CONDITION

High potassium level

A high potassium level means there is more potassium than normal in your blood.

WHAT IT IS
Excess potassium in the blood

BODY SYSTEM
Heart and circulation, muscles, nerves, and kidneys

MAIN SYMPTOMS
Often none, muscle weakness, nausea, palpitations

WHAT CAUSES IT
Kidney problems, medicines, or potassium release from damaged cells

HOW IT IS DIAGNOSED
Repeat blood potassium test, with an ECG for heart effects

MAIN TREATMENT
Cause correction, potassium-lowering medicines, sometimes dialysis

CAN IT BE CURED?
Sometimes - resolves when the underlying cause is corrected

IS IT AN EMERGENCY?
Sometimes - severe elevation or an abnormal heart rhythm

LONG-TERM OUTLOOK
Usually manageable when the cause can be controlled

Overview

A high potassium level is also called hyperkalaemia . It means that the amount of potassium in your blood is above the normal range for the laboratory that tested it.

Potassium is a mineral and an electrolyte. Electrolytes are substances that carry electrical signals in the body. Potassium helps your nerves, muscles, and heart work normally.

Most potassium is stored inside the body's cells. The kidneys help keep the amount in the blood within a narrow range by removing extra potassium in urine. A high level can develop when the kidneys cannot remove enough, when potassium moves out of damaged cells, or when certain medicines affect this balance.

A mildly raised result may not cause harm or symptoms. A severely raised level can interfere with the heart's electrical system and cause a dangerous heart rhythm. The number is not the

only consideration: how quickly it rose, your kidney function, symptoms, and an electrocardiogram all help show how urgent it is. An electrocardiogram, or ECG, records the heart's electrical activity.

Sometimes the reported result is falsely high because blood cells were damaged while the sample was collected or handled. This is known as pseudohyperkalaemia . A repeat test may be needed, but a potentially serious result should still be assessed promptly.

Symptoms

High potassium often causes no symptoms. Some people feel well even when the level is high, so symptoms cannot be used to judge whether a result is safe.

When symptoms occur, they may include:

Severe hyperkalaemia may cause marked weakness, fainting, breathing difficulty, or collapse because of its effects on muscles and the heart. These symptoms require emergency help.

Several other conditions can cause the same symptoms. A blood test is needed to know whether potassium is high.

- Muscle weakness, heaviness, or unusual tiredness
- Tingling or numbness
- Nausea
- A pounding, fluttering, or irregular heartbeat

Causes and risk factors

Kidney problems are the most common reason the body cannot remove enough potassium. This may happen with chronic kidney disease, which develops over months or years, or acute kidney injury, which is a sudden decline in kidney function.

Some medicines reduce potassium removal or change the way potassium moves through the body. Examples include certain medicines used for high blood pressure, heart failure, kidney disease, or fluid retention. Non-steroidal anti-inflammatory drugs, such as ibuprofen, can also contribute in some people. Potassium supplements and potassium-containing salt substitutes may raise the level.

These medicines can have important benefits. Do not stop a prescribed medicine because of a potassium result unless the healthcare professional managing it tells you to do so.

Other possible causes include:

Eating potassium-rich foods alone rarely causes severe hyperkalaemia when the kidneys work normally. Food becomes more important when kidney function is reduced or when medicines limit potassium removal.

A falsely high result can occur if red blood cells break open in the sample. Repeated fist clenching, a difficult blood draw, or delays in processing may contribute. Very high platelet or white blood cell counts can also affect some samples.

- Poorly controlled diabetes, especially with severe insulin deficiency
- Dehydration that contributes to reduced kidney function
- Adrenal gland conditions that lower the hormone aldosterone
- Acid building up in the blood, called metabolic acidosis
- Major burns, crush injuries, or rapid muscle breakdown
- Rapid breakdown of blood or cancer cells
- Large blood transfusions in some clinical situations

Diagnosis

Hyperkalaemia is diagnosed with a blood potassium test. Normal ranges differ slightly between laboratories, so the result should be interpreted using the range shown on your report.

A repeat sample is often taken when the rise is unexpected, the sample appears damaged, or the result does not fit the clinical situation. Repeating the test should not delay emergency treatment when the level is severely raised or there are concerning symptoms or ECG changes.

An ECG may be performed to look for effects on the heart. A normal ECG does not always rule out dangerous hyperkalaemia, so it is considered alongside the potassium result and your overall condition.

Other tests help identify the cause. These may include:

Your recent results are also useful. A sudden rise may need a different response from a stable, mildly elevated level that is already being monitored.

- Kidney function and other electrolyte tests
- Blood glucose testing

- Tests of the blood's acid balance
- A review of prescribed medicines, supplements, and salt substitutes
- Urine tests in selected cases

Treatment and management

Treatment is based on the potassium level, how quickly it has risen, symptoms, ECG findings, kidney function, and the cause.

A mildly raised level without symptoms or ECG changes may be managed by correcting the cause and arranging follow-up blood tests. This can include reviewing medicines, treating dehydration or high blood glucose, and adjusting potassium intake when appropriate.

Emergency hospital treatment may be needed for a severe rise or heart-related changes. Treatment can include:

Dialysis filters waste and excess electrolytes from the blood when the kidneys cannot do so effectively.

Potassium-binding medicines may be used in some people. These medicines bind potassium in the digestive tract so it leaves the body in stool. Some work too slowly for use as the only treatment in an immediate emergency.

Dietary changes should be matched to the cause and your nutritional needs. Many healthy foods contain potassium, including fruit, vegetables, beans, dairy products, and nuts. Broadly removing these foods may produce an unbalanced diet without solving the main problem.

A kidney dietitian can help identify the most important sources. Potassium chloride is commonly used in reduced-sodium salt substitutes and can be particularly concentrated.

- Intravenous calcium to protect the heart from potassium's effects
- Medicines that temporarily move potassium from the blood into cells
- Treatments that remove potassium through urine or the bowel
- Dialysis when potassium is severe, kidney function is very poor, or other treatments are not enough

Complications

The main serious complication is an abnormal heart rhythm, called an arrhythmia. Severe hyperkalaemia can slow or disrupt the heart's electrical signals and, in extreme cases, cause

cardiac arrest.

High potassium may also interfere with signals to the muscles. This can lead to increasing weakness or, rarely, temporary paralysis.

Treatment needs monitoring because potassium can fall too low, particularly when several treatments are used. Some emergency medicines can also affect blood glucose. Repeat blood tests and heart monitoring help clinicians check that treatment is working safely.

Repeated episodes may limit the use of medicines that protect the heart or kidneys. In some cases, closer monitoring, dietary support, or a potassium-binding medicine allows these treatments to continue.

Prevention

Not every episode can be prevented. Sudden kidney injury, serious illness, or rapid cell damage may raise potassium even when you have followed previous advice.

If you have kidney disease, diabetes, heart failure, or take medicines that affect potassium, planned blood tests can detect a rise before symptoms develop. The timing of these tests is based on your kidney function, medicines, and previous results.

To reduce avoidable risk:

If vomiting, diarrhoea, fever, or poor fluid intake makes you unwell, contact the service that manages your medicines. Illness can affect kidney function and potassium, but you should not make unplanned changes to prescribed treatment unless you have been given specific instructions.

- Take prescribed medicines and blood tests as arranged
- Check before using potassium supplements
- Avoid potassium-based salt substitutes unless they are suitable for you
- Tell your healthcare team about non-prescription medicines and supplements
- Follow individual dietary advice rather than removing all high-potassium foods

Living with it and what to expect

High potassium is a laboratory finding and condition, not usually a permanent disease by itself. What happens over time is mainly shaped by its cause.

A temporary episode caused by dehydration, an acute illness, or a medicine change may

resolve after the cause is treated. Follow-up tests are often needed to confirm that the level has returned to a safe range.

If you have chronic kidney disease, diabetes, adrenal disease, or heart failure, potassium may rise again. Management may involve regular blood tests, medicine reviews, and targeted dietary changes over months or years.

Potassium levels can change without causing symptoms. Keeping planned blood test appointments remains important even when you feel well.

Most people can continue their usual activities once the level is stable. You may need to check labels on supplements and salt substitutes or learn which foods contribute most potassium to your diet. The goal is not always to avoid potassium completely. It is to keep the level safe while maintaining good nutrition and, where possible, continuing medicines that protect your heart or kidneys.

When to get medical help

Call emergency services if you have a known or suspected high potassium level together with:

Seek urgent medical advice the same day if a laboratory or healthcare service tells you that your potassium is high. Do not wait for symptoms. Follow the instructions given with the result, including attending an emergency department if advised.

Arrange routine follow-up for planned repeat blood tests, medicine monitoring, or dietary support. Contact the team managing your condition sooner if you start a supplement or salt substitute containing potassium, or if illness is affecting your ability to eat and drink.

- Fainting, collapse, or severe dizziness
- A new irregular, very slow, or pounding heartbeat
- Severe or rapidly worsening muscle weakness
- Chest discomfort or difficulty breathing

Common questions

Can high potassium kill you?

A severely raised level can cause a life-threatening heart rhythm if it is not treated. Mild elevations are less likely to do this, but symptoms alone cannot show how serious a result is. Prompt assessment and treatment greatly reduce the risk.

Can a high potassium result be wrong?

Yes. Blood cells can release potassium if they are damaged during collection or handling. This can produce a falsely high result. A repeat test may confirm the true level, but an urgent result should not be dismissed without assessment.

What foods should I avoid if my potassium is high?

There is no single list that is right for everyone. The cause, kidney function, usual diet, and degree of elevation all matter. Salt substitutes containing potassium chloride and large amounts of processed products with potassium additives may be important sources. Get individual advice before cutting out nutritious food groups.

Can dehydration cause high potassium?

Dehydration can reduce blood flow to the kidneys and contribute to acute kidney injury. This may make it harder for the kidneys to remove potassium. The risk may be higher if you already have kidney disease or take medicines that affect potassium.

Can my medicines cause high potassium?

Yes. Several useful heart, blood pressure, kidney, and fluid medicines can raise potassium. Some pain medicines, supplements, and salt substitutes can also contribute. Do not stop prescribed treatment on your own; a medicine review can balance its benefits against the potassium risk.

How quickly can potassium return to normal?

Emergency treatments may begin lowering blood potassium within hours, although some effects are temporary. A mild elevation may improve over days after the cause is addressed. Ongoing kidney or hormone conditions may require long-term monitoring and management.

Sources

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