

Patient information

Low Phosphate Diet

Therapies - Department of Nutrition and Dietetics

Name:

Date:

Dietitian:

Introduction

What is phosphate?

Phosphate is a mineral that is found in the food we eat. The body needs phosphate in a balanced amount to keep bones strong and healthy.

Why is my blood phosphate too high?

When the kidneys are not working properly, the body holds too much phosphate in the blood.

Why does this matter?

A high level of phosphate in the blood causes removal of calcium from bones. This can cause brittle bones and blockages in the arteries, which may lead to heart disease.

Symptoms of a high phosphate may include itchy skin and eyes, aching muscles and bone pain.

What can I do to control my levels?

You will need to follow a low phosphate diet and take medications called phosphate binders.

Your dietitian will assess your diet and tell you which foods you should avoid or limit. They will also help to plan meals based on the foods you can have.

Phosphate Binders

What are phosphate binders?

These are medications that help lower your phosphate level. The most commonly used phosphate binders are:

Tablet	When to Take	How to Take
Calcichew (calcium carbonate)	Immediately before a meal	Chew tablets thoroughly
Phosex (calcium acetate)	Immediately before a meal	Swallow tablets whole
Renacet (calcium acetate)	Immediately before a meal	Swallow tablets whole
Sevelamer tablets	Immediately before or during a meal	Swallow tablets whole
Renvela – powder (sevelamer carbonate)	Immediately before or during a meal	Dissolve in 60 mls of water
Fosrenol - tablets (lanthanum carbonate)	During or immediately after a meal	Chew tablets thoroughly
Fosrenol – powder (lanthanum carbonate)	During or immediately after a meal	Mix with soft food
Osvaren (calcium acetate and magnesium carbonate)	With meals	Swallow tablets whole
Velphro (sucroferric oxyhydroxide)	With meals	Chew tablets thoroughly

How do they work?

If taken at the right time as outlined in the table above they bind with the phosphate in food when it is in your stomach. This prevents the phosphate from entering your blood stream, so keeping your blood phosphate level lower.

Important points

- Remember to keep a supply of phosphate binders with you when eating away from home.
- Always take your phosphate binders with any meals you have whilst on dialysis e.g. a sandwich.
- Always take the exact dose you have prescribed.
- Phosphate binders should not be taken without food.
- If you are on iron tablets or thyroxine take these two hours apart from your phosphate binders.
- If you are having difficulty taking your binders, please contact your doctor, dietitian, pharmacist or nurse to discuss a suitable alternative.

Phosphate Additives

When following a low phosphate diet it is important to be aware of hidden sources of phosphate in your food, such as phosphate additives.

What are phosphate additives?

Phosphate additives are chemicals that are added to a large number of processed foods during manufacturing. These foods include processed meat e.g. ham, bacon and sausages, reformed chicken, processed cheeses, dark fizzy drinks e.g. cola, instant puddings, cake mixes and instant sauces.

Phosphate additives greatly increase your phosphate intake. This is because they are more easily absorbed by your body compared to phosphate which occurs naturally in food.

How do I know which foods contain phosphate additives?

It is important to look at the food label of processed foods. The ingredients list on the packaging will name the additives either by name or by their E Number. Try to limit food that contains the words phosphate or phosphoric acid including pyrophosphate, polyphosphate and sodium phosphate in the ingredients list. The amount of phosphate additives varies depending on the brand

How can I reduce my intake of phosphate additives?

- Read the food labels to compare products, and wherever possible choose those without phosphate additives.
- Look for 'PHOS' in the ingredient list e.g. phosphoric acid.
- Try to avoid processed food and choose fresh, unprocessed foods which are lower in phosphate.

The following below are phosphate additives

- E338 Phosphoric acid
- E339 Sodium phosphates
- E340 Potassium phosphates
- E341 Calcium phosphates
- E343 Magnesium phosphates
- E450 Diphosphates
- E451 Triphosphates
- E452 Polyphosphates
- E541 Sodium aluminium phosphates

Low Phosphate foods – eat freely (check ingredients where possible)	High Phosphate foods – limit or try to avoid
Cereals and breads Plain flour, bread, rice, pasta, noodles. Weetabix, cornflakes, rice krispies, sugar puffs, porridge, Frosties, Special K, shreddies Water biscuits, cream crackers, breadsticks	Cereals and breads All bran, branflakes, sultana bran, readybrek, muesli and other cereals containing nuts and seeds. Oatcakes, crumpets. Instant noodle snacks, quinoa Limit the use of baking powder and self-raising flour. Rye flour and soya flour
Dairy products Double cream, whipping cream, clotted cream, soured cream Butter, margarine. Cream cheese e.g. Philadelphia, supermarket own brand Cottage cheese. Milk substitutes e.g. coffee compliment, coffee mate, and coffee whitener. Crème Fraiche Unfortified soya, rice and oat milk- check the label as these may have phosphate added to them Soya yogurts	Dairy products Dried milk powder, evaporated milk, condensed milk, coconut milk, almond milk Single cream. Imitation cream e.g. Elmlea, Tip Top, Dream Topping. Processed cheese e.g. Primula, Dairylea, cheese slices. Instant whip. Yoghurt drinks Instant custard mix
Meat, fish and alternatives Beef, lamb, pork, chicken, turkey, venison, mutton, kangaroo, ostrich, duck, goose Cod, haddock, Pollock, sole, hake, plaice, river cobbler, mullet Quorn, tofu If you are vegetarian, you may be able to eat some nuts and pulses. Your dietitian will help you with this.	Meat, fish and alternatives Processed meats e.g. tinned or packet meats, offal, pâté. Venison, pheasant, rabbit, grouse, goat Sardines, anchovies, herrings, kippers, pilchards, whitebait, crab, prawns, scampi, trout, mussels, clams, monkfish, crayfish, sea bass, taramasalata, fish paste, fish roe. All types of nuts and seeds, hummus, baked beans, kidney beans, aduki beans, pinto beans and peanut butter
Cakes, biscuits and snacks Biscuits e.g. digestive, rich tea, jammie dodgers, shortbread, ginger biscuits. Cakes e.g. ice-buns, flapjacks, doughnuts, swiss roll, plain sponge, cream cakes, jam tarts, fruit crumble/pie, meringue, pavlova, lemon meringue pie (home-made where possible) Potato crisps, corn snacks e.g. wotsits or skips, popcorn, prawn crackers Cream crackers	Cakes, biscuits and snacks Cakes and muffins containing nuts, chocolate or marzipan. Cake mixes. Cakes made with large amounts of baking powder e.g. scones, rock cakes. Egg custard, Scotch pancakes and waffles. Biscuits containing nuts or chocolate. Cereal bars containing nuts or chocolate. Bombay mix, seeds, nuts and twiglets.

Low Phosphate foods – eat freely (check ingredients where possible)	High Phosphate foods – limit or try to avoid
Sugars, preserves and confectionary Sugar, jam, honey, marmalade, lemon curd. Sweets e.g. boiled, jellies, fruit gums, barley sugar, mints, marshmallows, Turkish delight (without chocolate or nuts). Popcorn.	Sugars, preserves and confectionary Chocolate and chocolate spread. Fudge and marzipan. Sweets and chocolates containing nuts. Caramel, cacao
Drinks Tea, fruit or herbal tea. Coffee. Light coloured fizzy drinks e.g. lemonade, lucozade, fizzy orange Fruit juice, squash. Water including flavoured, fizzy, mineral or tonic. Alcohol e.g. spirits, wine, cider, sherry – Government guidelines of 14 units per week for men and women spread evenly over the week.	Drinks Malted milk drinks e.g. Ovaltine, Bournvita, cocoa powder, Horlicks, drinking chocolate. Milkshake. Complan and Build up (unless on this for medical reasons), Bovril Dark fizzy drinks e.g. Coca Cola, Pepsi, Dr Pepper, Dandelion & Burdock. Alcohol – lager, stout, ale and bitter.
Fruit, vegetables and potatoes All types are suitable unless otherwise stated on the avoid list	Fruit, vegetables and potatoes Frozen/oven chips, potato waffles, beans and pulses.

Dietary Allowances

The following foods contain high amounts of phosphate and therefore should only be eaten in the suggested quantities:

..... pint of milk per day.

..... eggs per week.

..... oz/grams hard cheese per week.

..... items from the following list per week:

- One small pot of yoghurt/fromage fraise
- One small bowl of custard
- One small bowl of rice pudding
- Two scoops of plain ice cream

One portion of salmon or mackerel per week

One portion of offal e.g. liver, kidney, sweetbreads, heart per month.

Please Note:

People with kidney problems should avoid Star Fruit. This has been known to cause neurological problems when eaten by people with a reduced kidney function.

If you have diabetes some of the foods mentioned in this diet sheet may not be suitable due to the high sugar content. Please discuss with your Dietitian.

Additional support and resources

To support you making your dietary changes, additional dietary information is available. Please ask your dietitian if you would like any of these.

- **Eating out with CKD**
- **Dietary myths**
- **“K” word cookbook**
- **Build yourself up**
- **Festive foods**

PatientView – www.patientview.org

PatientView shows your latest test results, letters and medicines, plus info about diagnosis and treatment. Set up alerts, monitor symptoms and download your records. You can view PatientView from anywhere you want and share your information with anyone you want. You can ask any Renal Healthcare Professional in clinic to help you sign up for this service.

CaMKIN – www.kinet.site

CaMKIN (Cheshire and Merseyside Kidney Information Network) is an online community run by renal patients for renal patients, their families and carers. It provides information, blogs, recipes and opportunities for social events, with the main aims of reducing isolation and increasing support to you as a person with kidney disease. A closed Facebook group is also available, search CaMKIN.

National Kidney Federation - www.kidney.org.uk**Think Kidneys – www.thinkkidneys.nhs.uk****Kidney Care – www.kidneycareuk.org**

Discussion points:

This page may be used to help with meal suggestions or document the dietary changes you have discussed with the dietitian during your appointment.

Your Feedback

Your feedback is important to us and helps us influence care in the future.

Following your discharge from hospital or attendance at your outpatient appointment you will receive a text asking if you would recommend our service to others. Please take the time to text back, you will not be charged for the text and can opt out at any point. Your co-operation is greatly appreciated.

Further information

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