

24-Hour Helpline: 011-30403040



Understanding Chronic Kidney Disease

What are the functions of kidney?

Kidneys keep the internal environment of our body clean and healthy. They:

- ◆ Excrete metabolic waste products of food, specially nitrogenous wastes
- ◆ Produce erythropoietin hormone which helps in blood formation
- ◆ Excrete metabolic acids and other toxic compounds
- ◆ Contribute to healthy bone formation by making active Vitamin D

What are the symptoms of kidney failure?

- ◆ Polyuria (passing more urine)
- ◆ Nocturia (passing more urine during night)
- ◆ Pedal edema
- ◆ Puffiness of the face
- ◆ Persistent aches and pains
- ◆ High blood pressure
- ◆ Shortness of breath on mild exertion
- ◆ Inability to reproduce
- ◆ Fatigue, lassitude, tiredness

The most important point to remember is that even upto advanced stages of kidney failure, (CKD iv and v) patients usually do not have any symptoms.

How is CKD diagnosed?

- ◆ Routine urine examination
- ◆ Ultrasound of kidney, bladder and prostate
- ◆ Kidney function test

Who is most vulnerable?

Following are the group of patients who should take extra precautions:

- ◆ Diabetic patients
- ◆ Hypertensive patients
- ◆ Patients suffering from advanced cardiac ailments
- ◆ Patients with kidney stones
- ◆ Family history of kidney diseases

What is renal replacement therapy?

- ◆ Haemodialysis (in the hospital or at home)
- ◆ Peritoneal dialysis at home (CAPD / APD)
- ◆ Renal transplantation (living donor or deceased organ donor, also called cadaveric donor)

What is renal transplant?

Kidney transplantation is the preferred treatment for many patients with end stage renal disease. A successful kidney transplant improves the quality of life. However, not all patients are appropriate candidates for this therapy because of the risks and limitations involved.

Following points should be observed during renal transplant:

- ◆ Considering there is a huge shortage of organ donors, the chosen donor should be healthy, preferably a blood relative of the patient
- ◆ After transplant, lifelong medicines are required along with periodic check-ups with a kidney specialist to avoid rejection of the transplanted kidney



What is dialysis?

Dialysis is a process of removing excess waste and water from the blood and is primarily used as an artificial replacement for lost kidney function in people with renal failure. There are two types of dialysis: haemo and peritoneal dialysis. The choice of dialysis can be best made by discussing risks and benefits of each type of dialysis with your specialist.



When to start dialysis?

- ◆ Blood tests reveal very high BUN / Serum Creatinine
- ◆ Patient has severe shortness of breath due to fluid overload or severe metabolic acidosis
- ◆ Life threatening hyperkalemia (high potassium levels in blood)
- ◆ Bleeding diathesis due to uremia
- ◆ Pericarditis (fluid collection around the heart)
- ◆ Patient is in an altered mental state or has motor weakness due to involvement of nerves

What is AV fistula?

For haemodialysis, blood flows into the machine at 200 - 400 ml every minute. To enable this flow, a small surgery is done in the forearm where an artery is directly connected to the vein. This minor surgery is done under local anaesthesia on day care basis. This can be used at least a month after it is made.

What is home haemodialysis?

In some countries, patient and their relatives are taught to perform haemodialysis at home, usually at night time before sleeping. This is done anywhere from 3 to 7 nights a week. One has to arrange for a haemodialysis machine, water supply unit, disposables, medicines and some chemicals. A separate room is also required. The patient remains in touch with the dialysis centre by telemetry or other ways.

In India, due to costs and other issues, home haemodialysis is still at a very nascent stage with very less awareness amongst people.

What is Continuous Ambulatory Peritoneal Dialysis (CAPD)?

A small plastic catheter is inserted in the patient's abdomen by a simple surgery. The patient and his attendants are taught how to instill dialysis fluid in the abdomen through a catheter, and then to drain out the used fluid, four hours later. This process has to be done thrice a day with all due precautions.

The advantages of this therapy are:

- ◆ It can be done in the home environment. So time, money and energy spent in traveling to the hospital thrice a week for haemodialysis, is avoided
- ◆ There are fewer requirements for blood transfusion
- ◆ Generally less restriction is placed on food and fluid intake
- ◆ Patient can pursue a normal lifestyle



What is Automated Peritoneal Dialysis (APD)?

This is done by a computerised machine at night, while patient is asleep. In the morning, patient disconnects the machine and attends to his normal activities.



What should be the diet for CKD patients?

Diet plays an important part in managing kidney disease. A balanced diet helps in keeping you healthy. Also, it avoids excess protein load on your tiring kidneys.

Protein regulation

- ◆ In early stage (predialysis), protein requirement is 0.6 gm / kg body weight
- ◆ An average Indian weighs around 50 kg. It means 30 - 35 gms of first class dietary proteins can be consumed everyday
- ◆ However, a patient on dialysis needs 1.2 - 1.3 gms / kg body weight and high biological value proteins, like eggs, chicken, meat, fish, paneer, milk products, soyabean and pulses
- ◆ Potassium needs to be restricted in diet: it is present in high amounts in fruits, nuts and green vegetables
- ◆ Potassium can be removed from vegetables by leaching

Sodium restriction

- ◆ To reduce sodium content in diet, do not add salt while cooking or serving
- ◆ Do not use low sodium salts (like Tata Lite, Black Salt, Lona Salt)

Foods to avoid

- ◆ Cakes, pastries, biscuits, squash
- ◆ Papads, pickles, salted chips, nuts, popcorns
- ◆ Commercial soft drinks and proprietary drinks (they are high in sodium / potassium)
- ◆ Dried foods like fish, fruits, readymade soups and canned foods
- ◆ Potassium needs to be restricted in diet

Foods to eat

Foods that are low in protein, potassium and high in calories are recommended:

- ◆ Sugar, arrowroot, sago preparation, unsalted butter, refined flour, rice preparation, vegetable oil
- ◆ Leached vegetables

As a patient of CKD, your recommended diet will change over time depending on how many kidney malfunctions you have and the renal replacement therapy you are undergoing. The hospital dietician will explain the changes you need to make in your diet and help you choose the right food.

What are the do's and dont's for CKD patients?

Do's

- ◆ Take your medicines regularly
- ◆ Go for periodic check-ups with lab tests, as advised by your doctor
- ◆ Follow your diet plan religiously
- ◆ Regular exercises / physical activities within permissible limits
- ◆ Stay focused in a positive frame of mind
- ◆ Regular relaxation activities such as yoga etc.

Dont's

Avoid the following 4D's:

- ◆ Dehydration: Avoid dehydration, specially in summer
- ◆ Dyes: Unwanted CT, angiography, etc.
- ◆ Drugs: Kidney patients should consult their physician before taking any new drug, indigenous (alternate medications) drugs like unani, ayurvedic and homeopathy
- ◆ Depression: Avoid negative thoughts

Services available

- ◆ Pioneers in cadaver (brain dead) transplant
- ◆ Renal transplant
- ◆ Haemodialysis 24 x 7
- ◆ CAPD: Start-up and training / APD
- ◆ Continuous renal replacement therapies
- ◆ Kidney biopsies and other procedures

Dr. Sunil Prakash

Sr. Consultant and Director
Nephrology and Renal Transplant Services
011-30653193, +91-8800791530

