

Patient information

LOW PHOSPHATE DIET

Contact Dietitian..... Telephone Number

What is phosphate?

Phosphate is a mineral found in many foods. It is present in every cell of the body and helps build healthy bones and teeth.

Why do renal patients have to control phosphate?

The function of healthy kidneys is to get rid of waste products, including phosphate. If the kidneys are not working properly phosphate can accumulate, resulting in high blood phosphate levels.

Good phosphate control is important because high phosphate levels can lead to phosphate & calcium combining to form bony deposits in the soft tissues of the body. This can lead to problems such as weakening of bones, aching joints, & damage to heart and blood vessels due to calcification (hardening). Early signs of high phosphate levels are itchy skin and red, itchy eyes.

The recommended range for your blood phosphate is: _____
mmol/L

How can I control my phosphate levels?

- Diet



- Medication called phosphate binders

How do I follow a low phosphate diet?

Following a low phosphate diet will help reduce your phosphate levels. Please read the information below regarding sources of phosphate in foods. Your dietitian will be able to help you with this too.

Processed foods

Processed foods often have phosphate and salt added to them. Have a look at the labels on processed foods and try to limit those that contain the words phosphate or phosphoric acid including pyrophosphate, polyphosphate and sodium phosphate. Look out in particular for ham, breaded chicken, cake mixes, instant sauces and dark carbonated drinks as they often contain these. This type of phosphate is very easily absorbed from your food. Most of the salt that we eat is from processed foods. This is another good reason to try and reduce the amount of processed foods eaten. Try to choose fresh, unprocessed food as much as possible, and reduce the amount of salt added to cooking or at the table.

	To avoid or limit	Suitable choices																		
Milk and milk products	<p>Milk should be limited to ½ pint per day. If you wish to have other milk products these may be taken in place of your milk allowance as follows. You may choose a total of 3 points per day. For example: milk on cereal and a small pot of yoghurt = 3 points.</p> <table><tr><th>Milk Product</th><th>Points</th></tr><tr><td>Half a pint of cow's milk or soya milk (fortified)</td><td>3</td></tr><tr><td>Glass of cow's milk or soya milk (fortified) (200ml)</td><td>2</td></tr><tr><td>30g (1oz) of the following hard cheeses*: Cheddar, Double Gloucester, Edam, Emmantel, Halloumi, Wensleydale, Red Leicester</td><td>2</td></tr><tr><td>15g (1/2oz) Parmesan cheese</td><td>2</td></tr><tr><td>Rice Pudding (200g)</td><td>2</td></tr><tr><td>Small yoghurt (125g)</td><td>2</td></tr><tr><td>Custard (150ml)</td><td>2</td></tr><tr><td>60g (2oz) of the following cheeses: Cottage cheese, Mascarpone, Philadelphia, Quark, Ricotta</td><td>1</td></tr></table>	Milk Product	Points	Half a pint of cow's milk or soya milk (fortified)	3	Glass of cow's milk or soya milk (fortified) (200ml)	2	30g (1oz) of the following hard cheeses*: Cheddar, Double Gloucester, Edam, Emmantel, Halloumi, Wensleydale, Red Leicester	2	15g (1/2oz) Parmesan cheese	2	Rice Pudding (200g)	2	Small yoghurt (125g)	2	Custard (150ml)	2	60g (2oz) of the following cheeses: Cottage cheese, Mascarpone, Philadelphia, Quark, Ricotta	1	<ul style="list-style-type: none">•Organic soya, rice milk•Almond, oat, cashew milk (unfortified)•Organic soya yoghurts•Soya cream•Sorbet is much lower in phosphate than ice cream, however, remember to consider the fluid content if you are on a fluid restriction.•Crème fraiche, cream, soured cream•Butter and margarine
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30g (1oz) cheese is the size of a small matchbox.																				

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	<table><tr><td>30g (1oz) of the following cheeses: Brie, Camembert, Feta, Goat, Mozzarella, Stilton</td><td>1</td></tr><tr><td>Fromage frais / Soya yogurt (1 pot – 100-125g)</td><td>1</td></tr><tr><td>Milk on cereal (100ml)</td><td>1</td></tr><tr><td>Ice cream (2 scoops)</td><td>1</td></tr><tr><td>Crème caramel (90g pot)</td><td>1</td></tr><tr><td>Dried milk powder (3tsp / 10g)</td><td>1</td></tr></table> <p><i>*When using hard cheese, try grating it, to make it go further. Use a mature cheese, as a small amount still adds plenty of flavour, or use a small amount (15g / ½ oz) of parmesan cheese in cooked dishes.</i></p> <ul style="list-style-type: none">• Evaporated milk and condensed milk• Cheese spreads e.g. Dairylea, Primula• Processed cheese• Cheese sauce• Coconut milk/coconut cream• Ice cream	30g (1oz) of the following cheeses: Brie, Camembert, Feta, Goat, Mozzarella, Stilton	1	Fromage frais / Soya yogurt (1 pot – 100-125g)	1	Milk on cereal (100ml)	1	Ice cream (2 scoops)	1	Crème caramel (90g pot)	1	Dried milk powder (3tsp / 10g)	1	
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Meat, fish, seafood and eggs <i>(These foods are important sources of protein and should not be completely removed from your diet, but may need to be limited. If in doubt, ask your dietitian.)</i>	<ul style="list-style-type: none">•Eggs: Limit to no more than three to four a week.•Oily fish* such as- Pilchards, sardines, kippers, herrings, whitebait, sprats, anchovies, herring, hoki, mackerel, salmon, trout. <p><i>*Oily fish is good for your heart health so can include this once weekly in your diet.</i></p> <ul style="list-style-type: none">•Shellfish** Such as cockles, crab (fresh), fish roe, mussels, prawns, scampi, shrimps, squid, oysters.	<ul style="list-style-type: none">•Egg white•White fish such as plaice, cod and haddock, fish fingers, tuna, canned salmon (do not eat the bones), jellied eels.•Crabsticks, canned crab, scallops, winkles.•Beef, chicken, duck, pork, turkey, lamb, rabbit, veal, venison, gammon•Bacon												

	To avoid or limit	Suitable choices
	<ul style="list-style-type: none"> •Game ** For example Goose, grouse, hare, partridge, pheasant, pigeon. •Offal ** Such as liver, kidney, heart •Sausages/sausage rolls: Once a week only. <p><i>**It is best these foods are limited to once a fortnight</i></p> <p>Avoid</p> <ul style="list-style-type: none"> •Fish paste, taramasalata •Processed, sliced meats e.g. processed ham, sliced chicken •Paté 	<ul style="list-style-type: none"> •Tripe •Corned beef •Salami •Meat / pork pie
Non-meat protein sources	<ul style="list-style-type: none"> •Nuts and seeds •Peanut butter •Aduki beans, baked beans, red kidney beans, pinto beans •Soya beans •Quorn 	<ul style="list-style-type: none"> •Tofu •Dried soya meat substitute •Once to twice a week only – hummus, black eyed beans, chickpeas, broad beans, butter beans, lentils, mung beans
Bread, flour products and alternatives	<ul style="list-style-type: none"> •Cake mixes •Baking powder •Self-raising flour •Crumpets, Naan bread •Scones •Scotch pancakes, waffles •Oatcakes 	<ul style="list-style-type: none"> •White, brown, granary, wholemeal bread and flour (plain or corn) •Pitta bread, bread sticks, rice cakes, bagel •Croissants, English muffins •Cream crackers, water biscuits •Bicarbonate of soda
Rice, potatoes, pasta and grains	<ul style="list-style-type: none"> •Macaroni cheese •Frozen/oven chips •Potato waffles/croquettes •Pot noodles •Yorkshire pudding •Dumplings 	<ul style="list-style-type: none"> •Potatoes (boiled, baked, mashed, roast) •Sweet potato, yam (boiled) •Rice, pasta (white, wholemeal) •Plain, rice and egg noodles •Couscous •Quinoa •Pearl barley •Tapioca
Breakfast cereals	<ul style="list-style-type: none"> •All Bran, Branflakes, •Fruit and Fibre 	<ul style="list-style-type: none"> •Cornflakes, porridge oats, Shreddies, Weetabix, Special K,

	To avoid or limit	Suitable choices
	<ul style="list-style-type: none"> •Muesli •Readybrek •Cereals, biscuits and cakes containing nuts or chocolate 	Shredded Wheat, puffed wheat
Sweets, snacks and sauces	<ul style="list-style-type: none"> •Chocolate – plain, white or milk •Chocolate spread •Biscuits and cakes containing nuts, seeds or chocolate •Fudge •Nuts, seeds and nut butters •Marmite, Bovril •Bombay Mix, Twiglets •Liquorice •Desiccated coconut 	<ul style="list-style-type: none"> •Boiled sweets, jelly sweets, marshmallows, Turkish delight •Jam, marmalade, honey, lemon curd, sugar •Cream cakes, doughnuts, jam tarts, jaffa cakes, shortcake, ginger biscuits, plain biscuits and cakes (without nuts or chocolate) •Meringue/Pavlova •Jelly •Fruit gum, mints •Breadsticks •Plain popcorn •Prawn crackers •Cream crackers •Corn snacks (Wotsits, Skips, Monster Munch) •Mustard, tomato ketchup, brown sauce, salad cream, mayonnaise, vinegar, oxo
Drinks	<ul style="list-style-type: none"> •Lager, Stout, Ale, Bitter, Wine, Sherry, Liqueurs •Dark fizzy drinks e.g. Coca Cola, Pepsi, Dr Pepper •Malted milk drinks e.g. Horlicks, Ovaltine •Hot chocolate and cocoa powder •Milky coffee •Milkshake •Supplement drinks e.g. Build up, Complan, Nurishment 	<ul style="list-style-type: none"> •Cider, spirits e.g. vodka, gin, whiskey •Lemonade, orangeade, bitter lemon, squashes, cordials •Red Bull •Flavoured water, tonic water •Tea, coffee •Fruit juice

Fruit and Vegetables

Fruit and vegetables are naturally low in phosphate but also contain some potassium, so please check with your dietitian if you are currently on a low potassium diet.

Phosphate additives

Phosphate additives are used in the manufacturing of a number of foods for preserving or flavour. Phosphate from additives and preservatives is very easily absorbed and increase your phosphate levels. While it is impossible to avoid them completely, the following additives all contain phosphate and should be avoided where possible. Look out for any of these and choose alternative varieties whenever possible:

Phosphate additives	
E338 – phosphoric acid	E343 – magnesium phosphates
E339 – sodium phosphates	E450 - diphosphates
E340 – potassium phosphates	E451 - triphosphates
E341 - calcium phosphates	E452 - polyphosphates

Below is a list of key foods and drinks where phosphorus containing food additives may be found. These include:

- **Bakery products:** cakes, biscuits, pastries and flour tortillas
- **Meat and poultry products:** processed meats, processed poultry, burgers, sausages and meat paste
- **Seafood products:** frozen processed and unprocessed fish, frozen processed and unprocessed shellfish and fish paste
- **Dairy products:** evaporated milk, creams, sterilised and ultra-high temperature processing (UHT) milk, dried milk products, milk desserts and yoghurt
- **Processed cheese:** spreadable and sliced processed cheese
- **Potato products:** frozen, chilled and dried products (e.g. chips, waffles, roast potato and mashed potato)
- **Dried powdered food items:** sauces (especially cheese-based), dessert mixes, soups, instant pasta dishes, instant noodles and dried milk
- **Non-alcoholic drinks:** dark fizzy drinks, soft drinks, and chocolate and malt dairy-based drinks

Please note that the presence of these additives in foods is brand related. Therefore, check the ingredient list of these foods and drinks and look for an alternative product that do not contain these additives.

Phosphate Binders

Your doctor may also prescribe medications known as ‘phosphate binders’. These are often used if diet alone is not able to reduce your phosphate level enough. During digestion, these medications grab hold of the phosphate in your food preventing your body from absorbing some of it and it is excreted in your stool (poo). Therefore it is essential that you take your phosphate binders with meals and snacks, as prescribed. Your renal doctor will let you know if these medications are needed.

The more phosphate a meal contains, the more binders you may need. If in doubt, your renal dietitian can advise you on this.

Remember to take your binders with you if you are eating out.

Avoid taking an iron supplement such as ferrous sulphate, at the same time as your phosphate binder.

Types of Phosphate binder medications

Name of binder	When to take	How to take
Calcichew (Calcium Carbonate)	Just before start of a meal	Chew
Fosrenol (Lanthanum Carbonate)	During or at the end of a meal	Tablet form – chew. Powder form - mix with a small amount of food, or can be taken directly from the packet.
Osvaren (Calcium acetate/magnesium carbonate)	Just before or during meals	Swallow whole
Phosex/Renacet (Calcium acetate)	Just before or during meals	Swallow whole
Renagel (Sevalemmer hydrochloride)	Just before or during meals	Swallow whole
Renvela (Sevelamer carbonate)	Just before or during meals	Tablet form – swallow whole. Powder form – mix with 60ml water. Use within 30 minutes of preparation.
Velphoro (Sucroferric oxyhydroxide)	With meals	Chew

Please contact your renal dietitian on **01284 713609 / 01284 713668** if you have any questions.

If you would like any information regarding access to the West Suffolk Hospital and its facilities please visit the hospital website www.wsh.nhs.uk and click on the link, or visit the disabledgo website: <http://www.disabledgo.com/organisations/west-suffolk-nhs-foundation-trust/main>

