

## One particular subset Protein in your urine: could it be glomerulonephritis?

Glomerulonephritis is an umbrella term for a group of kidney diseases that affect the blood vessels in your kidney. Glomerulonephritis can cause significant damage to your kidneys if left untreated. The problem is that the symptoms can be nebulous – and diagnosis is difficult. We spoke to leading consultant nephrologist [Dr Christopher Lawrence](#) about what symptoms patients should watch out for, and what the doctor will do if they suspect glomerulonephritis.



### What are the symptoms of glomerulonephritis?

The symptoms of glomerulonephritis can be extremely nebulous and varied.

Glomerulonephritis can be a completely incidental finding. Symptoms may result from:

- **inflammation** (such as lethargy, joint pain, rash, sinusitis)
- **poor kidney function** (symptoms are non-specific and poor kidney function can be completely asymptomatic).

**Oedema** or **swelling** may develop, depending on the amount of protein leaking from the kidneys and rarely blood may be seen in the urine (although it is much more common for the blood in the urine to be non-visible).

One cause of glomerulonephritis is a condition called vasculitis, an autoimmune disease attacking the small blood vessels in the kidney. Vasculitis has been called 'the five doctor disease' because people often develop the condition over a period of time and each individual symptom is insufficient to raise the suspicion of an underlying and unifying cause. Vasculitis can present with any, or none, of:

- rash
- sinusitis
- headache
- breathlessness
- cough
- purulent sputum

- blood in the sputum
- nosebleeds, hearing loss
- joint pains
- lethargy
- loss of appetite
- night sweats
- weight loss
- psychiatric illnesses.

As a result, diagnosis, and therefore treatment, **can be delayed** – which may potentially result in irreversible loss of kidney function.

### How is a diagnosis of glomerulonephritis made?

A diagnosis of glomerulonephritis is made from taking a detailed history, examining the patient and then performing special tests.

#### Urine tests

The first and essential test is a **urine dipstick**. It is almost always the case that someone with glomerulonephritis will have evidence of blood and protein in the urine. The blood and protein gets in to the urine through the damaged filters (glomeruli), therefore if there is no blood and protein in the urine then it is unlikely that there is significant damage to the filters and therefore unlikely that there is glomerulonephritis.

If there is blood and protein in the urine then the urine is sent to the laboratory to provide a precise measure of how much protein is leaking.

#### Blood tests

Special blood tests are usually sent off looking for certain immunological causes of glomerulonephritis. Whilst it is not usually possible to make a diagnosis from blood tests alone, the pattern of blood results may strongly hint at the underlying condition (i.e. lupus or vasculitis).

#### Scans and biopsies

An ultrasound scan is an almost ubiquitous part of investigating someone with kidney problems. If someone seems to have glomerulonephritis and has a normal ultrasound scan then it is highly likely that a kidney biopsy will be required. Kidney diseases, after all, tend to be named after their appearance down the microscope.

The thought of a kidney biopsy will often cause a great deal of worry or concern. However, a kidney biopsy is a **commonly performed procedure**, usually done under local anaesthetic and as a day case. Although some of the risks, particularly relating to bleeding, are important, significant complications are uncommon, and 99% of patients having a planned kidney biopsy will go home the same day. The nephrologist doing the biopsy will have a great deal of experience at performing biopsies and uses real time ultrasound to improve the accuracy and reduce the risk.

The biopsy results come back in stages. The most useful information comes back in a day or two, but sometimes electron microscopy (which takes a little longer) is required for a definitive diagnosis.

[Read more: Understanding your glomerulonephritis diagnosis](#)