



# Kidney Failure: What to Expect

**K**idney failure can hit you in surprising ways. You may get headaches and other pains. You may be tired all the time and lose your appetite. But what do the kidneys have to do with these conditions?

Healthy kidneys remove waste products from your blood. When your kidneys stop working waste products build up in your blood. These waste products are called uremic toxins. This condition is known as uremia. Your kidneys also make hormones and balance chemicals in your system. When your kidneys stop working many problems can happen. You may develop anemia (low blood count) or conditions that affect your bones, nerves, and skin. Some of the more common conditions caused by kidney failure are fatigue, bone problems, joint problems, itching, and “restless legs.”

## Anemia and Fatigue

Anemia is a condition in which the red blood cells in the body are low. Red blood cells carry oxygen to the cells in the body. Without oxygen, cells can't use the energy from food. Someone with anemia may tire easily and look pale. Anemia can also add to heart problems.

Anemia is common in people with kidney disease because the kidneys produce the hormone erythropoietin (EPO).

EPO helps the bone marrow to make red blood cells. People with kidney disease often don't make enough EPO. Their bone marrow makes fewer red blood cells so they get anemia. EPO is available by prescription. EPO is commonly given to patients who are on dialysis.

## Loss of Appetite and Nausea

Having uremia can change the way food tastes to you. You may no longer like foods you used to crave. In fact, sometimes you may feel sick to your stomach at the thought of eating. But getting enough protein and calories is important for staying healthy. Work with your clinic's dietitian to find meals that appeal to you and provide the nutrients you need.

## Itching (Pruritus)

Many people treated with hemodialysis complain of itchy skin. This is often worse during or just after the dialysis treatment. Itching is common even in people who do not have kidney disease. If you have kidney failure the itching can be made worse by uremic toxins that aren't removed from the blood during dialysis. The problem can also be related to high levels of parathyroid hormone (PTH). This is also common in kidney failure. Some people feel much better after having their parathyroid glands removed. But a cure for



itching that works for everyone has not been found. Phosphate binders seem to help some people. Others find relief after exposure to ultraviolet light. Still others improve with EPO shots. A few antihistamines (Benadryl, Atarax, Vistaril) have been found to help. Capsaicin cream applied to the skin may relieve itching by deadening nerve impulses. Whatever treatment you choose, taking care of dry skin is important. Applying creams with lanolin or camphor may help keep your skin moist.

## Sleep Disorders

Patients on dialysis often have insomnia (trouble getting to sleep). Some people have a special problem called the sleep apnea syndrome. Episodes of apnea are breaks in breathing during sleep. Over time, these sleep disturbances can lead to “day-night reversal” (insomnia at night, sleepiness during the day). This can cause headaches, depression, and decreased alertness. The apnea may be related to the effects advanced kidney failure has on the control of breathing. Some treatments may work with people who have sleep apnea, whether they have kidney failure or not. These include losing weight, changing sleeping position, and wearing a mask that gently pumps air continuously into the nose (nasal continuous positive airway pressure, or CPAP).

Many people on dialysis have trouble sleeping at night because of aching, uncomfortable, jittery, or “restless” legs. You may feel a strong impulse to kick or thrash your legs. Kicking may occur during sleep and disturb a bed partner throughout the night. Theories about the causes of this syndrome include nerve damage and chemical imbalances.

Moderate exercise during the day may help, but exercising a few hours before bedtime can make restless legs worse. People with restless leg syndrome should reduce or avoid caffeine, alcohol, and tobacco. Some people also find relief through massages or warm baths. A class of drugs called benzodiazepines may also help. They are often used to treat insomnia or anxiety. These prescription drugs include Klonopin, Librium, Valium, and Halcion. A newer and sometimes more effective therapy is levodopa (Sinemet). This drug is also used to treat Parkinson’s disease.

Sleep disorders may not seem important, but they can make your quality of life worse. Make sure to bring these problems up with your nurse, doctor, or social worker.

## Renal Osteodystrophy

The term “renal” describes things related to the kidneys. Renal osteodystrophy means bone disease of kidney failure. It affects 90 percent of dialysis patients, both children and adults, causing bones to become thin, weak, or malformed. Symptoms can be seen in growing children with kidney disease even before they start dialysis. Older patients and women who have gone through menopause are at greater risk for this disease.

## Amyloidosis

Dialysis-related amyloidosis (DRA) is common in people who have been on dialysis for more than 5 years. DRA develops when proteins in the blood deposit on joints and tendons. This causes pain, stiffness, and fluid in the joints, as is the case with arthritis. Working kidneys filter out these proteins. With kidney disease these proteins can build up. Dialysis filters are not as good as the kidney. That is why DRA can happen in dialysis patients.

## Depression

Adjusting to the effects of kidney failure and the time you spend on dialysis can be difficult. Aside from the “lost time,” you may have less energy. You may need to make changes in your work or home life, giving up some activities and responsibilities. Keeping the same schedule you kept when your kidneys were working can be very difficult now that your kidneys have failed. Accepting this new reality can be very hard on you and your family. A counselor or social worker can help you cope.

Many patients feel depressed when starting dialysis, or after several months of treatment. If you feel depressed, you should talk with your social worker, nurse, or doctor. This is a common problem that can often be treated effectively.

Your treatment should do more than just keep you alive. It should also give you the best quality of life possible. Don't assume that you have to live with fatigue and pain. Talk with your health care team so they can help you get the most from your treatments.

## Hope Through Research

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) is devoted to improving the lives of people with kidney disease. Its Division of Kidney, Urologic, and Hematologic Diseases supports several kidney programs and studies. These focus on improving treatment for patients with kidney disease. The End-Stage Renal Disease Program promotes research for patients on dialysis or with a kidney transplant. The research is designed to reduce medical problems in kidney failure. These include bone, blood, nervous system, intestinal, heart, and endocrine problems. It is also designed to improve the effectiveness of dialysis and transplantation. Current efforts focus on home dialysis options and alternative dialysis schedules. They include short daily sessions or long nightly sessions.

## About the Kidney Failure Series

The NIDDK's Kidney Failure Series includes six booklets and eight fact sheets that can help you learn more about treatment methods for kidney failure, complications of dialysis, financial help for the treatment of kidney failure, and eating right on hemodialysis. For free single printed copies of this series, please contact the National Kidney and Urologic Diseases Information Clearinghouse.

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Publications produced by the Clearinghouse are carefully reviewed by both NIDDK scientists and outside experts. This fact sheet was also reviewed by Keith Norris, M.D., Charles R. Drew University of Medicine and Science, Los Angeles.

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