

# Chronic Kidney Disease and Nutrition

**Eating well when you have kidney disease is very important to help you stay as healthy and strong as possible.**

Including the right kinds and amounts of foods each day recommended for [healthy eating](#) can help your kidneys to work more easily and keep you well for longer.

Sometimes having kidney disease can make you feel unwell. Your appetite may not be so good and food may taste different. This is because waste products produced from the foods you eat build up in the blood instead of being removed by the kidneys.

The need to make changes to your diet depends on how well your kidneys are working.

What is right for others may not be right for you.

## What about protein and kidney disease?

Protein foods are essential to help keep your body healthy, repair body muscle and tissues and heal wounds.

Beef, lamb, chicken, fish, eggs, milk and dairy foods are all examples of protein foods. When you have kidney disease, eating too much or too little protein can make you feel unwell.

Eating moderate portions of protein can help to reduce the work load of the kidneys and reduce high levels of waste products in your blood.

Choose palm sized portions of meats at meals.



Your doctor can refer you to a dietitian for advice on how much protein to eat.

## What about salt?

Too much salt (sodium) affects the amount of fluid the body holds on to and this can cause problems such as:

- High blood pressure
- Puffy or swollen feet and ankles

You may be asked to have less salt in cooking and cut down on [salty foods](#).

To help keep your salt intake down:

- Use no more than a pinch of salt (iodised) in cooking
- Avoid adding salt to food at the table
- Avoid foods high in salt such as:
  - Ham, bacon, sausages, corned beef, smoked fish
  - Salted chips, crisps, salted nuts
  - Instant noodles and soups, stock cubes, salty crackers
  - Salty sauces and pickles
  - Most takeaway foods



To help keep your salt intake down buy fresh foods and make home prepared meals. Use fresh herbs, spices, flavoured vinegars and lemon juice for extra flavour.

Your doctor can refer you to a dietitian for help with reducing your salt intake.

Do not use salt substitutes like 'Losalt' as these have potassium in them and are not suitable for people with kidney disease.

## Should I change how much I drink?

You should continue to drink your usual amounts of fluids i.e. at least 6 – 8 cups/glasses per day. Examples of fluids include water, tea, coffee, soft drinks and cordials. If you are passing more urine you will need to drink **more**.

Your doctor will tell you if you need to start cutting down how much you drink each day.



## What about fruit and vegetables?

Fruits and vegetables are important in your daily meals. They contain a mineral called potassium. As kidney disease progresses, potassium in the blood may start to rise. This is because the kidneys are not able to remove extra potassium. This can be dangerous.

You may be advised to limit or avoid certain types of fruits and vegetables that are high in [potassium](#).

Fruit and vegetables high in potassium include:

- bananas
- pure fruit juices
- dried fruit
- potatoes
- silverbeet, tomatoes

Your doctor regularly checks your blood potassium levels and will tell you if you need to cut down on high potassium fruits and vegetables in your diet. Your doctor can refer you to a dietitian for help to choose suitable fruits and vegetables.



## What is phosphate?

Phosphate is a mineral, which together with another mineral called calcium, helps to keep your bones strong. When your kidneys are not working properly phosphate builds up in the blood instead of being removed by the kidneys.

High phosphate levels can cause problems such as:

- Itchy and dry skin
- Hardening of your blood vessels
- Painful joints
- Weak bones

[Phosphate](#) is found in many foods:

- Milk, cheese, yoghurt, and ice cream
- Calcium enriched milk
- Peanut butter
- Sardines
- Coco Cola, Pepsi



Your doctor may also want to give you tablets to help keep phosphate levels in your blood normal. Your doctor can refer you to a dietitian if you need to reduce your phosphate intake.

## Increasing Your Energy Intake

Maintaining a healthy weight is important for everyone. Your energy requirements may need to be met by increasing the amount of carbohydrates (starchy) foods and healthy fats (oils and margarines) you eat.

- Starchy foods include:
  - breakfast cereals, breads, crackers and biscuits
  - rice, pasta,
- Healthy oils and margarines include:
  - sunflower, canola, rice bran and olive oils.



Eating well can help you feel your best and to stay at your well weight when you have chronic kidney disease.

If your appetite is not so good and you are not eating your usual quantities of food then try eating smaller meals and snacks more often over the day.

You can ask your doctor to refer you to a dietitian if you need further assistance with your meals and making suitable food choices.

## What if I have diabetes?

In some cases you may be asked to make a few changes to your diabetic diet to fit around managing your reduced renal function. If you are advised to have smaller portions of protein you must be sure to get enough calories from other foods. You can ask to be referred to a dietitian for review of your diabetic diet and how to fit in any changes you may need to make to manage your kidney disease.

## What if I am vegetarian?

If you are vegetarian you may need good advice from a dietitian. Vegetarian diets can be high in potassium and phosphate because of all the vegetables, fruits and whole grains that make up your diet. The goal is to eat the right combinations of plant proteins while keeping potassium and phosphate under control.

## Will I have to take vitamins and minerals?

Vitamins and minerals come from a variety of foods in your diet. If your diet is limited you may need to take certain vitamins and minerals. You must only take the vitamins and minerals your doctor prescribes for you. Certain ones can be harmful for people with kidney disease



# REDUCING YOUR SALT INTAKE

This guide is intended for people with health problems, where salt restriction is an important part of their treatment. Salt restriction is often prescribed for people with high blood pressure, heart, kidney or liver disease, and diabetes.

## Where Does Salt Come From In Our Diet?

- 10% comes from salt naturally occurring in foods (meats, fish, milk and certain vegetables)
- 15% comes from salt used in cooking and added to food at the table
- 75% of our salt comes from processed and packaged foods bought from the supermarket and from fast food outlets.

## How to Reduce Your Salt Intake

- Minimise high salt processed foods and takeaway foods.
- Choose foods canned and packet foods containing 450mg or less of sodium (salt) per 100g.
- Use up to a pinch of salt in cooking
- Avoid adding salt to foods at the table

## Helpful Hints

- Always use iodised salt, as iodine is an important trace element for health
- Salt substitutes are not always suitable to use in place of salt.
- Use onions, garlic, fresh/dried herbs, spices, pepper, vinegars, and lemon juice to flavour food.
- Steaming vegetables helps to retain their flavour.

## Other Names for Salt

|          |                                   |
|----------|-----------------------------------|
| NaCl     | sodium chloride                   |
| Sodium   | rock salt                         |
| Na       | Monosodium glutamate (MSG)        |
| Sea salt | Flavoured salts, eg garlic, lemon |
| Kelp     |                                   |

# How to reduce your salt intake

| FOOD GROUP                  | SUITABLE  | MINIMISE  |
|-----------------------------|---|---|
| <b>FISH</b>                 | Fresh fish<br>Fish canned in spring water<br>Canned salmon with no added salt   | Smoked fish, Canned fish in brine or sauce eg herrings in tomato sauce.<br><br>Fish paste, Shellfish, prawns, shrimps, Ready-made fish dishes                                     |
| <b>MEAT &amp; POULTRY</b>   | Fresh beef, mince, lamb, pork, chicken, offal meats   | Tinned, processed or smoked meats – bacon, ham, corned beef, sausage meats, sausages, smoked chicken<br>Mince pies, pasties.<br><br>Ready made meat dishes                        |
| <b>MILK</b>                 | Milk, all types, Cream, Butter, margarines (salt reduced types), Yoghurts, Cheese, (not more than 20g/ day), Cottage, edam and Gruyere cheeses are lower in salt    | Cheese based dishes, eg macaroni cheese, Quiche, Pizza, Cheese sauce  |
| <b>EGGS</b>                 | Eggs  |   |
| <b>VEGETABLES</b>           | Potatoes- baked, boiled, mashed, and roasted.<br><br>All vegetables (fresh and frozen)  | Instant potato, croquettes, Salted fries and chips. Canned vegetables, unless labelled “No Added Salt” or “reduced salt”.<br>Baked beans in tomato sauce<br>Dehydrated vegetables |
| <b>SOUPS</b>                | Home made soups using stock made from vegetables and meats and adding only a pinch of salt  | Tinned packet or instant soups<br>Homemade soup with stock cubes or powder  |
| <b>SAUCES &amp; PICKLES</b> | Beetroot, home- made fresh salsas<br>Worcester sauce (1tsp), Home made savoury sauces.<br>Tomato puree<br>Prepared dried mustard. “Lite” bottled sauces, Mayonnaise | Stock cubes<br>Marmite or Vegemite,<br>Soya sauce, Regular tomato sauces, relishes and pickles including pickled onions, olives and gherkins<br>Packet and canned instant sauces  |



|                               |   |  |
|-------------------------------|---|--|
| <b>CEREALS &amp; BISCUITS</b> | All breakfast cereals<br>All types of breads<br>Pasta, rice<br>Sweet and semi sweet biscuits                                      | Salted porridge<br>Tinned pasta e.g. spaghetti, ravioli,<br>macaroni cheese<br>Salted cracker biscuits                               |
| <b>PUDDINGS</b>               | All puddings  |  |
| <b>FRUIT</b>                  | All fresh, tinned, dried, frozen  |  |
| <b>DRINKS</b>                 | Water<br>Hot drinks including tea, coffee, cocoa<br>and drinking chocolate<br>Fruit juices, squashes and cordials<br>Fizzy drinks | Stock broth<br>Tomato juice<br>Mineral waters and sports drinks  |
| <b>TAKEAWAYS &amp; SNACKS</b> | Unsalted nuts<br>Unsalted crisps<br>Unsalted popcorn  | Most takeaways<br>Salted nuts, dry roasted nuts, crisps<br>and packet savoury snacks<br>Dehydrated meals instant noodles and<br>rice |

### Nutrition Services

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This resource was written by New Zealand Registered Dietitians, Christchurch Hospital

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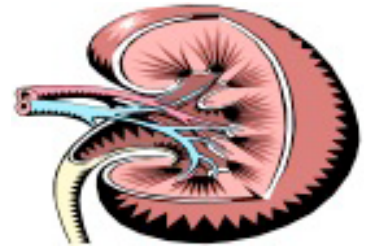


# Managing Potassium Intake

| FOOD GROUP   | LOW POTASSIUM FOODS   | HIGH POTASSIUM FOODS  |
|--|---|---|
| <p><b>Fruit &amp; Vegetables</b></p> <p>Aim for 5 serves of fruit and vegetables a day<br/>e.g. 2 serves of fruit &amp; 3 of vegetables<br/>Cut, boil &amp; drain your vegetables to reduce the potassium.</p>                             | <p>Apple, berries, canned fruit (drain the juice), feijoas, passionfruit, pear, persimmon, plum, tangelo.</p> <p>Asparagus, beans – green, cabbage, capsicum, cauliflower, carrot, celery, corn, cucumber, lettuce, peas, mixed vegetables, puha, watercress.</p> | <p>All dried fruit, apricots, avocado, banana, coconut flesh, grapefruit, grapes, kiwifruit, mango, melon, nectarine, oranges, peach, pineapple (fresh), rhubarb.</p> <p>Broccoli, courgette, leek, okra, parsnip, pumpkin, silverbeet, spinach, taro leaves, tomato.</p> |
| <p><b>Carbohydrate (Starchy) Foods</b></p> <p>Keep to one ‘fist’ sized serve of boiled potato, taro, cassava or yam each day.</p> <p>You may need to ‘top up’ your plate with other low potassium carbohydrates such as rice or pasta.</p> | <p>Couscous, dumplings, noodles, pasta, rice, rice noodles, vermicelli, potato, taro, cassava, yam.</p> <p>Bread, cabin bread, chapatti, Chinese steamed bun, crackers – plain, Maori bread, pita bread.</p>  | <p>Green banana, hot chips, kumara.</p> <p>Bread that contains dried fruit.</p>   |
| <p><b>Breakfast Cereals</b></p>  | <p>Frosties, Special K Forest Berries, Honey Puffs, Just Right Tropical, Light’n’Tasty, Mini Wheats Golden Honey, Porridge/rolled oats made with water, Puffed Wheat, Weet-Bix.</p>   | <p>Breakfast cereals that contain dried fruit, bran, nuts or chocolate.<br/>NB: <i>Some cereals are ok and have been listed in the choose list.</i><br/>Examples of cereals to avoid: All Bran, Coco Pops, Muesli, Sultana Bran, Sustain.</p>                             |
| <p><b>Meat, Meat Alternatives &amp; Dairy</b></p>  | <p>“Not too much, not too little” – you need to eat the right amount of protein foods each day. Choose palm sized portions at each meal.</p>  |   |
| <p><b>Beverages (Fluids)</b></p>   | <p>Cordial &amp; soft drink (<i>choose diet drinks if you have diabetes</i>), instant coffee tea, thirfee, water.</p>   | <p>Fruit &amp; vegetable juices, milky &amp; espresso coffees.</p>  |
| <p><b>Snacks</b></p>   | <p>Plain biscuits, cakes, muesli or cereal bars, popcorn, unsalted rice cakes that do not contain fruit, nuts, chocolate or coconut.</p>  | <p>Biscuits, cakes, muesli or cereal bars that contain fruit, nuts, chocolate or coconut.</p>   |
| <p><b>Miscellaneous</b></p>  | <p>Aioli, garlic, ginger, herbs, honey, jam/marmalade, mayonnaise, mustard, nutella, spices, vinegar.</p>   | <p>Baked beans, marmite/vegemite, peanut butter, salt substitutes (Losalt), soup, tomato puree.</p>   |
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# PHOSPHATE



**When your kidneys are not working properly the phosphate level in your blood can begin to rise.**

You may be prescribed tablets that act as phosphate binders to help keep your blood phosphate lower e.g. Osteo 500, Alutabs. These must be taken at the start of your meals and snacks containing protein to work properly. Avoiding excess phosphate in your diet can also help to reduce blood potassium levels.

| FOODS HIGH IN PHOSPHATE<br>Try to reduce  | SUITABLE ALTERNATIVES  |
|---|--|
| <p><b>Milk/Dairy Foods/Eggs</b><br/>Milk, Calcium enriched milks<br/>Milkshakes<br/>Most cheeses –cheddar, Edam, Gruyere, Cheese spreads, cheese sauce</p> <p>Tinned milk – condensed milk, evaporated milk, dried milk.<br/>Yoghurt, milk puddings and custards<br/>Eggs</p> | <p>Milk/Dairy Foods/Eggs<br/>Cottage cheese, Ricotta cheese, cream cheese, Cream, sour cream</p> <p>Egg whites</p>                           |
| <p><b>Meats</b><br/>Liver, kidney, liver pate, duck and game birds.<br/>Sausages and sausage meat products</p>  | <p><b>Meats</b><br/>Beef, lamb, pork, turkey, chicken, minced beef.</p>  |
| <p><b>Fish</b><br/>Sardines, salmon, prawns, mussels, scallops, oysters, crayfish, whitebait, herring, smoked fish, cod roe, mackerel.</p>  | <p><b>Fish</b><br/>White fleshed fish eg cod, sole, terakihi, gurnard, etc.<br/>Tuna, shrimps, fish fingers, fish cakes,</p>                 |
| <p><b>Vegetables</b><br/>Hot Chips</p>  | <p><b>Vegetables</b><br/>All fresh and frozen vegetables</p>   |
| <p><b>Legumes (dried peas&amp; beans), nuts</b><br/>Baked beans, lima beans, red kidney beans, chick peas, lentils (unless taken in place of meat)<br/>All nuts<br/>Peanut butter</p>   | <p><b>Legumes (dried peas&amp; beans), nuts</b><br/>Nuts – small handful (30g)</p>   |
| <p><b>Fruit</b><br/>Dried fruits</p>  | <p><b>Fruit</b><br/>All other fruits are suitable</p>  |
| <p>Breads and flours<br/>Dense rye and wholemeal breads, bran flakes</p>  | <p>Breads and flours<br/>All white breads and rolls. White flours. Pastry.</p>   |
| <p><b>Biscuits and Cakes</b><br/>Rye crispbreads, oatcakes, scones, bran muffins, wholemeal muffins, full coated chocolate biscuits</p>   | <p><b>Biscuits and Cakes</b><br/>Cream crackers, water biscuits, digestives, plain sweet biscuits, shortbread, crumpets, cream biscuits,</p> |



| FOODS HIGH IN PHOSPHATE<br>Try to reduce   | SUITABLE ALTERNATIVES   |
|--|---|
| <b>Miscellaneous</b><br>Milk chocolate.<br>Malted milk drinks e.g. Horlicks Ovaltine,<br>Milk powders<br>Mineral Water<br>Coco Cola and Pepsi drinks | <b>Miscellaneous</b><br>Plain chocolate (2-3 squares)<br>Filled chocolates. Gravy (made with weak Bovril),<br>gravy browning, Bisto.<br>Boiled sweets, chewy fruit sweets, jelly sweets,<br>pastilles, peppermints, Mars Bars, chewing gum,<br>Marshmallows, Popcorn. |
| <b>Fats (oils, margarine, butter)</b><br>None  | <b>Fats (oils, margarine, butter)</b><br>All varieties  |
| <b>Sugars</b><br>None  | <b>Sugars</b><br>All sugars, jams, honey, golden syrup,<br><br>Cordials and soft drinks, (not cola, pepsi )   |
| <b>Sauces, Herbs &amp; Flavourings</b>   | <b>Sauces, Herbs &amp; Flavourings</b><br>Herbs, spices, salad dressings, mayonnaise,<br>mustard, vinegar, tomato sauce,  |

### Nutrition Services

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