# Your Kidneys - Know about Kidney Functions & Kidney Failure

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Kidney disease is one of the costliest illnesses in the USA today. Each year, more than 50,000 Americans die because of Kidney Disease. More than 260,000 Americans suffer from chronic renal failure and need dialysis or kidney transplantation to stay alive. More than 35,000 patients are waiting for kidney transplants, but only about 11,000 will receive transplants because of a shortage of suitable organ donors. Every year 2200 new cases of Malaysians are diagnosed with end stage renal failure. There are over 1800 people waiting for a kidney transplant in Malaysia. The numbers are increasing each year and this number is frightening.

# Kidneys - What are they?

Your kidneys are two bean-shaped organs near the middle of your back. Their main function is to eliminate excess fluid and waste material from your blood.

#### How do your kidneys function?

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

- Balance your body fluids. Excess fluid is filtered out as urine.
- Remove waste products from your blood.
- Remove drugs and toxins from your body.
- Release hormones into your blood to :
  - <sup>o</sup> Control blood pressure
  - <sup>o</sup> Make red blood cells
  - <sup>o</sup> Keep your bones healthy

#### What are kidney diseases?

Kidney diseases are diseases of the kidney substance that alter the structure and function of the kidney.

There are many diseases of the kidneys such as glomerulonephritis, pyelonephritis & polycystic kidney. The treatment and potential for recovery depends on the type of disease. Kidney diseases can lead to kidney failure.

Kidney failure is a condition where the kidneys are incapable of performing its normal function. Certain toxic substances which should have been excreted such as urea and creatinine are accumulated in the body. v The two main causes of kidney failure are Diabetes & High Blood Pressure.

Many other conditions can harm the kidneys. These include :

- Glomerulonephritis, a disease that causes inflammation in the kidneys.
- Inherited diseases like polycystic kidney disease, which causes many cysts to form in the kidneys.
- IgA nephropathy or other nephropathy. Essentially an autoimmune problem. Exact trigger not well known.
- Very large, long standing kidney stone.

• NSAID or pain killer like ponstan, voltaren can cause kidney failure.

# Who is at Risk of Kidney Failure?

Risk factors for chronic kidney disease include :

- Diabetes
- High blood pressure
- A family history of chronic kidney disease
- Older age
- Drug overdose, excessive use of alcohol
- Long term use of pain medications such as aspirin, panadol, ibuprofen and treatment with antibiotic.

# How to early detect kidney ailments?

- Blood in urine. Most often not visible. But sometimes may appear tea color urine.
- Protein in urine, low urine output.
- Swelling of face and legs.
- Tiredness, fatigue.
- Pale and sallow complexion.
- Have dry and itchy skin.
- Poor appetite, sometimes accompanied with nausea and vomiting.
- High blood pressure. Especially when it is hard to bring it to good control.

#### How do you prevent kidney failure?

Early detection can do a lot in preventing deterioration of the kidney function. Kidney failure does not go down the drain in 3 months, or even one year usually. But deteriorate very slowly. Thus getting screening helps.

#### What are the screening test done?

- Simple testing of urine with dipstick for protein. If you have 2 positive result over several weeks, please consult Dr.
- Have a blood test for creatinine. Once creatinine exit the high control limit of 133 umol/L, the kidney will fail expodentially.
- 24 hours urine collection for creatinine and urine protein.
- Ultra sound or CT scan of kidney.

#### Important Message

Since 30-40% of kidney failure in Malaysia is due to diabetes, it is imprerative that all diabetics take note of this and screen for this complication annually. There is an extra urine test called urine microalbumin, to detect extra early diabetic kidney disease. Good diabetes control is important part of prevention of kidney failure.

What happens if kidney failure occurs? (End Stage Renal Disease) Two successful treatment can be done - Dialysis or a Kidney Transplant. These treatments can help you stay healthy and continue your daily activities.

# Dialysis and Kidney Transplant - What are they?

Dialysis is a type of treatment that removes wastes and excess fluid from your blood. 3 forms of dialysis can be done - hemodialysis, peritoneal dialysis and continuous ambulatory peritoneal dialysis (CAPD).

A kidney transplant is an operation to place a new kidney in your body to take over the work of your failed kidneys. The kidney may come from someone who has died or from a living donor who may be a close relatives, friend or possibly a stranger who wished to donate a kidney to anyone in need of a transplant.

# How do you keep your kidneys healthy and more resistant to deterioration?

- 1. Hydrate yourself well. Drink lots of plain water to keep your urine pale most of the time.
- 2. Avoid unnecessary medication (especially NSAID and on long term). Look for better alternative solution.
- 3. Avoid overloading your kidney with protein. Most of us only need about 2 ounces of protein a day! Protein leakage thru the kidney filter accelerate the deterioration of kidney function. Consult a renal dietitian if you need help.
- 4. Keep your cholesterol in good level.
- 5. Keep blood pressure and sugar in good control.