Kidney Health® Australia

Navigating kidney disease tests and procedures

The kidneys are an organ that are involved in many bodily processes, from removing waste products, to metabolising medications, to producing hormones that impact other organs in the body like bone growth. Because of this, there are tests that people at risk of kidney disease need, as well as a range of tests that people with kidney disease need regularly too.

The doctor may order certain tests to diagnosis and monitor kidney disease. Some of these tests are routine for general health and others are specific to worsening kidney disease. Not all these tests may be necessary, your doctor will decide which tests are right for you.

Keep all your health records and test results together. Bring them to all your appointments.

Keeping track

It can be helpful to keep a folder with all your health records, test results, and appointment details.
You can also use graph paper to track your test results over time.

What is a Kidney Health Check?

A **Kidney Health Check** is a quick and simple way to identify kidney issues or monitor those with kidney disease. You can have a Kidney Health Check at your local health centre, often as part of a regular check-up. It includes three parts:

A **blood pressure check** to see if you have high blood pressure. High blood pressure can damage your kidneys and kidney disease can cause your blood pressure to increase.

A **urine test** to see how much albumin (protein) is present in your urine. Albumin in your urine is a sign of damage or scarring in the kidneys. This test is called urine-albumin creatinine ratio (uACR).

A **blood test** to check your kidney function. This test will measure how well your kidneys are filtering your blood and is called estimated glomerular filtration rate (eGFR).

Tests for kidney function and damage

The doctor may order these tests to check how well your kidney is working. The eGFR is the most common test to monitor kidney function.

Tests for kidney function:

Blood eGFR (Estimated Glomerular Filtration Rate):

An estimation of glomerular filtration rate (GFR) is calculated from creatinine and other measures. GFR is the best measure of kidney function and helps to determine the stage of kidney disease. It shows how well your kidneys are cleaning your blood. A normal GFR is around 90. If your eGFR is 50, your kidneys are working at 50%.

Creatinine:

This is a waste product made by your muscles. Healthy kidneys remove creatinine from your blood. If your kidneys aren't working well, creatinine stays in your blood.

Urea:

This waste product comes from breaking down protein. High levels of urea can mean your kidneys aren't working well.

Urine tests:

ACR (Albumin:Creatinine Ratio):

This test checks for a protein called albumin in your urine. If your kidneys are damaged, albumin can leak into your urine. This test can only be done when a sample is sent to a laboratory.

Urinalysis:

This test looks at your urine to check for kidney disease, diabetes, and infections. It can test for things like pH, sugar, blood, and bacteria. A urine sample can be sent to a laboratory for examination under a microscope or to grow a culture (sample test) if an infection is suspected.

Tests for diabetes

Glucose:

This test measures the sugar in your blood. High levels can mean diabetes.

HbA1c (Glycosylated Haemoglobin):

This test shows your average blood sugar levels over the past few months.

Tests for heart health

Blood pressure:

Blood pressure is the pressure of the blood in the arteries as it is pumped around your body by the heart. Blood pressure is recorded as two numbers, for example 140/90 mmHg. The higher number indicates the pressure in the arteries as the heart squeezes out blood during each beat. This is called the systolic blood pressure. The lower number indicates the pressure as the heart relaxes before the next beat. This is called the diastolic blood pressure.

Blood tests:

These blood tests monitor your heart health and can be part of routine blood work, even if you do not have kidney disease. If you have high cholesterol or high LDL, your doctor may prescribe medicines to lower your risk of heart disease.

Cholesterol:

A naturally occurring, waxy substance made by the body. It is an essential building block of cell membranes, hormones and vitamin D. Too much cholesterol in the blood can cause clogging of the arteries leading to heart disease.

Low-density lipoprotein (LDL) cholesterol:

Known as the "bad" cholesterol. The higher the amount of LDL cholesterol, the higher the risk of heart disease.

High-density lipoprotein (HDL) cholesterol:

Known as the "good" cholesterol. The lower the amount of HDL cholesterol, the higher the risk of heart disease.

Triglycerides:

The most common type of fat stored in your body. A high level of triglycerides in your blood can increase your risk of heart disease.

Tests for vitamin and mineral levels

Potassium and sodium are routinely tested in a basic metabolic panel (BMP). A BMP is a routine test to monitor the chemical balance in your body. Calcium, phosphate, and vitamin D levels indicate bone health later in kidney disease.

Potassium (K):

A mineral found in many foods. If your kidneys are healthy, they remove extra potassium from the blood. If your kidneys are damaged, the potassium level can rise and affect your heart. A low or high potassium level can cause an irregular heartbeat.

Sodium (salt, Na^+):

A substance which together with chloride makes up common salt. High levels of sodium can raise your blood pressure and may indicate dehydration.

Vitamin D:

A vitamin that is made in your skin after exposure to the sun. The kidneys change (activate) vitamin D so that your body can use it.

Calcium (Ca):

Needed for healthy bones and teeth. Raised calcium levels may cause headaches, nausea, sore eyes, aching teeth, itchy skin, mood changes and confusion.

Phosphate (PO_4):

A mineral which together with calcium keeps your bones strong and healthy. Too much phosphate causes itching and pain in the joints, such as the knees, elbows and ankles. When the kidneys are not functioning properly, high levels of phosphate build up in the blood.

Tests for hormones

Parathyroid hormone (PTH):

Helps control calcium, phosphorus, and vitamin D levels within the blood and bone. Kidney failure can cause the parathyroid glands to produce too much PTH.

Tests for anaemia

Aneamia is common in people with kidney disease. These blood tests help your doctor monitor how well your blood cells carry oxygen around the body.

Haemoglobin (Hb):

The oxygen-carrying part of red blood cells that gives them their red colour and transports oxygen around the body. Low haemoglobin levels indicate low red blood cell count.

Haematocrit (Hct):

A measure of the percentage of blood made up of red blood cells. Low numbers of red blood cells leads to anaemia.

Ferritin:

This protein stores iron in your body. Low levels can lead to iron deficiency.

Transferrin saturation (TSAT):

The percentage to determine your iron status. Low transferrin saturation percentage can suggest iron deficiency.

Imaging tests

Imaging tests show your doctor a visual of what is going on with your kidneys or other structures in your body. Not all people require imaging tests.

X-ray:

This test takes pictures of your bones and organs to help diagnose conditions or diseases.

Ultrasound:

This test uses sound waves to show the structure of your organs.

Kidney biopsy:

A procedure where a needle is passed through your skin into the kidney in order to remove a small piece of kidney tissue for examination under a microscope. Local anaesthetic is used, so it is a relatively painless procedure.

Fistulagram:

This test checks the function of a fistula (a connection made for dialysis) using dye and X-rays. A needle is placed in your fistula and dye is injected into your fistula to allow structure to show up on your x-ray.

Radionuclide scan:

This test uses a small amount of radioactive material to take pictures of your kidneys. The pictures can show if your kidneys are damaged or scarred.

Cystoscopy:

A test that uses a thin, flexible, tube-like telescope called a cystoscope to view the inside of the bladder and some parts of the kidney.

Consent for medical tests

You need to give consent for any medical test. However, consent for a test can simply mean cooperating, e.g. holding out your arm for your blood pressure to be taken. This is called informal, inferred or implied consent.

For more serious tests, you might need to sign a form. This is called written informed consent. You will get an information sheet explaining the test and its risks. Take your time when reading the consent form and ask questions if you are confused.

Make sure you understand everything before you sign. If English is not your first language or you are unsure about what you have been told, ask for an interpreter to be with you or discuss the tests with a doctor who speaks your first language.

Computerised Tomography (CT) Scan or Magnetic Resonance Imaging (MRI):

These tests take detailed pictures of your organs. You might need to drink a special liquid or "dye" to help the doctor see your kidneys better.

Things to remember:

- ✓ **If you have kidney disease, you might need a lot of tests. These tests help confirm your diagnosis, track your progress, and plan your treatment.**
- ✓ **Keep a copy of your test results and procedures so you can monitor and compare them.**
- ✓ **You always need to give consent for any medical tests. Make sure you understand the test or procedure before you agree to it.**

What does that word mean?

Local anaesthetic – A medication that is used to briefly numb part of your body to perform a procedure.

Anaemia – When there are only a small number of red blood cells in the blood or the blood cells are not working properly. Red blood cells carry oxygen, so someone with anaemia can feel weak, tired and short of breath.

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Kidney Health Australia

Free Kidney Helpline 1800 454 363
kidney.org.au

If you have a hearing or speech impairment, contact the National Relay Service on 1800 555 677 or relayservice.com.au
Have them connect you to the Free Kidney Helpline - 1800 454 363

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