Nutrition and kidney disease

Nutrition is very important in maintaining a healthy lifestyle when diagnosed with kidney disease. Nutritional management is individualised, i.e. based on the type and degree of renal function you have. This information is intended as a guide only. If you have already seen a dietician, this information should not take the place of the prescribed diet that has been set for you. Your renal physician can refer you to a renal dietician who will design a specific diet for your needs. The following substances feature in renal diets:

- protein
- sodium
- potassium
- phosphate
- fluids
- fats
- carbohydrates

Why is nutrition so important?
When food is broken down in the stomach and intestines, wastes are formed. These wastes are removed by the kidneys. However, if kidneys are not functioning properly, these waste products will build up in the bloodstream and you may feel weak, tired, nauseated and become ill. The other balancing act the kidneys perform is the regulation of the body's fluid balance. Some patients with kidney disease may retain fluid, leading to puffiness, swollen ankles, hands and feet and breathlessness.

Protein

Protein builds, repairs and maintains body tissues. It also helps the body fight infections and heal wounds. Urea is a waste product which is formed when the body breaks down protein. Your eating plan should be designed to provide enough protein for your body without causing excessive amounts of urea and thus overloading the kidneys.

Too little proein may cause:
- loss of muscle bulk and wasting
- lack of energy

Too much protein forms excess urea which may cause:
- tiredness
- nausea and vomiting
- headaches
- a bad taste in the mouth
- bad breath
- poor memory and concentration

Foods high in protein include:
- meat
- chicken
- fish
- eggs
- cheese, milk and other dairyfoods (yoghurt, cheese)
- nuts, seeds and legumes

Sodium
Salt affects the amount of fluid the body retains. Salt also increases thirst, which can lead to drinking more fluid than your kidneys can excrete, leading to fluid retention.

This excess fluid may cause:
- high blood pressure
- swelling of ankles, feet, hands and puffiness under the eyes
- shortness of breath

In most cases, the amount of salt in your diet will need to be reduced. Your doctor and dietitian can advise about this.

Foods high in salt include:
- processed foods such as ham, sausage and luncheon meats

- fast food eg. pizza, pies, hamburgers, sausage rolls
- salty snacks eg. pretzels, chips, salted nuts
- sauces and pickles
- salted seasonings eg. stock cubes, celery and vegetable salts

Beware of salt substitutes as some contain potassium instead of sodium.

Potassium

Potassium is an essential mineral in the body which helps nerve endings and muscles work well. If the level of potassium is too high or low in the blood, it can cause irregularity of your heart beat. In fact, potassium levels outside the normal range may cause the heart to stop. How much potassium you can you have? This depends on your blood results, as well as the amount of urine you are passing.

Foods high in potassium include:

- tinned and homemade soup
- liqueurs, red wine, cider, stout
- bananas, avocados, apricots, rockmelons, spinach, mushrooms
- dried peas, beans, baked beans
- potatoes, potato crisps, pumpkin
- chocolates, cocoa, licorice
- tomato pastes and purees
- fruit and vegetable juices
- dried fruit and fruit cake
- stone fruits
- nuts and seeds
- high fibre breakfast cereals, unprocessed bran

A tip for reducing potassium intake is to cut the vegetables into small pieces, boil them and drain off the water. Not all fruits and vegetables have the same amounts of potassium. Ask your dietitian to outline what is appropriate for you.

Phosphate

Phosphate is a mineral, which together with calcium, keeps your bones strong and healthy.

When the kidneys are not functioning properly, high levels of phosphate accumulate in the blood and can cause:

- itching

• painful joints
• weak and brittle bones

The amount of phosphate allowed depends on your blood tests.

Foods high in phosphate include:
• cola based soft drinks such as Coca Cola and Pepsi
• nuts, seeds and peanut butter
• dried peas and beans and baked beans
• processed bran cereals
• sardines and fish pastes
• cheese, milk and other dairy products

Phosphate binders may be prescribed by your doctor. These bind the phosphate in your food, so that it will then pass out of your body through the bowels. It is important to take phosphate binders with your meals and snacks.

• Caltrate
• Alutabs
• Mylanta
• Titrilac
• Nephrex
• Magmin
• RenaGel

Fluids
When kidney function deteriorates, the body can retain fluid. Some people may need to limit their fluid intake to minimise this. Your recommended fluid intake will be dependent on your urine output, fluid build-up and your blood pressure. The usual allowance is equal to the urine output plus 600mls.

Fluids include:
• water and ice
• tea, coffee, juices, milk and milk products
• gravy, sauces and soups
• ice cream, jelly, custard and yoghurt

Some tips for restricting fluids:
• suck ice cubes to quench thirst
• sip small amounts throughout the day

• use smaller cups and glasses

remember that foods containing fluids need to be included in your fluid allowance.

Fats and Carbohydrates
Maintaining a healthy weight is important for everyone. If protein has been restricted in your diet, your energy and kilojoule requirements may need to be met by increasing the amount of fats (polyunsaturated and / or monounsaturated) and carbohydrates in your diet. Otherwise, you will lose weight and continue to do so, which is undesirable. Once dialysis is commenced, your protein requirements increase, as some proteins are lost from the body during each dialysis session. As your feeling of well being and appetite improves, you will find it easier to incorporate a greater variety of foods to meet your requirements

Other points to remember
• Your nutritional care plan needs to be individualised based on your degree of renal function.
• It may be difficult to meet your vitamin requirements orally and your doctor may prescribe a supplement.
• Ask questions until you understand your diet.
• Initially you may need to measure foods and fluids; for greater accuracy, measure with a cup or scale and don't guess.
• Take your medication as prescribed.
• Organise for regular reviews / follow-up with your renal dietitian.
• Follow your trends in body weight, blood pressure and blood values.
• Inform your doctor or dietitian if you are losing weight or have any concerns about your diet.
• Following the suggested nutritional care plan may not treat or cure your kidney problem but it could help you reduce some of the symptoms and hence improve your general feeling of well being.