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# KEEP YOUR KIDNEYS HEALTHY

Dr. Nupur Krishnan throws light on renal diseases and outlines the dietary guidelines to fight them

CHRONIC KIDNEY DISEASE IS A PROGRESSIVE LOSS IN KIDNEY FUNCTIONS OVER A PERIOD OF MONTHS OR YEARS. MOST OF US ARE UNAWARE OF THE EXACT ROLE OF THE KIDNEYS IN OUR BODY, AND REMAIN IGNORANT OF THE SCOPE AND EXTENT OF KIDNEY DISEASES. LET US TAKE A LOOK AT HOW THE RIGHT DIET CAN HELP TO FIGHT KIDNEY DISEASE.

#### What do the kidneys do?

The kidneys are among the vital organs in the body for healthy living. They act as a filtering and regulating mechanism, and perform many important and complex functions:

- 1. Removing waste products like urea, creatinine, and uric acid from the body.
- 2. Elimination and detoxification of drugs and toxins.
- 3. Maintaining body fluids and amount of water in the body.
- 4. Maintaining electrolytes like sodium, potassium and chloride in the blood.
- 5. Regulating blood pressure and metabolic processes like calcium and phosphorus.

Most of the wastes, minerals, and electrolytes that the kidneys remove come from the foods we eat. When protein is digested, a waste product called urea is formed. Urea and other wastes are combined with water in the kidneys to form urine.

# A Kidney

Blood, waste and water enter here through the Renal Artery

Blood without waste or excess water leave here through the Renal Vein

Excess water and Toxic Waste in the form of Urine leaves here via the Ureter



We have two kidneys, one on the right side of the lower back and the other on the left side. People can live fairly healthy even with only one healthy kidney. If a part of the kidney is damaged or diseased, the healthy part works extra hard to make up for the loss.

## **Effects of renal insufficiency**

Renal insufficiency is a term used to define decreased kidney function. When a kidney is damaged or kidney disease develops it may not be able to filter and excrete enough wastes from the blood. When this happens, wastes and electrolytes build up in the blood and act like poison. In addition this condition also leads to development of other chronic diseases.

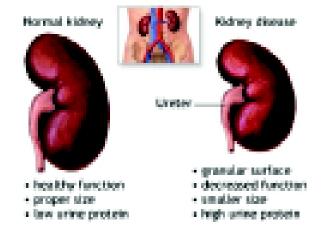
Reduced kidney function will lead to insulin resistance and make a person a victim of diabetes. Renal insufficiency also affects sexual hormones like progesterone or testosterone in women and men respectively. Renal insufficiency can also cause thyroid abnormalities affecting the Thyroid Stimulating Hormones (TSH).

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#### What is kidney disease?

Kidney disease occurs when the kidneys don't filter enough wastes from the blood. Kidney diseases (also called renal diseases) can be either acute or chronic. Acute kidney diseases usually result from massive loss of blood, serious burns, ingestion of poison, or major trauma such as a car accident.

Chronic kidney disease (also called chronic renal failure or CRF) can result from a number of causes, such as diabetes, high blood pressure, hereditary, other related kidney diseases, side effects of drugs, blockage by stones in the kidney, cancer or prostate problem.



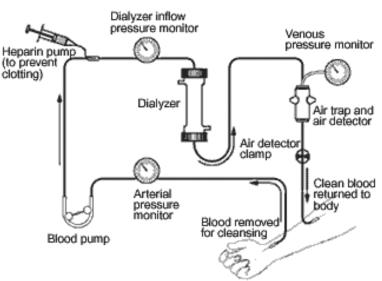
## Symptoms of kidney disease

People can lose more than half their normal kidney function before they notice any of the symptoms of kidney diseases. Some of these symptoms are nausea, vomiting, tiredness and loss of appetite. In many cases, the kidney function gets worse even with the best treatment. As kidney failure worsens, the symptoms of CRF also worsen. When kidney function is very limited (this is called end stage renal diseases or ESRD) dialysis is usually prescribed. Some people choose to have a kidney transplant instead of long term dialysis.

#### What is dialysis?

Dialysis is the process of mechanically removing excess urea, fluids, electrolytes, minerals and other wastes from the body when the kidneys can't. There are two types of dialysis - peritoneal dialysis and hemodialysis.





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#### DIETARY GUIDELINES

The renal diet is an essential part of treatment - it helps to keep you healthy and slow down the loss of kidney function, and avoids complications like fluid overload, high blood potassium, itching, and bone disease and weight loss.

The dietary advice you are given depends on a number of factors including the stage of renal disease, the type of treatment you are on, your blood results and the presence of other medical conditions such as diabetes mellitus, or hypercholesterolaemia.

In general, the diet controls the amount of protein, phosphorus, potassium and sodium. Energy intake should be optimum to maintain Ideal Body Weight.

#### **Quality of Proteins**

In the body, protein in foods breaks down into a waste product called urea. If you suffer from kidney disease, you may need to reduce the amount of protein you eat to avoid build-up of urea in your body.

Some sources of protein produce less waste than others. They are known as High Biological Value proteins. Eat 50% of your proteins from High Biological Value sources and distribute them well in the diet.



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**High Biological Value:** Milk and milk products, meat, fish and poultry, eggs, soybeans and their products.

**Low Biological Value:** Cereals and their products, dals and pulses, nuts and oilseeds, vegetables like peas and beans.

#### Helpful Hints for Sodium/Salt Restriction

- Limit the amount of sodium/salt in your diet as high blood pressure, kidney disease and sodium are often related.
- Use salt discretely. Consume ½-1 tsp/d, i.e., 3-5 gm/d.
   Do not add salt to chapattis, rice, salads, soups, etc.
- Season your food with fresh lime juice, onions flakes, mango powder (amchur), vinegar, tamarind pulp, kokum and garlic-ginger-green chillies.
- Prepare meals without using ajinomoto, baking soda, and Eno powder. Make use of sour curds for leavening, chilled water to retain colour, etc.
- Avoid papad, chutney, pickle, chips, masala, sauces, bread, and baked items.
- Salt substitutes usually contain KCI (potassium chloride) which may contribute a significant amount of potassium so check with a doctor before using them.
- Choose to grill, steam, or prepare in gravy lean portions of white meat. Do not consume organ meats. Opt for fresh water fish instead of seafood.

# Manage Your Fluid Intake

Extra fluid affects your blood pressure and can increase workload on your heart. Do not exceed the fluid restriction recommended by the doctor.

- Fluids include water, milk, fruit juices, non-alcoholic beverages, buttermilk, jelly, ice, ice cream, soups, dals, gravies, hot drinks, milk shakes, etc.
- Keep a record of what you are drinking. Drink from a small cup or glass.
- Avoid salty, dried and fried foods as they increase thirst.

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