TEST

Microalbuminuria test

A urine test that checks for small amounts of albumin protein.

WHAT IT MEASURES
Small amounts of albumin protein in urine

SAMPLE
Urine

FASTING NEEDED?
No

HOW LONG IT TAKES
A few minutes

RESULTS IN
Usually one to three days, varying by laboratory

USED FOR
Screening and monitoring kidney damage

MAIN LIMITATION
Exercise, infection, or menstruation can temporarily raise albumin

Overview

A microalbuminuria test looks for a small amount of albumin in your urine. Albumin is a protein normally found in the blood. Healthy kidneys usually prevent more than a tiny amount from passing into urine.

Despite the name, "microalbumin" is not a smaller type of albumin. The term refers to an amount that may be too low for a standard urine dipstick to detect. Many laboratories now use the clearer term urine albumin-to-creatinine ratio , or UACR .

The UACR compares urine albumin with creatinine, a waste product released by muscles. This helps correct for how concentrated or diluted your urine is. A single urine sample is usually sufficient.

Albumin in urine can be an early sign that the kidney filters are under strain. However, temporary increases are common. One abnormal result does not by itself establish chronic kidney disease.

Why the test is ordered

The test may be ordered to look for early kidney damage before routine blood tests change. It is particularly useful because kidney problems often cause no noticeable symptoms at an early stage.

It may be used to:

The result is interpreted alongside your kidney blood test, especially the estimated glomerular filtration rate, or eGFR . The eGFR estimates how well your kidneys filter blood.

- Screen people with diabetes, high blood pressure, or other kidney risk factors
- Monitor known kidney disease
- Check whether treatment is reducing urine albumin
- Help estimate the risk of kidney or cardiovascular problems

Who should have the test

Regular testing is commonly offered to people with diabetes or chronic kidney disease. It may also be appropriate if you have high blood pressure, cardiovascular disease, a family history of kidney disease, or another condition that can affect the kidneys.

How often testing is needed depends on your condition, previous results, medicines, age, pregnancy status, and local guidance.

During pregnancy, urine protein may be checked when assessing high blood pressure or possible pre-eclampsia. A different protein measurement may be used, and pregnancy-specific interpretation is required.

This is not generally a screening test that everyone needs. A healthcare professional can consider it as part of your overall kidney risk assessment.

How to prepare

You do not need to fast, so you can usually eat and drink normally. Avoid deliberately drinking a large amount of water immediately beforehand because an extremely diluted sample can be harder to interpret.

Strenuous exercise can temporarily increase urine albumin. You may be asked to avoid vigorous exercise for about 24 hours before collecting the sample.

Tell the healthcare professional or laboratory if you have a fever, urinary infection, active

menstrual bleeding, or visible blood in your urine. These can affect the result. If possible, the test may be moved to another day.

Continue your usual medicines unless you have specifically been told otherwise. Some medicines affect kidney function or urine albumin, but stopping them without advice may be unsafe.

What happens during the test

You will usually provide a small urine sample in a sterile container. A first-morning sample is often preferred because it is less affected by activity, food, and changes in hydration, although a sample collected at another time can still be useful.

You may be asked to provide a clean-catch sample:

The laboratory measures albumin and creatinine, then calculates the UACR. Occasionally, a timed or 24-hour urine collection is used when a spot sample does not provide enough information.

- Wash your hands and clean around the urine opening if instructed
- Begin urinating into the toilet
- Collect the middle part of the flow in the container
- Finish urinating into the toilet and close the lid

Understanding your results

The result is usually reported as milligrams of albumin per gram of creatinine, written mg/g , or milligrams per millimole, written mg/mmol .

Widely used categories are:

The older term "microalbuminuria" usually refers to the moderately increased category.

These categories are not a diagnosis on their own. Ranges and interpretation vary by laboratory, age, sex, pregnancy status, medicines, muscle mass, and clinical context. Your result should be considered with previous urine tests, eGFR, blood pressure, and relevant health conditions.

A raised result is usually repeated. Albumin that remains elevated for at least three months may support a diagnosis of chronic kidney disease when interpreted with other findings.

- Below 30 mg/g, or below 3 mg/mmol: normal to mildly increased
- 30 to 300 mg/g, or 3 to 30 mg/mmol: moderately increased
- Above 300 mg/g, or above 30 mg/mmol: severely increased

What affects the results

Urine albumin can change considerably from day to day even when the laboratory measurement is correct.

Temporary increases may occur with:

Because UACR uses urine creatinine, muscle mass can influence the ratio. People with low muscle mass may have a higher ratio for the same amount of albumin, while very muscular people may have a lower ratio.

Medicines that protect the kidneys, including some blood-pressure and diabetes medicines, can reduce urine albumin. Other medicines, such as non-steroidal anti-inflammatory drugs like ibuprofen or naproxen , may affect kidney function in some circumstances. Do not stop any medicine solely because of a test result.

Collection problems also matter. An extremely diluted sample, contamination, or failing to collect the requested timed sample correctly can make interpretation less reliable.

- Strenuous exercise
- Fever or another acute illness
- A urinary tract infection
- Menstrual blood or other blood contaminating the sample
- Dehydration
- Very high blood glucose or blood pressure
- Heart failure or another illness affecting circulation
- Pregnancy, particularly when blood pressure is also raised

Accuracy and limitations

A laboratory UACR can detect lower amounts of albumin than a standard urine dipstick. A dipstick may therefore say no protein is present even when the UACR is moderately raised.

The test can miss albumin that is only present intermittently. It can also appear positive when

the kidneys are not chronically damaged, such as after intense exercise or during an infection. There is no single fixed rate for missed or falsely positive results because this changes with the cutoff used, sample timing, health conditions, and laboratory method.

Repeating an abnormal result-preferably using a first-morning sample-helps distinguish a persistent change from a temporary one.

UACR measures albumin rather than every type of urine protein. If another protein is suspected, a urine protein-to-creatinine ratio, urine protein studies, blood tests, imaging, or occasionally a kidney biopsy may be more appropriate. A 24-hour collection may help when a more precise total measurement is needed, but it is easier to collect incorrectly.

Risks and complications

Providing a urine sample is painless and has no direct medical risk. The main difficulty is accidental contamination or an incomplete collection, which may mean repeating the test.

What happens next

A result within the expected range may simply be recorded, with routine repeat testing if you remain at risk of kidney disease.

A raised result is commonly repeated after temporary causes such as exercise, infection, or menstruation have passed. You may also have blood pressure checks, an eGFR blood test, diabetes testing, or other urine tests.

Persistent albuminuria usually needs routine medical follow-up. Treatment decisions depend on the cause, kidney function, blood pressure, other conditions, and medicines.

Albuminuria itself is not usually an emergency. Seek urgent medical assessment if you have very little urine, visible blood in the urine, rapidly worsening swelling, or severe symptoms during pregnancy such as a strong headache with high blood pressure concerns. Call emergency services for severe breathlessness, chest pain, fainting, or confusion.

Common questions

Can I drink coffee before the test?

Usually, yes. Fasting is not required. Avoid excessive fluid intake, and follow any separate instructions if other tests are being done at the same appointment.

Does the time of day matter?

A first-morning sample is preferred when practical because it is less affected by activity and hydration. A random sample collected during the day is still commonly used.

Can I exercise beforehand?

Avoid strenuous exercise before the test, often for about 24 hours if your laboratory advises this. Normal daily activity is generally fine.

Can I do the test during my period?

Menstrual blood can contaminate the sample and raise the apparent albumin level. Unless the test is urgent, you may be advised to wait until bleeding has stopped.

What if I have a urinary tract infection?

An infection can temporarily increase urine albumin. Tell the healthcare professional about burning, urgency, fever, or a known infection; repeat testing may be arranged after it clears.

Does a high result mean my kidneys are failing?

No. A high result can be temporary and does not show the cause by itself. Repeat urine testing, kidney blood tests, blood pressure, and your clinical circumstances are needed for interpretation.

Sources

- KDIGO 2024 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease , Kidney Disease: Improving Global Outcomes, 2024
- Assess Urine Albumin , National Institute of Diabetes and Digestive and Kidney Diseases
- Chronic kidney disease: assessment and management , NICE guideline NG203
- Microalbumin Creatinine Ratio , MedlinePlus, U.S. National Library of Medicine
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