

Information about pathology tests to help Australians take control of their health and make the right decisions about their care.

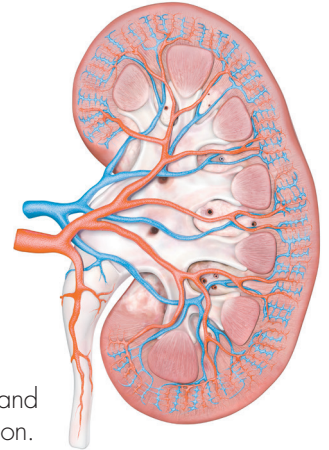
## WHAT YOU SHOULD KNOW ABOUT TESTING YOUR KIDNEYS

Kidney disease occurs when your kidneys aren't working properly. There is not one type of kidney disease, rather, many different conditions can cause a loss of kidney function:

- Any disease that affects the blood vessels, such as diabetes, high blood pressure and hardening of the arteries
- Kidney infection or even an infection that's occurring in another other part of the body
- The tubes that connect the kidneys to the bladder can become blocked by a kidney stone and the build-up of pressure can lead to infection or damage
- Some autoimmune disorders can affect the kidneys
- As a screen in pregnancy and for newborn babies


Your kidneys are just at the bottom of your ribcage on either side of your spine. Inside are about a million tiny blood filtering units. These filter your blood and remove waste which is disposed of as urine.

Besides removing waste and helping to regulate the amount of water in your body, this process helps the body keep a steady chemical balance. If the kidneys are not working properly, waste products can build up and fluid levels can increase to dangerous levels, causing damage and even a potentially life-threatening situation.



### Blood tests for checking your kidneys

TEST	WHAT IT MEASURES	WHAT THESE SUBSTANCES ARE	WHAT YOUR RESULTS CAN MEAN
Electrolytes	Sodium Potassium Chloride Bicarbonate	These are electrically charged chemicals that are vital to normal body processes. They help regulate the amount of fluid in your body and maintain the pH (acid) balance.	Levels of electrolytes in the blood are affected by kidney disease in different ways. Some go up and others go down. When they are out of balance this can affect your body's fluid levels and your pH levels.
Minerals	Phosphorus Calcium	Phosphorus is essential for energy production, muscles, nerves and bone growth. It also helps with the body's pH balance. Calcium is important for muscles, nerves, and heart, blood clotting and bone growth.	High levels of phosphorus are a sign of kidney disease. Low levels of calcium are seen with kidney failure.
Protein	Albumin Globulins	Albumin makes up about 60% of protein in the blood and has many roles such as keeping fluid from leaking out of blood vessels and transporting hormones, vitamins, and calcium through your body.	Low levels of albumin can mean that the kidneys aren't able to stop albumin leaking into the urine and being lost.
Waste products	Urea Creatinine	Urea is a waste product released into the blood and carried to the kidneys, where it is filtered and removed through the urine. Creatinine is produced by wear and tear on your muscles. Almost all creatinine is removed from the blood by the kidneys.	High levels of urea and /or creatinine indicate kidney disease or some form of damage due to blocked blood flow to the kidneys.
Glucose	Glucose	Glucose supplies energy for your body. A constant level must be maintained in the blood.	High blood glucose indicates diabetes, a common cause of kidney disease.
eGFR	Estimated Glomerular Filtration Rate	This is a calculated estimate of the glomerular filtration rate –the amount of blood filtered being by the kidneys per minute. The formula takes into account your age, gender, race, and sometimes height and weight.	An eGFR below 60mL/min suggests some kidney damage. A result below 15 mL/min indicates kidney failure.



## Blood tests are often ordered together with a urine test

Urinalysis – this is a general screen that measures levels of chemicals and proteins in your urine, and checks your urine concentration and pH (acid) level.

Albumin to creatinine ratio (ACR) – moderately raised ACR levels can indicate early kidney disease (often caused by diabetes).

## What are reference intervals (reference ranges)?



Your results are shown in your report as a comparison against a set of numbers called reference intervals or reference ranges. This is the range of test results considered 'normal' for the general population.

If a result in your report is outside this range it can be flagged as high (H) or low (L). This does not necessarily mean that anything is wrong. It depends on your personal situation. Your results need to be interpreted by your doctor.



## What happens next?

Kidney function test results can only indicate that there may be a problem with your kidneys. Further, different tests may be needed to work out the cause.

Talking with your doctor about what your results mean is important.



## 5 questions to ask your doctor

Why does this test need to be done?

Do I need to prepare (such as fast or avoid medications) for the sample collection?

Will an abnormal result mean I need further tests?

How could it change the course of my care?

What will happen next, after the test?




## Having a medical test

The choice of tests your doctor makes will be based on your medical history and symptoms. It is important that you tell them everything you think might help.

You play a central role in making sure your test results are accurate. Do everything you can to make sure the information you provide is correct and follow instructions closely.

Talk to your doctor about any medications you are taking. Find out if you need to fast or stop any particular foods or supplements. These may affect your results.



For more detailed information on kidney tests and many other tests go to [labtestsonline.org.au](http://labtestsonline.org.au)  
You'll also find a short animation on reference intervals.

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Please use this QR code to access more information



[www.labtestsonline.org.au](http://www.labtestsonline.org.au)

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Established in 2007 to help Australians understand their pathology tests, Lab Tests Online<sup>AU</sup> is now the primary national source of consumer information on pathology testing. Information is written and edited by practising pathologists and scientists, some of them leading experts, which ensures accuracy and integrity.

- Funded by the **Australian Government**, we are not-for-profit and independent of any commercial interests.
- We are managed by the Australasian Association for **Clinical Biochemistry and Laboratory Medicine (AACB)**, the principal professional association dedicated to the advancement of clinical biochemistry and laboratory medicine in Australasia.
- We are supported by the **Royal College of Pathologists of Australasia**.
- As the consumer pathology testing support resource for **My Health Record**, there is a direct link to the LTO<sup>AU</sup> website embedded in the pathology results pages of every registered person's online record.

