High potassium levels (hyperkalaemia) and kidney disease
Hyperkalaemia is a condition where you have too much potassium in your blood. Potassium is a mineral that helps to keep your nerves and muscles working properly. You get potassium from food but this potassium can build up in your body if you have kidney problems. Too much potassium in your blood can affect the way your heart works, causing it to go into an abnormal rhythm which can be very dangerous.

This leaflet explains the causes of hyperkalaemia, its symptoms and possible treatments.
Hyperkalaemia is common in people with kidney problems. Foods that we eat contain different amounts of potassium. Your kidneys help to remove excess potassium from the body in the form of urine (wee). If you have chronic kidney disease (CKD), your kidneys are not working as well as they should, so they cannot get rid of the extra potassium you get from food. It therefore builds up in your blood.

Why might I have hyperkalaemia?

Hyperkalaemia is common in people with kidney problems. Foods that we eat contain different amounts of potassium. Your kidneys help to remove excess potassium from the body in the form of urine (wee). If you have chronic kidney disease (CKD), your kidneys are not working as well as they should, so they cannot get rid of the extra potassium you get from food. It therefore builds up in your blood.

What are the symptoms of hyperkalaemia?

Although hyperkalaemia itself does not usually have any obvious symptoms, you may notice some of the effects such as:

- Feeling very tired or weak
- Stomach pain or nausea
- Dizziness
- Muscle pain or cramps
- Trouble breathing
- Weakness in the arms and/or legs
- Unusual heartbeat or chest pains

These symptoms may develop slowly over several months. However, if you have CKD and are receiving dialysis, the symptoms can develop very quickly over just a few days. Talk to your doctor if you have any concerns.
How is hyperkalaemia diagnosed?

Hyperkalaemia is diagnosed by a blood test that measures the potassium levels in your blood. If your nurse or doctor is worried about your potassium level, they may suggest that you have an electrocardiogram (ECG). This is a test that can be used to check your heart’s rhythm and electrical activity. Patches are stuck to your skin to record the electrical signals produced by your heart each time it beats. A high potassium level can cause changes to your heart rhythm that can be seen on an ECG.
How is hyperkalaemia treated?

Treatment will depend on how high the levels of potassium are in your blood. If they are only slightly above normal, you may not need any treatment. You will have regular blood tests to check that this has not changed.

Urgent treatment is usually needed if the potassium levels are above 6. This may mean a short stay in hospital to allow your potassium levels to be closely monitored and to start treatment.

Treatment may include:

**Changing your diet**

You may be advised to make changes to your diet to avoid foods that are high in potassium. Your doctor should refer you to see a dietitian who can advise you about a low potassium diet.

For more information on how to eat a low potassium diet see [www.kidneycareuk.org/about-kidney-health/living-kidney-disease/lifestyle](http://www.kidneycareuk.org/about-kidney-health/living-kidney-disease/lifestyle)
Changing or altering the dose of your medications

Your doctor may reduce the dose of some of your medicines if they are affecting your potassium levels. For example, some medicines that are used to treat high blood pressure can cause or worsen hyperkalaemia. Reducing the dose of these can help to lower your potassium level.

Adding a new medicine

This may include:

- Sodium bicarbonate. This acts by binding with the acid in your bloodstream. This helps your kidneys to process the potassium, allowing it to get rid of the build-up more effectively.

- Potassium binders. These work by removing the extra potassium from your body in your faeces (poo). The most commonly used potassium binder is called Calcium Resonium but there are new medicines now on the market called Patiromer and Sodium zirconium cyclosilicate which are becoming more popular.

- Diuretics (water tablets). These make your kidneys produce more urine which can get rid of the potassium in the body. For example, furosemide and bumetamide.

You should always follow your doctor’s advice regarding medicines.
Dialysis

Sometimes, with more advanced kidney disease, a high potassium level can be a warning that you need to start dialysis. Potassium is easily removed during dialysis. Your nurse or doctor will explain how dialysis works if they feel this is the right treatment for you.

If you are already having regular dialysis, a high potassium level can be a sign that your dialysis is not working well enough. Your nurse or doctor can discuss this with you.
Where can I find out more information?

- NHS website: Potassium Test - www.nhs.uk/conditions/Potassium-test
- Kidney Care UK: About Kidney Health - www.kidneycareuk.org/about-kidney-health
- Kidney Care UK: Kidney Kitchen – www.kidneykitchen.org

Kidney Care UK

- www.kidneycareuk.org
- 01420 541424
- Kidney Care UK, 3 The Windmills, St Mary’s Close, Turk Street, Alton GU34 1EF
- kidneycareuk.org
- @kidneycareuk

The Renal Association

- www.renal.org
- 0117 4148152
- The Renal Association C/O UK Renal Registry, Learning and Research Building, Southmead Hospital, Bristol BS10 5NB
- @RenalAssoc