

# Food fact sheet : Phosphate in your diet

This food fact sheet looks at phosphate in our diet. If you have been asked to eat less (or more) phosphate by your doctor or health care professional, you can find out how to here.

## What is phosphate?

Phosphate (phosphorus) is a mineral. We need phosphate to function properly. It ensures that energy is released from cells and that bones remain healthy. The kidneys remove phosphate from the body to keep the phosphate levels in the bloodstream within a healthy range.

## Phosphate and health

Phosphate levels in the blood are normally 0.8-1.5mmol/l. However there are certain medical conditions where levels may be too high or too low.

When the kidneys are not working as well as they should, phosphate can build up in the blood. High levels of phosphate in the blood are harmful to bones and blood vessels and can cause a condition known as renal bone disease.

There are also medical conditions where the body doesn't have enough phosphate. This may happen after a kidney transplant or due to certain genetic conditions/gut disorders. Levels in your bloodstream may also be low if you can only manage very little food.

## Phosphate in Food

### Natural phosphate

Phosphate is present naturally in most foods in varying amounts. Amounts are not shown on food labelling. The foods listed below are naturally high in phosphate:

- Cheese - all types except cream cheese and cottage cheese
- Milk, yoghurt
- Chocolate
- Offal - such as liver and kidney
- Oily fish - such as salmon, sardines, mackerel

- Shellfish
- Malted milk drinks - such as Ovaltine<sup>®</sup>, Horlicks<sup>®</sup>
- Nuts, seeds, beans, pulses and lentils - although we absorb less phosphate from these foods than the other foods listed above.

### Artificial 'hidden' phosphate

Phosphate is added to food to keep it fresh and safe to eat for longer. This type of phosphate is more easily absorbed by the body.

Phosphate additives are found in some processed foods. These include some meat products, baked products (such as cakes and biscuits), packet mixes and processed cheese. Phosphate may also be added to some plant-based products (such as non-dairy milks). Cola drinks contain a large amount of phosphate.

It is possible to identify whether a product contains a phosphate additive by looking at the ingredient list. Below is a list of phosphate containing food additives and their E numbers:

E338	<b>Phosphoric acid</b>
E339	Sodium di <b>phosphates</b>
E340	Potassium <b>phosphates</b>
E341	Calcium <b>phosphates</b>
E343	Magnesium <b>phosphates</b>
E450	Di <b>phosphates</b>
E451	Tri <b>phosphates</b>
E452	Poly <b>phosphates</b>

### Need to reduce phosphate in your diet?

**Step 1:** Where possible, prepare food from fresh, minimally processed ingredients to help you avoid phosphate additives.

**Step 2:** Review your diet for any food or drink that you regularly eat that contain hidden phosphate in the form of additives. It is worth comparing products because there can be wide variation between types of products and brands. Try to find an alternative that does not contain a phosphate additive. If this is not possible, make sure you are not having more than the portion recommended on the food packaging.

**Step 3:** Ask your doctor to refer you to a dietitian for support. A dietitian can check for foods in your diet that are high in natural phosphate and advise on changes you can make, while making sure you get all the nutrients you need.

### **Need to increase phosphate in your diet?**

- Consider the overall balance of your diet and try to include more foods that contain naturally occurring phosphate.
- If you need to lose weight, choose low fat cheeses, and low fat versions of milk and yoghurt. Chocolate would not be a good choice as it is also high in fat and sugar.
- If you need to gain weight, eating full fat dairy products might be helpful. You could also include chocolate.
- Ultra-processed foods can contain high amounts of salt or other additives. So, it may not be a good idea to increase your intake of foods that contain phosphate additives.

**If you have a poor appetite, ask your doctor to refer you to a dietitian for support.**

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