

# Low Phosphate Diet

Allied Health Professionals (AHP)  
Nutrition and Dietetics

The prevention of infection is a major priority in all healthcare and everyone has a part to play.

- Please decontaminate your hands frequently for 20 seconds using soap and water or alcohol gel if available
- If you have symptoms of diarrhoea and/or vomiting, cough or other respiratory symptoms, a temperature or any loss of taste or smell please do not visit the hospital or any other care facility and seek advice from 111
- Keep the environment clean and tidy
- Let's work together to keep infections out of our hospitals and care homes.

# Introduction

You should follow the advice in this leaflet if you have kidney failure and you have been advised to follow a low phosphate diet by a renal dietitian.

## What is phosphate?

Phosphate (phosphorus) is a mineral found naturally in the body that is filtered by the kidneys. Phosphate is found in many foods and drinks in varying amounts.

## Why do I need to follow a low phosphate diet?

The kidneys normally regulate the amount of phosphate in your body. When your kidneys do not work properly phosphate can build up. Dialysis is not as effective as a functioning kidney at getting rid of phosphate therefore you may need to control the amount of phosphate you eat.

## Is too much phosphate harmful?

Yes. If your levels become too high, you may experience:

- Itchy skin or red itchy eyes
- Aching joints and weakened bones which can make you more at risk of breaks and fractures
- Damage and hardening of your blood vessels which will put you at risk of heart disease and strokes

These risks increase the longer your phosphate level stays too high. Remember not everyone has symptoms when their phosphate level is high so it is important to take note of your blood results.

Your phosphate should be less than 1.6mmol/L in CKD or less than 1.7mmol/L if you are on dialysis. You can ask your renal dietitian or nurse for your blood results.

If your phosphate level is less than 1.1mmol/L and you are not eating well, you should seek advice from your renal dietitian.

## How can your dietitian help?

Your blood results will change depending on your diet, how well you are, your medications and how well your blood is being filtered by dialysis. Your dietary restrictions are therefore likely to be different from others and change from time to time. Your renal dietitian is there to provide individual advice for you depending on your appetite and blood results.

## How do I follow a low phosphate diet?

Most phosphate in your diet will come from protein rich foods, for example:

- Meat
- Fish
- Dairy produce
- Beans, pulses and nuts

However, **you should not avoid these foods altogether** because they provide you with other important nutrients such as protein, vitamins and minerals. You need protein every day to keep your body healthy, repair body muscle tissue and heal wounds. You cannot avoid phosphate totally, but you can be careful with food choices (containing phosphate) and portion sizes. Your dietitian will be able to guide you.

## Is phosphate added to foods?

Manufacturers add phosphate to many processed or packaged foods to help preserve them or to add flavour. You need to look at the nutrition label to find out if the product you are buying contains phosphate additives.

Phosphate additives are commonly found in:

- Chicken nuggets
- Processed meats, fish and seafood
- Ready meals
- Cola / Pepsi / Dr Pepper
- Hot Dogs
- Puddings and sauces

- Packet soups
- Convenience foods and ready meals

You can spot hidden phosphate by checking for variations of the word phosphate on ingredients lists, for example:

- Phosphoric acid
- Sodium aluminium phosphate
- Calcium phosphate
- Disodium phosphate
- Potassium tripolyphosphate
- Sodium tripolyphosphate

Look out for E338, E339, E340, E341, E343, E450, E451, E452, E1410, E1412, E1413, E1414, E1442.

## How can I control my phosphate level?

Use the information in this leaflet to help you avoid or reduce high phosphate foods.

### General Tips

- ✓ Limit foods which are high in phosphate
- ✓ Eat a variety of foods but in moderation
- ✓ Remember most foods contain some phosphate. The serving size is important. Keep portions of high phosphate foods small
- ✓ Use fresh meat or fish where possible
- ✓ Remember to take your phosphate binders with your meals or snacks (see page 9 for more information)
- ✓ Make as many foods from 'scratch' as you can (for example, biscuits, pancakes, waffles, cakes) so you know what is in them

Your dietitian will discuss your blood results and advise to what extent you need to restrict the following foods:

Milk\* \_\_\_\_\_

Cheese \_\_\_\_\_

Eggs \_\_\_\_\_

Milky pudding such as yoghurt, rice pudding, custard or ice cream should be included within your milk allowance.

If you need to use more than 1/2 pint milk in one day try using a milk substitute.

Suitable milk substitutes:

- Use 2 parts water and one part double cream
- Use half a pint of full fat milk and water it down to the amount you need.
- Try coffee compliment
- Soya milk can be used as an alternative to cow's milk but should still be limited to 3/4 of a pint

These substitutes may be useful in cereals, sauces or puddings.

Suggested quantities have been given to help you control your phosphate level whilst maintaining a balanced and varied diet.

	<b>Higher phosphate foods Avoid or reduce</b>	<b>Low Phosphate choices</b>
<b>Dairy/egg products</b>	<p>Milk (particularly condensed, evaporated and dried milk)</p> <p>Cheese (including half fat and vegetarian cheeses) for example, Cheddar, Edam, Parmesan, Gouda, Feta, Brie, blue cheese, processed cheese spreads (for example, Primula, Dairylea, cheese triangles) cheese slices, cheese sauces</p> <p>Ice cream, milk puddings, yogurts, fromage frais, Angel Delight, Custard, custard tarts, egg custard, quiche</p> <p>Eggs</p>	<p>Milk Substitutes (double cream and water)</p> <p>Cottage cheese, Ricotta, cream cheese, crème fraîche, cheese slices, Butter, margarine, oils,</p> <p>Cream (double cream, whipping cream, single cream, clotted cream, soured cream) imitation cream, for example, Elmlea, Dream Topping, Non dairy ice cream, sorbet, ice lollies</p> <p>Egg whites</p>
<b>Meat and Alternative</b>	<p>Offal for example, liver &amp; kidney – limit to once a month</p> <p>Liver and chicken pâté</p> <p>Game birds for example, duck, pigeon, pheasant, partridge</p> <p>Veal</p> <p>Textured vegetable protein</p> <p>Processed meat products for example, chicken nuggets, chicken Kiev, luncheon meat, bacon, sausages or sausage rolls, frozen beef burgers</p>	<p>Fresh meats for example, beef, lamb, pork, Fresh Poultry for example, chicken, turkey</p> <p>Other meats for example, rabbit, mutton,</p> <p>Alternatives for example, Tofu, Quorn</p> <p>Other meat products for example, tripe, trotters, oxtail</p>

	Higher phosphate foods Avoid or reduce	Low Phosphate choices
Fish & Seafood	<p>Oily fish for example, herring, kippers, whitebait, sprats, pilchards, trout, salmon, carp, anchovies, smoked fish, fish roe.</p> <p>Seafood for example, mussels, scallops, cockles, crab, prawns, oysters, crayfish, crab, lobster</p> <p>One portion of the seafood listed above can be eaten per month</p>	<p>White fish for example, haddock, plaice, halibut, sole, skate, cod, tuna, lemon sole; fish fingers, fish cakes.</p> <p>Seafood for example scampi, shrimps, tinned crab, squid, Tinned tuna, taramasalata, fish paste (10g), sardines and mackerel (skinless and boneless).</p>
Pulses	<p>Lentils, red kidney beans, baked beans, Soy beans, black beans, split peas, chick peas</p> <p>Note: These foods are an important source of protein for vegetarians. Discuss suitable portions with your dietitian</p>	
Fruit and vegetables		<p>All fruit and vegetables are suitable on a low phosphate diet. <b>However, remember to avoid high potassium fruits and vegetables if you are on a low potassium diet</b></p>
Bread	<p>Bread made with bran, Scottish oatcakes, oatcakes, rye bread, rye crisp bread, bread with seeds or nuts, naan bread</p>	<p>Most breads are suitable for example,. white bread, brown bread, wholemeal bread, pitta bread, chapatti, croissants, crumpets, rice cakes, crackers, bread sticks, french bread, garlic bread</p>

	Higher phosphate foods Avoid or reduce	Low Phosphate choices
Breakfast cereals and grain products	<p>Bulgar wheat, rye flour, soya flour, oatmeal, wheatgerm, baking powder, couscous, cereal bars, brown rice, brown pasta</p> <p>Any breakfast cereals containing bran, nuts or chocolate for example, All Bran, Bran-Buds, Common Sense, Oat Bran Flakes, Muesli, Sultana Bran, Fruit and Fibre, muesli, Ready Brek</p>	<p>Rice, pasta, sago, egg noodles, tapioca, ground rice, flour, oats, millet, yorkshire pudding, semolina, cornflour, pastry, tabouleh (cracked wheat)</p> <p>Shredded wheat, rice cereal for example, Rice Krispies, porridge, Cornflakes, Sugar Puffs, Weetos, Special K, Wheetaflakes, Weetabix</p>
Snack Foods	<p>Nuts and all foods containing them for example, peanut butter, marzipan, almond paste, coconut</p> <p>Sesame seeds, pine nuts</p> <p>Twiglets, Bombay mix, tortilla chips</p> <p>Cheesy biscuits (for example, Ritz, Cheddars)</p>	<p>Popcorn (unsalted), Samosas, corn snacks, Snack-a-jacks, prawn crackers, pretzels, Pheetos, corn crisps, Nik naks, Skips, Wotsits, Monster munch</p>
Biscuits / Cakes	<p>Any cakes containing a lot of baking powder for example, scones, rock buns, waffles.</p> <p>Scotch pancakes</p> <p>Shop bought pancakes, muffins</p> <p><b>Note:</b> some processed or baked products contain phosphate additives</p>	<p>Pastry, flap jacks, digestives, semi sweet biscuits, ginger nuts, shortbread, custard tarts, Madeira cake, sponge cake, doughnut rings, Éclairs, fruit crumble, Chelsea bun, custard tart, lemon meringue pies, Swiss roll, Eccles cake, Danish pastries</p>



	<b>Higher phosphate foods Avoid or reduce</b>	<b>Low Phosphate choices</b>
<b>Sweets</b>	Chocolate (milk and white) including chocolate spread, chocolate drinks, toffee, fudge, caramel, Burfi, marzipan sweets, sugared almonds	Popcorn (unsalted), plain (dark) chocolate (high in potassium), boiled sweets, mints, fruit jellies, jelly beans, chewy fruit sweets, fruit pastilles, chewing gum, Jalebi, Jaggery, Turkish delight (without nuts), marshmallows
<b>Drinks</b>	Milk, milkshakes, flavoured milk, Chocolate drinks, cocoa, Malt drinks for example, Horlicks, Ovaltine, Cola, Pepsi, Dr Pepper Canned ice teas Complan, Build up, Nutriment, Lassi, Ale, Beer Oxo, Bovril, Bournvita	Tap water (If you consume bottled, flavoured or soda water regularly speak to your Dietitian), Coffee (high in potassium), Fruit squash / cordial (any flavor) Lemonade, cherryade, lime and lemonade, Fanta, ginger beer Spirits for example, whisky, vodka, brandy, rum
<b>Miscellaneous</b>	Marmite, Tahini paste, yeast extract	Gravy browning, gravy granules, jam, marmalade, golden syrup

# Phosphate Binders

You may be prescribed tablets called phosphate binders. Phosphate binders work by stopping phosphate in the foods you eat from being absorbed into your blood.

It is very important that you remember to take these with your meals. To help you remember, you may want to try to:

- Keep your binders near where you usually eat
- Keep a note on the fridge door
- Keep some in the cutlery drawer
- Keep some in your lunchbox if you take a packed lunch

There are various different phosphate binders which come in the form of film-coated or chewable tablets, as well as powder options:

- Calcium carbonate (Adcal, Calcichew)
- Calcium acetate (Renacet, Phosex)
- Calcium acetate / Magensium carbonate (Osvaren)
- Lanthanum carbonate (Fosrenol)
- Sevelamer (Renagel, Renvela)

It is important that you take the right number of your phosphate binders with meals and snacks. Your renal dietitian will be able to help you decide when and how many to take.

# Useful Tips

If you start your meal or snack and forget your phosphate binders, stop and take them, rather than missing them out altogether. However, there is no benefit from taking binders if you miss a meal

If you take iron tablets for example, ferrous sulphate, take these tablets at least 1 hour after your phosphate binders

Remember to take your binders if you are out for a meal; at work or attending dialysis sessions

Your dialysis treatment does not remove phosphate very well. It is important therefore that you complete your full dialysis prescription.

## Notes

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This diet sheet was given to you by .....

If you have any queries please do not hesitate to contact one of the renal dietitians.

Telephone: 01902 695335  
between 9am and 5pm (excluding weekends and bank holidays)

**Nutrition and Dietetic Department**  
New Cross Hospital  
Wolverhampton  
WV10 0QP

## English

If you need information in another way like easy read or a different language please let us know.

If you need an interpreter or assistance please let us know.

## Lithuanian

Jeigu norėtumėte, kad informacija jums būtų pateikta kitu būdu, pavyzdžiui, supaprastinta forma ar kita kalba, prašome mums apie tai pranešti.

Jeigu jums reikia vertėjo ar kitos pagalbos, prašome mums apie tai pranešti.

## Polish

Jeżeli chcieliby Państwo otrzymać te informacje w innej postaci, na przykład w wersji łatwej do czytania lub w innym języku, prosimy powiedzieć nam o tym.

Prosimy poinformować nas również, jeżeli potrzebowaliby Państwo usługi tłumaczenia ustnego lub innej pomocy.

## Punjabi

ਜੇ ਤੁਹਾਨੂੰ ਇਹ ਜਾਣਕਾਰੀ ਕਿਸੇ ਹੋਰ ਰੂਪ ਵਿਚ, ਜਿਵੇਂ ਪੜ੍ਹਨ ਵਿਚ ਆਸਾਨ ਰੂਪ ਜਾਂ ਕਿਸੇ ਦੂਜੀ ਭਾਸ਼ਾ ਵਿਚ, ਚਾਹੀਦੀ ਹੈ ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਸਾਨੂੰ ਦੱਸੋ।

ਜੇ ਤੁਹਾਨੂੰ ਦੁਭਾਸ਼ੀਏ ਦੀ ਜਾਂ ਸਹਾਇਤਾ ਦੀ ਲੋੜ ਹੈ ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਸਾਨੂੰ ਦੱਸੋ।

## Romanian

Dacă aveți nevoie de informații în alt format, ca de exemplu caractere ușor de citit sau altă limbă, vă rugăm să ne informați.

Dacă aveți nevoie de un interpret sau de asistență, vă rugăm să ne informați.

## Traditional Chinese

如果您需要以其他方式了解信息，如易读或其他语种，请告诉我们。

如果您需要口译人员或帮助，请告诉我们。