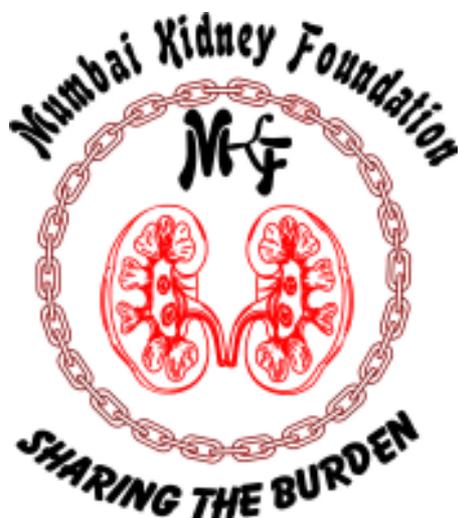


# Chronic Kidney Disease

All that you wanted to know



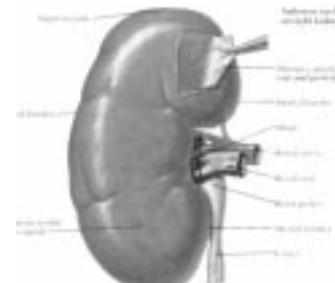
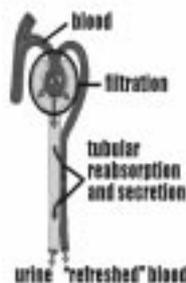
## Chronic Kidney Disease

### The Kidneys

*As Darkness increases by the night,  
My spell will take up the might,  
Though be Careful !!  
Or suffer the plight.*

Ignorance can be bliss but is certainly not profitable. Through awareness programmes we can rekindle a flame, rediscover the joy of healthy living. Real health is physical, mental, social & spiritual well being, we also need to know that health is dynamic entity like a pendulum<<<>>> It swings between two extremes of **ease & Dis-ease** & we have to lie somewhere on its path.

It is said that you must give up when you grow old but the fact is that you grow old when you give up. So the idea is to keep doing, be active & find interesting things in life to do.



The two kidneys lie at the back of the body cavity, one on either side of the spinal column, with their upper portions behind the lower ribs. Each Kidney is 10 – 12.5cm (4 – 5 inches) long & contains about 1 million nephrons. Each nephron is a “filtering unit” made up of a filter, called glomerulus, attached to a long collecting tube. There is a constant flow of blood through the kidneys which is filtered by these nephrons.

The fluid filtered out is called Urine, which passes from the kidneys down both ureters & into the bladder, where it is stored. During the urination, urine passes from the bladder down a tube called urethra to the outside. Each day the kidneys excrete about 1 – 2 litres of urine.

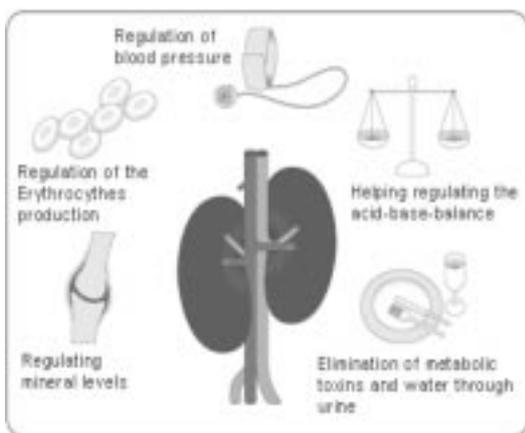
### Importance of Kidneys:

Bones can break, muscles can atrophy, glands can loaf, and even the brain can go to sleep without immediate danger to survival. But should the kidneys fail, neither bones, muscles, glands nor brain could carry on.

Your kidneys do some important jobs to keep your body healthy.

### Functions of Kidneys

The kidneys are powerful chemical factories that perform the following functions :-



**Washing-out of “waste material”** by way of urine formation. Examples of these “waste products” are Urea, Uric acid & Creatinine etc.

**Regulation of water, sodium, Hydrogen ions & several other electrolytes** (e.g. potassium, phosphorous, calcium) in the body. By modifying the composition of the urine they maintain not only the volume of the body fluids but also their compositions. These mechanisms are adjusted to the needs & the intake of water & electrolytes.

**Hormone synthesis & break down** – The kidneys are the exclusive site for the production of the active Vit.D which acts on the gut to increase Calcium absorption & maintains normal mineralization of the bone. The kidneys also produce erythropoietin & renin. Erythropoietin acts on the bone marrow to increase production of Red Blood Cells. Renin, the hormone which regulates blood pressure.

**Removal of drugs from the body** : Most of the medicines which we take during the treatment are being excreted by kidneys.

### What is Chronic Kidney Disease

**Chronic kidney disease** - means you have a condition that damages your kidneys. It may be in the form of some symptoms, or only abnormal urine report or abnormal blood report or abnormal sonography. This decreases your kidney’s ability to keep you healthy.

Kidney failure occurs when the kidneys stop working. Most kidney problems happen slowly. You may have “SILENT” kidney disease for years. Gradual loss of kidney function is called Chronic Renal Failure or Chronic Kidney Disease (CKD), which is followed by End stage renal disease (ESRD). The condition of nearly total & permanent kidney failure where the level of efficiency is less than 10% is called ESRD. When the Kidney function deteriorates, the waste products & excess fluid remain in the body.

Your skin may begin to itch, some parts of your body may swell as the result of fluid retention. This retention of fluid is called **Edema**, will lead to an increase in body weight, high blood pressure & respiratory problems. Kidney failure can also lead to blood deficiency (Anaemia) & brittle bones.

In contrast to chronic or permanent kidney damage, acute renal failure occurs when the kidneys suddenly stop working, this condition is temporary. The cause may be disease, injury, major surgery or toxic agents. It is generally reversible.

### Are you at increased risk for CKD ?

Yes if you have,

- High Blood Pressure
- Diabetes
- Stone Disorder
- Obesity
- Family History of CKD
- If you take painkillers or Ayurvedic Bhasmas.

**Causes of Kidney Disease** : The major cause of kidney failure is Hypertension, Diabetes, ureteric obstruction due to stone, drugs (pain killers) & radiation. Many other conditions can harm the kidneys like glomerulonephritis (Inflammation of Kidneys) & inherited diseases like polycystic kidney disease (cysts in kidneys).

## Symptoms of Kidney Failure



## Diagnosis of Kidney Disease

Remember you may be asymptomatic & hence the importance of regular health check up, especially for high risk patients is of utmost importance. The following tests are recommended :-

- Routine Urine examination.
- 24 Hrs urine for albumin
- Blood tests: BUN & Creatinine
- Ultrasound: to confirm the size of kidneys.
- IVP (intravenous pyelography): to detect the kidney stones.
- Kidney Biopsy: to confirm the nature of kidney disease.

## What should I do if I am at increased risk of CKD?

- Follow prescribed treatments to control Diabetes / Hypertension (Blood Pressure) regularly.
- Lose excess weight by following a healthy diet & regular exercise program.
- Quit smoking & drinking alcohol.
- Avoid self medication e.g. Pain Killers.
- Modify your diet as per your dietician's advice.

## If you have CKD, How can you manage it?

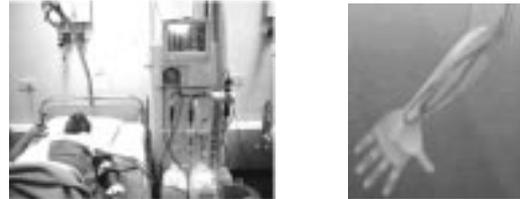
- Control high blood pressure.
- Control Blood sugar
- Follow a special diet
- Treat anemia with Erythropoietin (Hormone) & iron supplements.
- Prevent bone disease
- Follow an exercise program.
- Take corrective measures to prevent heart problems.
- Quit smoking & consumption of alcohol.
- Consult your Doctor regularly.

## Treatment options for End stage renal disease

CKD eventually progresses to ESRD when all the functioning units (Nephrons) are irreversibly damaged. at this stage there is no drug treatment available in either Allopathy, Homeopathy or Ayurveda. To save Life, one has to resort to only **Two** options anywhere in the world, these options are,

- **Dialysis: Hemodialysis & Peritoneal Dialysis.**
- **Kidney Transplantation**

## Hemodialysis.



Hemodialysis is a treatment that cleanses the blood, of the wastes & excess fluid that has built up. During hemodialysis, the blood travels through soft tubes to a dialysis machine (as shown in picture). As the blood is cleansed, it is returned to the patient's blood stream. Only a small amount of blood is out of your body at any time.

In order to be connected to the machine, patient needs to have an access or entrance to the bloodstream which can be done in following 3 ways,

- Fistula
- Graft
- Catheter

**Fistula** is a connection done with a minor surgery, between an artery & a nearby vein in the arm.

**Graft** is made by using a piece of soft tubing to connect an artery & vein in the arm or sometimes in the leg.

**Catheter** is made by inserting a soft tube into a vein, usually in the neck or upper chest. Catheter is a temporary access. Fistula should be considered the 1<sup>st</sup> choice for an access as they tend to last longer & have fewer problems such as infection & clotting. Fistulas take several weeks to enlarge & become ready for dialysis, that's why fistulas have to be made in advance. If the blood vessels are not strong enough for a fistula the vascular surgeon may decide to make a graft instead.

### Peritoneal Dialysis :



In peritoneal dialysis, blood travels through the peritoneum membrane (in abdomen) & this membrane acts as a natural filter. A cleansing solution called dialysate, is passed into the abdomen through a catheter which is surgically placed. Wastes & excess fluid pass from the blood into the cleansing solution. After 6-8 Hrs the solution is drained out & again refilled with fresh dialysate to begin the next cleansing procedure. Each exchange take min 20-30 minutes. Peritoneal dialysis can be done at home, work, school or even during traveling.

### Kidney Transplantation :



Kidney transplant is an operation that places a healthy kidney from a healthy donor into the recipient (patient). The kidney may come from someone who has died (Cadaver Donor) or from the living related donor especially from your close relatives, who wishes to donate a kidney. The new kidney is placed in the lower abdomen & connected to the bladder & blood vessels. The failed kidneys may be left in place in patient's body.

The transplant operation takes about 3-4 hours & patient needs to be hospitalized for min. 7-8 days. Immunosuppressive therapy is given to prevent kidney rejection. These medications will have to be taken life long.

Transplant is preferred option because it gives the patient a normal life with less restriction.

### Fitness & Kidney :

Exercise helps to improve overall well being & muscle strength. Walking and yoga are good ways to exercise.

It is possible to work on dialysis or after transplant. Returning to work helps you to feel better about yourself.

## Ten Commandments for Prevention of Chronic Kidney Disease

- 1) Treat primary disease (Diabetes, High Blood pressure)
- 2) Control B.P. below 130/80, follow your Doctor's advice.
- 3) Identify & treat correctable factors e.g. Urine infection, stones etc.
- 4) Control diet (Salt, Water restriction, Potassium control)
- 5) Control Cholesterol & Triglycerides, use statins.
- 6) Correct Calcium & Phosphorus, use potential phosphate binders & Vit. D
- 7) Correct anemia (Hemoglobin levels). Use Erythropoietin & Iron Inj.
- 8) Take vaccines (Hepatitis, Pneumonia, Influenza)
- 9) Avoid toxic drugs (Pain Killers) & Ayurvedic Medicines
- 10) Prepare AV fistula or CAPD or Transplantation.



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