mineral found in many foods, such as meats and leafy greens. Your body uses iron to make red blood cells. A common cause of anemia in people with CKD is iron deficiency. Iron deficiency means you do not have enough iron in your body. It can be caused by not getting enough iron in your diet or by losing blood, either through blood tests or during dialysis. If you don’t take in enough iron through your diet, you can get anemia. Around half of people with CKD stages 2 to 5 have some level of iron deficiency.

Healthcare professionals consider iron deficiency to be a risk factor for anemia in people with CKD.

- Iron from your food is not being absorbed properly into your bloodstream
- Shortness of breath
- Your blood may not have enough red blood cells to deliver oxygen to your muscles. Your body tries to get more oxygen by making you breathe faster.

- Iron from your blood is not being absorbed properly into your bloodstream
- Chest pain
- Anemia in CKD can increase your risk of heart problems because the heart has to work harder to provide blood to your body. If you experience an unusually fast heart rate or are worried about your heart health, please speak to your doctor.

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There are several kinds of anemia. This handbook is about the kinds of anemia that are caused by having too little EPO or too little iron in your body. These types of anemia are the most common in people with CKD. Talk to your doctor to learn more.
If you have CKD, **getting early treatment** for your anemia can help **slow the progress** of your CKD.

If you think you might have anemia, **talk to your doctor** about getting tested.

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**How is anemia treated?**

### Getting diagnosed

Talk to your doctor if you think you may have anemia. Your doctor may do a simple blood test to check if you have enough red blood cells, and may ask you if you’ve noticed any symptoms, such as changes in skin color or feeling unusually tired.

### Treating anemia in CKD

Getting your anemia treated can help you feel better. Depending on the cause of your anemia, your doctor may recommend one of the following treatments:

- **Erythropoiesis-stimulating agents (ESAs)** – ESAs are medicines that work by sending a signal to the your body to make more red blood cells.
- **Iron supplements** – Your doctor may give you iron supplements as pills or as a shot. If you are on dialysis, you may be given an iron supplement during your dialysis treatment.
- **Red blood cell transfusion** – A red blood cell transfusion is a way to increase the number of red blood cells in your body by giving you red blood cells from someone else’s body through an IV. This can temporarily improve your anemia symptoms. In some cases, red blood cell transfusion might affect whether or not you can get a kidney transplant in the future.

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