



## Lowering Potassium, Phosphate and Salt

**This information should be issued by a Registered Dietitian as part of your personalised care/treatment plan.**

### Introduction

Changes in your food intake will help you feel better, both in the short term and long term. This leaflet provides dietary information on potassium, phosphate and salt.

### Potassium

Potassium is found in a wide variety of foods. When your kidneys are not working properly, the amount of potassium in your blood can rise. Potassium can build up quickly and is extremely dangerous, as high levels can affect your heartbeat.

To control your potassium levels, it is important that you follow the advice in this leaflet.

You should aim for a blood level of potassium between

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#### Salt Substitutes

- Avoid using salt substitutes e.g. low sodium salts, Lo Salt, as these are high in potassium.
- Table salt can be used in small amounts in cooking but avoid adding extra to your food at the table.

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### Fruit, Vegetables and Potatoes

- All fruit and vegetables contain potassium. However, we recommend taking 4 lower potassium servings per day (see *Foods to choose* section later in the booklet) as these contain fibre, minerals and vitamins.
- Tinned fruit is lower in potassium than fresh fruit, but drain and discard the juice before eating.
- Boiled vegetables are lower in potassium than raw vegetables. Boiling allows some of the potassium to leach out into the water. Discard the water after cooking.
- Generally, fruit and vegetable portions should be small, unless otherwise stated.
- Pulse vegetables, including those in soups e.g. dried peas, lentils, baked beans, are high in potassium. These, however, can be used instead of meat at a meal e.g.
  - Beans on toast
  - Lentil soup and a roll

- Dahl curry and rice/chapatti
- Only have one serving of potatoes per day e.g. 2-3 egg sized boiled potatoes. At other meals, have lower potassium alternatives e.g. pasta, rice, noodles, bread.
- Do not use frozen potato products e.g. chips, croquettes, waffles, fritters or instant mashed potatoes or microwave chips, as they are high in potassium.
- Avoid chips bought from chip shops, takeaways and restaurants. Homemade chips or roast potatoes can be eaten if the potatoes are par-boiled for 10 minutes before frying or roasting.
- Avoid potato crisps and potato snacks.

### Cooking Instructions

To lower potassium levels in vegetables and potatoes, it is important that they are cooked in the following way;

- Always peel potatoes before cooking.
- Cut potatoes and vegetables into small pieces
- Boil in a large amount of water (use a larger pot). Do not use this water to make soups, sauces or gravy.
- Vegetables should be well cooked.
- Avoid baking, frying and steaming raw potatoes or vegetables, as this doesn't reduce their potassium content.
- If stir frying, pre-boil vegetables first or use in small amounts, ensuring you avoid those high in potassium.
- If making curries, pre-boil potatoes and add towards the end of cooking, and avoid aubergine and mushrooms.
- Vegetables and potatoes should not be cooked in a microwave, steamed or pressure cooked, as these forms of cooking retain all the potassium. Boiling allows a lot of the potassium to leach out into the water. A microwave is, however, useful for reheating foods.

## Phosphate

Phosphate is found in a wide variety of foods and is normally excreted by the kidneys. If your kidneys don't work properly, then blood phosphate levels will increase. If your levels become too high, you may:

- Have itchy skin or red itchy eyes.
- Have weakened or sore bones and aching joints.
- Cause damage to your heart and blood vessels.

## Controlling Your Phosphate Level

Your phosphate level can be controlled by watching what you eat and taking phosphate binders as prescribed.

## Phosphate Binders

Many foods contain phosphate (particularly protein rich foods) and, in order to avoid absorbing too much phosphate, you may be prescribed phosphate binders e.g. Calcichew, Calcium 500, Phosex, Renagel.

- This medication will only work if it mixes with food.
- Started your meal or snack and forgotten the tablets? **STOP** and take them, rather than missing them out altogether. **However, there is no benefit from taking binders without food.**
- If you take iron tablets e.g. ferrous sulphate, take these at a separate time from your phosphate binders.
- Remember to take your binders if you are out for meal.
- Your dietitian will advise you on the timing of your phosphate binders, depending on your meal pattern.

**Phosphate binders are very important. Do not forget them and REMEMBER to take them if eating on dialysis or out for a meal.**

Phosphate binders should be taken:

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You should aim for a blood level of phosphate to be less than

**The following foods are high in phosphate**

- Milk - max..... pint per day
- Cheese - max..... per week
- Yoghurts - max..... per week
- Eggs - max..... per week

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*\*Suitable **milk substitutes** include double cream and water (1 part double cream and 2 parts water,) full fat/Jersey milk watered down, Coffee Compliment made up with water. Other substitutes e.g. Sno Pro, Renamil and Loprofin are available on prescription – see your dietitian. These substitutes may be useful in cereals, sauces or puddings.*

**Salt**

A diet high in salt (sodium) can lead to fluid retention and high blood pressure. Salty foods also make you thirsty. This can cause problems if you need to limit your fluid intake.

It is impossible to avoid salt completely, as it occurs naturally in many foods. However, by following these simple tips you can avoid having an excessive intake:

- Use only a little salt in cooking or none at all.
- Do not add salt at the table.
- Avoid using flavoured salts e.g. garlic salt, celery salt.
- Reduce the amount of salty foods in your diet e.g. bacon, ham, salty snacks, processed foods.
- Avoid using salt substitutes e.g. low sodium salts, Lo Salt, as they are high in potassium. Avoid products labelled “Low Sodium” as they may contain salt substitutes.
- Limit your intake of mono-sodium-glutamate (MSG) e.g. found in Chinese food.

Convenience foods and ready prepared meals contain a lot of salt. If you eat these regularly, we suggest you add no further salt.

More information about limiting your salt intake and seasoning your food with herbs and spices can be obtained from your dietitian.

	<i>Food to choose</i>	<i>Foods in Moderation</i>	<i>Foods to avoid</i>
<i>Protein</i>	<ul style="list-style-type: none"> <li>• Beef, lamb, pork, chicken, turkey</li> <li>• All white fish</li> <li>• Beans, lentils, pulses (if eaten in place of meat)</li> <li>• Eggs – max..... <b>per week</b></li> </ul>	<ul style="list-style-type: none"> <li>• Bacon, cooked ham, gammon, oxtail, tinned fish, sausages, burgers, pies, fish fingers.</li> <li>• Oily fish e.g. herring, mackerel, kippers, sardines, salmon, fresh tuna – max ..... <b>per week</b></li> <li>• Seafood e.g. crab, fish roe, prawns, scampi, sprats, mussels</li> <li>• Tinned tuna</li> </ul>	<ul style="list-style-type: none"> <li>• Black pudding, offal e.g. liver, kidney</li> <li>• Pheasant, pigeon, smoked fish, pâté</li> <li>• Tinned meat</li> </ul>
<i>Dairy</i>	<ul style="list-style-type: none"> <li>• Milk – max..... <b>pint/ml daily</b></li> <li>• Butter, reduced-fat spread, margarine, ghee, olive oil, oils</li> <li>• Cream, double cream</li> <li>• Cottage, cream, ricotta and Parmesan cheese</li> </ul>	<ul style="list-style-type: none"> <li>• Yoghurt, ice cream – max ..... <b>per week</b></li> <li>• Custard, milk puddings (exchange for milk allowance)</li> <li>• Cheese – Cheddar, Edam, cheese spread – max ..... <b>per week</b></li> </ul>	<ul style="list-style-type: none"> <li>• Condensed milk, evaporated milk</li> </ul>

	<i>Food to choose</i>	<i>Foods in Moderation</i>	<i>Foods to avoid</i>
<i>Cereal</i>	<ul style="list-style-type: none"> <li>• White or wholemeal bread, naan, pitta, chapattis, rolls, croissants, bagels</li> <li>• Crackers, crispbread, breadsticks, taco shells</li> <li>• Flour, custard powder, cornflour</li> <li>• Rice, pasta, noodles</li> <li>• Most breakfast cereals e.g. porridge, Cornflakes, Shredded Wheat, Rice Krispies, Weetabix</li> <li>• Plain sponge cakes, pancakes, meringues, pastries, doughnuts</li> <li>• Plain biscuits, jam, cream and wafer biscuits, shortbread</li> </ul>	<ul style="list-style-type: none"> <li>• Half coated chocolate biscuits, oatcakes</li> <li>• Branflakes</li> </ul>	<ul style="list-style-type: none"> <li>• All Bran, Bran Buds, muesli, other cereals containing nuts or dried fruit</li> <li>• Fully coated chocolate biscuits, chocolate cake, cereal bars, currant biscuits, fruit cake, scones, rye crispbread</li> </ul>
<i>Fruit and Vegetables</i>	<ul style="list-style-type: none"> <li>• Carrots, cabbage, broccoli, cauliflower, green beans, cucumber, lettuce, onions, peas, peppers, turnip, swede, celery, courgette, radish, beansprouts, 3 slices beetroot, 5 spears asparagus</li> <li>• Apples, tangerines, pears, 2 small plums, strawberries, raspberries, gooseberries, 1 small apricot, 5 lychees, olives, tinned fruit e.g. grapefruit, mandarins – drain juice or syrup</li> </ul> <p><i>Lower potassium fruit and vegetables – aim for 4 portions daily</i></p>	<ul style="list-style-type: none"> <li>• Brussels sprouts, leeks, parsnips, sweetcorn, tomatoes, spinach</li> <li>• Vegetable soup (once a day – count as a vegetable)</li> <li>• Small handful cherries or grapes, ½ grapefruit, watermelon</li> <li>• ½ nectarine or peach, ½ orange, 1 slice mango, kiwi</li> </ul>	<ul style="list-style-type: none"> <li>• Mushrooms, plantain, aubergine, sweet potato</li> <li>• Avocado, banana, melon, pineapple (fresh), papaya, rhubarb</li> <li>• Dried fruit e.g. currants, raisins, apricots, figs, dates, prunes</li> </ul>

	<i>Food to choose</i>	<i>Foods in Moderation</i>	<i>Foods to avoid</i>
<i>Potatoes</i>		<ul style="list-style-type: none"> <li>1 serving a day – boiled, mashed, par-boiled chips/roast</li> </ul>	<ul style="list-style-type: none"> <li>Potato crisps, jacket potatoes, ordinary chips (including frozen and oven chips), ordinary roast potatoes</li> </ul>
<i>Drinks</i>	<ul style="list-style-type: none"> <li>Tea (including fruit teas), Camp Coffee</li> <li>Fizzy drinks and most fruit squashes, flavoured water, mineral water</li> <li>Liqueurs and spirits</li> </ul>	<ul style="list-style-type: none"> <li>Coffee .....<b>per day</b></li> <li>Wine, fresh fruit juice – check amounts with your dietitian</li> </ul>	<ul style="list-style-type: none"> <li>Cocoa, drinking chocolate, malted milk drinks e.g. Horlicks, Ovaltine, High Juice squashes, tomato juice</li> <li>Beer cider, lager, sherry</li> </ul>
<i>Miscellaneous</i>	<ul style="list-style-type: none"> <li>Boiled sweets, jelly, chewy and mint sweets, marshmallows, Turkish Delight (not chocolate covered), candied popcorn, chewing gum, ice lollies</li> <li>Jelly</li> <li>Honey, jam, marmalade, syrup, lemon curd</li> <li>Artificial sweeteners</li> <li>Gravy powders, Bisto gravy browning</li> <li>Mayonnaise, salad cream, salad dressings</li> <li>Garlic, herbs, spices</li> </ul>	<ul style="list-style-type: none"> <li>Tomato puree (teaspoon per portion), chutney, mustard, pickles, tomato/brown sauce, spaghetti in tomato sauce.</li> <li>Snacks made from wheat, corn or rice e.g. Wotsits, Skips, Snack-a-Jacks, popcorn, pretzels, Doritos, prawn crackers. These are high in salt and should be limited.</li> </ul>	<ul style="list-style-type: none"> <li>Chocolate toffee, caramels, fudge, liquorice, marzipan</li> <li>Chocolate spread, black treacle, peanut butter</li> <li>Bovril, Marmite, Oxo, salt substitutes e.g. Lo Salt, packet soup</li> <li>All kinds of nuts, oriental mix, Twiglets, Bombay Mix</li> <li>Bhajis, Pakora</li> </ul>

**Sample Menu**

**Breakfast:**

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**Mid-morning:**

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**Lunch:**

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**Mid-afternoon:**

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**Evening meal:**

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**Bedtime:**

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**Daily milk allowance:**

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Notes

**Star fruit should NOT be eaten by renal patients as it contains a harmful toxin.**

If you do not feel like eating please contact your dietitian for further advice.

Name: .....

Dietitian: .....

Hospital: ..... Date: .....

If you have any queries or problems, please phone:

..... Extension: .....

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This information was produced for Nutrition and Diet Resources UK (NDR-UK) with the kind support of dietitians and related health and care professionals. At the time of publication the information contained within the resource was, to the best of our knowledge, correct and up-to-date.

Always consult a suitably qualified dietitian and/or your GP on health problems. NDR-UK cannot be held responsible for how clients/patients interpret and use the information within this resource. Visit [www.ndr-uk.org](http://www.ndr-uk.org) for more information and to contact the team on the development and evidence supporting this resource.