

## END-STAGE RENAL DISEASE (ESRD)

The kidneys remove waste, excessive water and substances from the body, and turn them into urine. They also control blood pressure. Chronic kidney disease (CKD) occurs when the kidneys become damaged and lose their functions over the years. The final stage of CKD is known as end-stage renal disease (ESRD).

### Causes of ESRD

Diabetes and high blood pressure are the most common causes of ESRD. Conditions such as heart disease, infections, trauma, genetic and autoimmune diseases can also lead to ESRD.

### Symptoms of ESRD

Persons with CKD may not experience any symptoms until the later stages. The symptoms are usually related to extra waste and fluid in the body. Some common symptoms include:

- Feeling very tired
- Itchy and dry skin
- Unintentional Weight loss
- Poor appetite
- Nausea and vomiting
- Swelling of the ankles and feet
- Too much urine or too little urine
- Very cloudy or foamy urine
- Shortness of breath

### Diagnosis of ESRD

The following tests may be done to determine kidney function and damage:

- Urine test to check for protein and blood
- Blood test to measure how well the kidneys are functioning such as a check for serum creatinine level or glomerular filtration rate (GFR)
- X-rays
- Ultrasound
- Kidney biopsy



### Complications of ESRD

- Anemia
- High potassium and phosphorous levels in the blood
- High blood pressure
- Bone problems
- Heart disease
- Fluid buildup

### Treatment of ESRD

Presently, there is no cure for ESRD. If you have ESRD, you may need to go on dialysis or have a kidney transplant. These treatments can prolong lives. Discuss with your health care provider to see which treatment is best for you.

**Dialysis** may be necessary when the kidneys have less than 15% of their function left.

Dialysis helps to:

- Remove extra fluid and waste from the body
- Maintain proper amounts of minerals and vitamins in the body
- Control blood pressure
- Produce red blood cells

There are two different types of dialysis:

**Hemodialysis** - Blood from the body passes through a tube into a filtering machine to be cleaned. The cleaned blood then goes back to the body. This treatment usually takes place in a dialysis center or in a hospital. It is usually done 3 times per week for about 4 hours at a time.

**Peritoneal dialysis** - A sterile cleansing solution passes into the abdomen or belly through a catheter tube. The inside lining of the belly works as a natural filter. The solution remains in the abdomen for a period of time to exchange substances and filter out the waste into the solution.

When the exchange/ filtering process is complete, the solution containing waste product is drained out from the belly through the catheter tube. This treatment can be done at any appropriate location scheduled by your physician 3-5 times a day for 30-40 minutes at a time.

**Kidney Transplant** is a surgery where a healthy kidney from a donor is placed into a person with ESRD. The donor needs to be in good health and a good match. If the transplant is successful, the recipient may return to a more normal life.

### Renal Diet

Persons with ESRD will need to follow a special diet to slow kidney damage and prevent waste and fluid buildup. A dietitian can help to design a special meal plan to meet the needs. In general, the diet may limit:

- Calories and protein
- Sodium, potassium, phosphorous, and other electrolytes
- Fluids

### Additional Treatments

- Calcium and vitamin D supplement
- Medicines to control phosphorous levels, blood pressure, blood sugar, and/or blood fats
- Extra iron from iron pills, erythropoietin injections and blood transfusions to treat anemia

### For more information

American Kidney Fund [www.kidneyfund.org](http://www.kidneyfund.org)