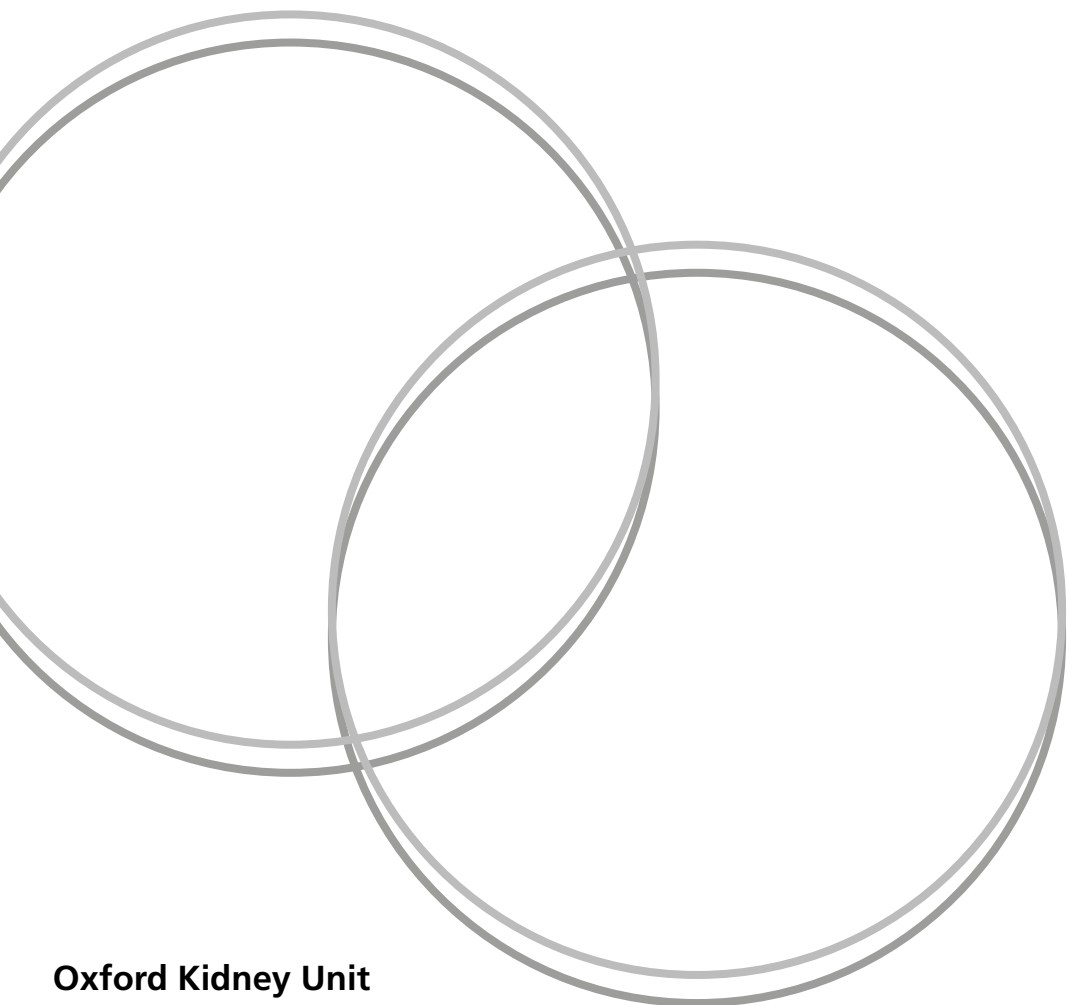




Oxford University Hospitals  
NHS Foundation Trust

# Reducing phosphate in your diet

Information for renal patients



Oxford Kidney Unit



# What is phosphate?

Phosphate is a mineral naturally found in many foods in your diet. It is important for bone health.

# Why is my phosphate level high?

Phosphate levels in the blood can increase when the kidneys are not working properly.

We measure phosphate by taking a small amount of blood when we measure your kidney function. Target phosphate levels are:

- 0.9 to 1.5mmol/L for someone with chronic kidney disease
- 1.1 to 1.7mmol/L for someone on haemodialysis or peritoneal dialysis.

The set targets may vary for different people. Your dietitian, bone mineral nurse or renal doctor will let you know what you should be aiming for.

# What happens if my phosphate level is too high?

High blood phosphate levels may cause red eyes and itchy skin.

If your phosphate levels remain high, this can cause calcium to be removed from your bones. This can lead to:

- brittle bones that are more likely to break
- aching joints and muscles
- hardened blood vessels, which can increase your risk of heart disease and circulation problems.

# What can I do to control my phosphate level?

The first step in controlling your phosphate level is to follow a low phosphate diet. You may also be prescribed a tablet called a phosphate binder.

# What is a low phosphate diet?

This diet sheet will give you information to help you follow a lower phosphate diet. To achieve this, aim to choose more foods from the 'lower phosphate alternatives' column and fewer from the 'high phosphate foods' column.

It is also a good idea to choose unprocessed foods and cook from fresh when possible. This will ensure your food has fewer phosphate additives. To help you to avoid these and make better choices, see the additives section of this booklet (page 7).

Foods high in phosphate	Lower phosphate alternatives
<b>CEREALS</b>	
Those containing bran e.g. All-bran Those containing nuts, e.g. Crunchy Nut Cornflakes, granola and muesli Those containing chocolate, e.g. Coco Pops	Bran flakes, Cheerios, cornflakes, Weetabix, porridge oats, Rice Krispies, Shredded Wheat, Shreddies, Special K (original)
<b>CARBOHYDRATES</b>	
Baked goods with phosphate-containing raising agents, e.g. crumpets, muffins, naan bread, scones and tortillas	Baked goods without phosphate-containing raising agents, e.g. croissants, English muffins and hot cross buns  Bread, chapatti and pitta bread  Noodles, pasta, potatoes and rice
<b>FISH</b>	
Fish with edible bones, such as mackerel, pilchards and sardines Whitebait Kippers Shellfish, e.g. crab, lobster, mussels and prawns	Boneless tinned fish, e.g. salmon and tuna  Fresh, unprocessed fish, e.g. cod, haddock, salmon and tuna  Fish fingers Crabsticks

<b>Foods high in phosphate</b>	<b>Lower phosphate alternatives</b>
<b>MEAT AND EGGS</b>	
<p>Processed meats, e.g. bacon, pepperoni and reformed ham</p> <p>Processed meat products, e.g. burgers, chicken nuggets, meat pies and sausages</p> <p>Tinned meat, e.g. corned beef and Spam</p> <p>Offal, e.g. kidney, liver and pâté</p>	<p>Fresh, unprocessed meat, e.g. beef, chicken, duck, pork, lamb and turkey</p>
<b>PLANT BASED PROTEIN</b>	
<p>Nuts and seeds</p>	<p>Tofu, Quorn, textured soya protein, beans and pulses, e.g. lentils, kidney beans and chickpeas</p>
<b>MILK AND MILKY PUDDINGS</b>	
<p>Cows milk (your dietitian can provide a recommended allowance)</p> <p>Milky puddings, e.g. custard, ice-cream and yogurts. These should be counted towards your milk allowance.</p> <p>Condensed/evaporated milk</p> <p>Milk powders, e.g. Marvel</p>	<p>Organic dairy milk alternatives, e.g. rice, oat, almond or soya milk</p> <p>Single and double cream</p> <p>Puddings, e.g. crème caramel and mousse</p>
<b>CHEESE</b>	
<p>Hard cheese, e.g. Cheddar, Edam and Red Leicester</p> <p>Processed cheese, e.g. Dairylea, Laughing Cow and Primula</p>	<p>Soft/cream cheeses, e.g. Philadelphia</p> <p>Brie, cottage cheese, mozzarella, ricotta and feta</p>
<b>EGGS</b>	
<p>Eggs are a good source of protein and can be eaten with no restrictions.</p>	
<b>FRUIT AND VEGETABLES</b>	
<p>All fruit and vegetables are naturally low in phosphate. You should aim to have 5 portions a day.</p>	

Foods high in phosphate	Lower phosphate alternatives
<b>SAVOURY SNACKS</b>	
Nuts, seeds, Bombay mix	Bread sticks, corn snacks, oat cakes, rice cakes and plain popcorn
<b>SWEET SNACKS</b>	
<p>Solid chocolate bars, e.g. Cadburys milk chocolate bar, Galaxy bar and Yorkie</p> <p>Baked goods with phosphate-containing raising agents, e.g. American style muffins, custard tarts, sponge cakes and waffles</p> <p>Marzipan</p>	<p>Thinly coated chocolate bars, e.g. Kit-Kat and chocolate fingers</p> <p>Plain biscuits, e.g. digestives, rich tea and shortbread</p> <p>Cream or jam filled biscuits</p> <p>Baked goods without phosphate-containing raising agents, e.g. cream filled pastries, Danish pastries, flapjacks, home-made pancakes, Jaffa cakes, jam tarts, meringue and teacakes</p> <p>Boiled sweets, chewing gum, jellies and mints</p>
<b>SPREADS/CONDIMENTS</b>	
<p>Peanut butter</p> <p>Yeast extract, e.g. Marmite and Vegemite</p>	<p>Jam, marmalade, lemon curd, hummus</p>
<b>BEVERAGES</b>	
<p>High phosphate-containing dark coloured fizzy drinks, e.g. Cola, Dr Pepper and Pepsi</p> <p>Drinking chocolate</p> <p>Malted drinks, e.g. Horlicks or Ovaltine</p> <p>Milkshakes</p> <p>Lager, cider and stout</p> <p>Wine</p>	<p>Low phosphate-containing dark coloured fizzy drinks, e.g. Green Cola and Fever Tree Cola</p> <p>Light coloured fizzy drinks, e.g. Fanta, lemonade, Lilt and orangeade</p> <p>Water, including flavoured water</p> <p>Black tea and coffee</p> <p>Fruit squashes</p> <p>Spirits, e.g. vodka, gin, whiskey</p>

# Phosphate additives

Food manufacturers often use additives to help preserve food and to enhance its flavour. These are typically found in ready meals, processed foods and dark coloured fizzy drinks. The phosphorus added to food is completely absorbed by the body, so can contribute greatly to your blood phosphate levels.

All additives used in packaged food will be named in the ingredients list. Those to avoid include:

<b>E number</b>	<b>Phosphate additive name</b>
E338	<b>Phosphoric acid</b>
E339	Sodium <b>phosphate</b>
E340	Potassium <b>phosphate</b>
E341	Calcium <b>phosphate</b>
E343	Magnesium <b>phosphate</b>
E450	Di- <b>phosphates</b>
E451	Tri- <b>phosphates</b>
E452	Poly- <b>phosphates</b>

# Phosphate binders

To reduce the amount of phosphate you absorb from your food you may have been prescribed a medicine called a phosphate binder.

A list of phosphate binders and how to take them is shown below.

<b>Phosphate binder</b>	<b>How to take it</b>
Calcichew (calcium carbonate)	Chew thoroughly 10-15 minutes before or immediately before food
Renacet (calcium acetate)	Swallow whole after the first 2-3 mouthfuls of food
Phosex (calcium acetate)	
Osvaren (calcium acetate and magnesium carbonate)	
Renagel (sevelemer hydrochloride)	
Renvela tablets (sevelemer carbonate)	
Alucaps	
Renvela powder (sevelemer carbonate)	Dissolve in 60ml of water and take after the first 2-3 mouthfuls of food
Fosrenol tablets (lanthanum carbonate)	Chew thoroughly towards the end/ immediately after each meal
Fosrenol powder (lanthanum carbonate)	Mix with a small amount of food and eat immediately
Velphoro (sucroferric oxyhydroxide)	Chew thoroughly after the first 2-3 mouthfuls

## **How many phosphate binders should I take?**

You should follow the dose that you have been prescribed. Your dietitian can advise on how best to match your phosphate binders to your meal pattern, as well as which snacks require a phosphate binder.



## **What happens if I forget to take my phosphate binder?**

For best results, phosphate binders should be taken as instructed. However, if you do forget to take them at the correct time, you can still take them during the meal or immediately after a meal to have some effect. If you remember at a time later than this, miss that dose and try to remember for your next meal.

## **Tips for remembering to take your phosphate binders**

To help you remember your phosphate binders try setting an alarm on your mobile phone to go off around meal times. Keep a small pot of phosphate binders in your bag, so you have a supply at all times. If you take insulin with your meals, you could keep your phosphate binders in the same place as your insulin, to remind you to take them when eating.

## **Problems with your phosphate binders**

A very small number of people find that they have side effects from their phosphate binder. If this is the case for you, please let your renal dietitian or nurse know, as they may be able to give you advice about an alternative that is more suitable for you.

If your GP or pharmacy have difficulty ordering your prescribed phosphate binders, please let a member of the renal team know, as they may be able to help with this or provide an alternative for you.

# How to contact us

## **Renal Dietitians**

Tel: **01865 225 061**

Please leave a message on the answerphone and one of the team will call you back.

# Further information

## **Oxford Kidney Unit**

The website has lots of information about the Oxford Kidney Unit for patients and carers.

Website: [www.ouh.nhs.uk/oku](http://www.ouh.nhs.uk/oku)

## **PatientView**

This shows your latest blood results

Website: [www.patientview.org](http://www.patientview.org)



If you need an interpreter or would like this information leaflet in another format, such as Easy Read, large print, Braille, audio, electronically or another language, please speak to the department where you are being seen. You will find their contact details on your appointment letter.

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Reviewed at Clinical Guideline Meeting, July 2019, and  
Patient Advisory Panel, June 2019

December 2019

Review: December 2022

Oxford University Hospitals NHS Foundation Trust  
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OMI 56112P