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Chronic Renal Failure (Chronic Kidney Disease)

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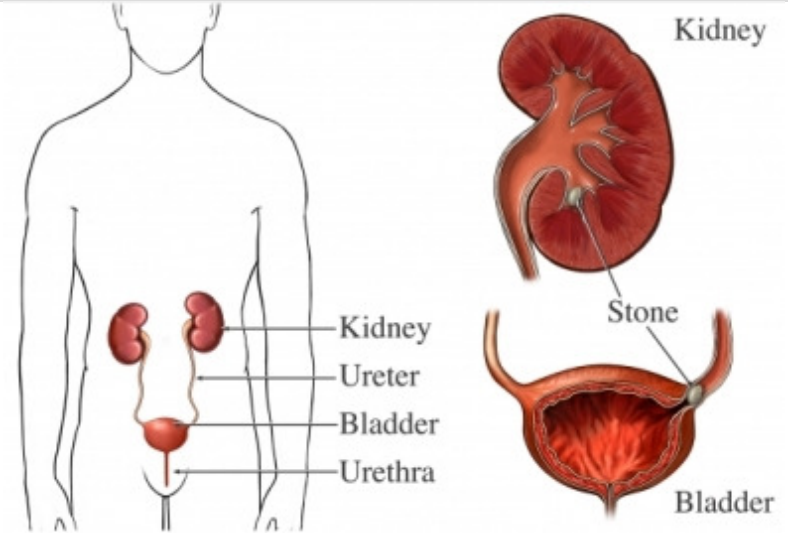
Definition

Chronic renal failure occurs when a kidney is damaged and cannot work effectively. Kidneys clean waste from the blood, which passes out of the body in urine. If the disease is caught early, damage to the kidney can be slowed, but not stopped completely.

The Kidneys



Causes

Chronic renal failure is often caused by diseases such as, high blood pressure, diabetes, and various kidney diseases (kidney stone, benign prostatic hypertrophy, polycystic kidney disease,

drug-induced kidney disease). In some patients, severe infections (eg, hepatitis B or HIV) or autoimmune diseases (eg, lupus) can also cause kidney disease.

Risk Factors

A risk factor is something that increases your chance of getting a disease or condition.

The following factors increase your chance of developing chronic renal failure. If you have any of these risk factors, tell your doctor:

Race: African Americans more than Caucasians
Genetics: type 1 diabetes, polycystic kidney disease
Diabetes
High blood pressure
Smoking cigarettes
Heavy alcohol consumption
Exposure to high levels of lead
Being overweight or obese
Other family members with kidney disease
A previous kidney transplant

Symptoms

If you experience any of these symptoms, do not assume it is due to chronic renal failure. These symptoms may be caused by other, less serious health conditions. If you experience any one of them, see your doctor.

Symptoms include:

Tiredness
Weakness
Not sleeping well
Less desire to eat than usual
Nausea
Itching
Shortness of breath
Altered taste
Altered mental state

Diagnosis

The most reliable way to measure kidney disease is by testing for glomerular filtration rate—the speed at which blood enters, is cleaned, and then leaves the kidney. A rate of less than 60 milliliters every minute over three months indicates chronic kidney disease.

A blood test for levels of creatine is a part of calculating the filtration rate. Creatinine is an acid that promotes muscle growth. When the kidney is not working effectively, the amount of creatinine in the blood increases. Other commonly ordered tests include calcium, phosphorus, parathyroid hormone, potassium, blood urea nitrogen (BUN), and bicarbonate.

A doctor also will test for protein in the urine, particularly for a protein called albumin, and ask questions about personal and health histories to determine if there are any other causes for the results of the blood and urine tests.

Your doctor may order an ultrasound of the kidney.

Patients who are already at high risk for kidney disease should be tested more frequently so any damage can be diagnosed early. Patients with kidney disease will be referred to a specialist called a nephrologist, who is dedicated to managing kidney diseases. On rare occasion, a kidney biopsy is done.

Treatment

Although chronic kidney disease cannot be cured, it is possible to slow the damage to the kidney in most patients. Your doctor may recommend any of the following:

- Controlling protein in the urine through restricting the amount of protein in the diet or medication
- Taking ACE inhibitors or angiotensin II receptor antagonists to slow the progression to chronic renal failure
- Reducing the use of and the dosages of potentially renal toxic drugs
- Managing the complications of chronic renal disease (eg, fluid overload, high blood phosphate or potassium levels, low blood level of calcium, and anemia)
- Lowering high blood pressure
- Controlling blood sugar and lipid levels
- Staying hydrated
- Controlling salt in the diet
- Quitting smoking
- Undergoing dialysis, a medical process that cleans the blood
- Having a kidney transplant
- Counseling for you and your family about dialysis and/or transplant options

Prevention

To help reduce your chance of chronic kidney failure, take the following steps:

- Get a physical exam every year that includes a urine test to monitor your kidney's health.
- Do not smoke, or stop smoking if you are a smoker.
- Maintain a healthy weight.
- Drink water and other fluids to stay hydrated.
- People who have diabetes, previously known kidney disease, high blood pressure, or are over the age of 60 should be screened regularly for kidney disease.
- People with a family history of kidney disease should also be screened regularly.

RESOURCES:

American Academy of Family Physicians
http://www.aafp.org
National Kidney Foundation
http://www.kidney.org

CANADIAN RESOURCES:

Health Canada
http://www.hc-sc.gc.ca/index-eng.php
The Kidney Foundation of Canada
http://www.kidney.ca

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Last reviewed July 2010 by Adrienne Carmack, MD
Last Updated: 7/9/2010