

CHRONIC RENAL DISEASE

What is Chronic Renal Disease?

Chronic renal disease (also known as chronic kidney disease) is a slow loss of kidney function over a period of months or years. The main function of our bodies' two kidneys is to remove wastes and excess water from the body, help make red blood cells, help keep bones healthy and help to keep blood pressure under control. Therefore in kidney disease there is a build-up of fluid and waste products in the body. In chronic kidney disease the kidneys are damaged and they are unable to keep you healthy by filtering your blood well enough.

What causes it?

Anyone can get kidney disease, and at any age. You may have a higher risk of kidney disease if you have diabetes, high blood pressure, have a family member with kidney failure or have used medicines over a long period that may damage to the kidneys. Diabetes and high blood pressure are the two most common causes and account for most cases of chronic kidney disease. In diabetes high levels of blood sugar causes damage to many organs and muscles in your body, including the kidneys, the heart and blood vessels, nerves and eyes. If blood pressure is not controlled it also can cause chronic kidney disease, strokes and heart attacks.

Many other diseases and conditions can also damage the kidneys, including:

- Problems with arteries leading to and inside the kidneys
- Birth defects of the kidneys (polycystic kidney disease)
- Long-term usage of pain medication and drugs
- Certain toxic chemicals
- Autoimmune disorders such as systemic lupus erythematosus and scleroderma
- Injury or trauma
- Glomerulonephritis
- Kidney stones and infection
- Reflux nephropathy (in which the kidneys are damaged by the backward flow of urine into the kidneys)

How is it diagnosed?

Chronic renal failure is diagnosed by a combination of symptoms and elevated blood urea nitrogen (BUN) and creatinine (Cr) levels. The following abnormalities found in the blood may signal chronic renal failure:

- Anaemia (low red blood cell count)
- High level of parathyroid hormone
- Low levels of calcium
- High levels of phosphate in the blood
- High levels of potassium in the blood
- Low levels of sodium in the blood
- Low levels of bicarbonate in the blood
- Low plasma Ph (blood acidity)

High blood pressure is almost always present during all stages of chronic renal disease. An ultrasound of the kidneys may show that kidneys are small in size and may also show signs of scarring.

How can Chronic Renal Disease affect my health?

The kidneys have important roles in maintaining health. When healthy, the kidneys maintain the body's internal equilibrium of water and minerals (sodium, potassium, chloride, calcium, phosphorus, magnesium and sulphate). End products from acidic metabolism that cannot be got rid of through respiration, are excreted via the kidneys.

The kidneys also function as part of the endocrine system producing erythropoietin and calcitriol. Erythropoietin is involved in the production of red blood cells and calcitriol plays a role in bone formation.

Many people are not diagnosed with chronic kidney disease until they have lost much of their kidney function. There is no cure for chronic kidney disease. It usually progresses to end stage kidney disease. Treating the condition that is causing the problem may help prevent or delay chronic kidney disease. People who have diabetes should control their blood sugar and blood pressure levels and should not smoke.

Treatment

Lifelong treatments may control the symptoms of kidney disease. Controlling your blood pressure is the key to delaying further kidney damage. The goal is to keep your blood pressure at or below 130/80mmHG. Other tips for protecting the kidneys and preventing heart disease and stroke:

- Do not smoke
- Eat meals low in fat and cholesterol
- Get regular exercise
- Take medication to lower your cholesterol
- Keep your blood sugar under control

Other treatments may include:

- Special medicines to control your blood pressure: such as Angiotensin converting enzyme inhibitors (ACE inhibitors) such as Perindopril, Enalapril, Lisinopril, Captopril and Angiotensin receptor blockers (ARBs) such as Valsartan, Telmisartan, Losartan etc
- Medicines called phosphate binders to help prevent phosphorus levels from becoming too high

- Treatment for anaemia such as extra iron in diet or iron supplements, erythropoietin and blood transfusions
- Extra calcium and vitamin D

When loss of kidney function becomes more severe, you will need to prepare for dialysis or a kidney transplant. When you start dialysis depends on different factors, including your laboratory results, severity of symptoms and readiness. You should begin preparing for dialysis before it is absolutely necessary. The preparation includes learning about dialysis, and the types of dialysis therapies and the placement of the dialysis access. Even those who are candidates for a kidney transplant will need dialysis while waiting for a kidney to become available.

Dialysis is an imperfect treatment to replace kidney function because it does not correct the endocrine imbalances of the kidney. Dialysis treatments replace some of the functions of the kidney through diffusion (waste removal) and ultra-filtration (fluid removal).

Your role in managing this condition

You may make a difference to your chronic kidney disease by taking measures to help prevent it worsening or progressing more rapidly.

- Control your blood pressure and blood sugar levels.
- Limit the amount of fluids you drink
- Eat a low protein diet
- Restrict your salt intake
- Eat foods that provide you with sufficient calories if you are losing weight
- Have the Influenza vaccine each year
- Ensure your vaccinations for Hepatitis A and B are up to date, as well as a pneumonia vaccine
- Take your medication for your diabetes and blood pressure religiously every day as prescribed by your doctor
- Keep track of how well you are doing: Test your creatinine and glomerular filtration rate regularly to see if it is getting worse
- Check your bone density regularly every two years
- Do not smoke
- Get regular exercise and generally maintain a healthy lifestyle

Disclaimer

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