Patient information from BMJ

Last published: Aug 06, 2021

Glomerulonephritis

If you have glomerulonephritis the parts of your kidneys that filter waste products from your blood are damaged. Treatments work well for most people but the condition can sometimes cause long-term kidney problems.

What is glomerulonephritis?

Your kidneys do several important jobs. One of these is to filter waste products from your blood. The tiny filters that do this are called glomeruli. If they become damaged this is called glomerulonephritis.

Without treatment glomerulonephritis can eventually lead to serious problems, including kidney failure and heart problems. Glomerulonephritis can be caused by many things, including:

- infections. Many types of infection can lead to glomerulonephritis. They include throat infections caused by Streptococcus bacteria (“strep throat”) that don’t clear up, chest infections, stomach bugs, hepatitis B and C, endocarditis (bacterial infection of the heart), HIV, toxemia (infection that has spread to the blood), syphilis, malaria, and leprosy
- some medications, including penicillamine (used to treat a condition called Wilson disease); nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen and diclofenac; and cyclosporine (used to treat several types of arthritis and other conditions that cause inflammation)
- heroin use
- conditions that affect the immune system, including systemic lupus erythematosus (SLE, often just called lupus) and rheumatoid arthritis. With conditions like these the body’s immune system, which usually protects against infection, starts to attack some of the body’s tissues
- conditions that affect your metabolism (how your body converts food into energy), such as diabetes, high blood pressure, and thyroid problems
- some types of cancer

- some genetic (inherited) conditions, including Alport syndrome (which can cause kidney disease, eye problems, and hearing loss).

In some people, though, the cause of the kidney damage is not clear.

What are the symptoms?

The symptoms of glomerulonephritis can vary depending on how severe the damage is. People with mild kidney damage may not notice any symptoms, while people with severe glomerulonephritis may notice that their urine is a dark color. This is caused by blood in the urine.

Other symptoms of glomerulonephritis can include:

- needing to urinate a lot less than usual
- swelling in some parts of the body, often the legs
- nausea, loss of appetite, and weight loss
- pain in the joints or abdomen
- fever. This usually follows a bout of “strep throat”
- skin rash
- jaundice (yellowing of the skin). This can happen if you have glomerulonephritis caused by hepatitis
- shortness of breath.

Diagnosing the problem as early as possible can help reduce damage to your kidneys. So if you have any of these symptoms see your doctor right away, especially if you have more than one of them at the same time.

Tests

If your doctor thinks you may have glomerulonephritis he or she will ask you questions about your symptoms and your medical history. He or she may also want to examine you and do some tests.

For example, if your kidneys are damaged this can lead to blood and excess protein in your urine. A urine test can check for these.

Blood tests can check for many signs of glomerulonephritis, including:

- how well your kidneys are working
- how well your liver is working. This is an indication that your problems might be caused by hepatitis
- whether there is too much protein in your blood
- whether you have too few red blood cells (anemia). Anemia can be a sign of several conditions that can cause glomerulonephritis.

Your doctor might also suggest an imaging test, such as an ultrasound, so that he or she can check images of your kidneys for any visible damage or swelling.

Your doctor might also suggest a renal biopsy. In this procedure you are given a local anesthetic and a small amount of kidney tissue is removed with a needle for testing. But a biopsy is not usually needed.

What treatments work?

People with mild **glomerulonephritis** might only need treatment for the condition that is causing the kidney damage. This is often enough to reverse any kidney damage and keep the kidneys working well.

For example, people with glomerulonephritis caused by a streptococcal throat infection might only need antibiotics to cure the infection. Kidney function should then return to normal.

If you have **more serious kidney damage** you will still need treatment for the condition that has caused the damage. But you will also need treatment for the kidney damage itself. This could include:

- drugs to reduce your blood pressure. High blood pressure is common in people with glomerulonephritis. Reducing it can help your kidneys to recover and help protect you against heart problems that can be caused by high blood pressure.
- drugs to help your kidneys deal with protein
- strong anti-inflammatory drugs called corticosteroids (steroids for short) to reduce any swelling in the kidneys
- drugs called immunosuppressants, which help calm the immune system if you have a condition where the immune system attacks the body's tissues.

What will happen?

Most people with glomerulonephritis recover well with treatment but some will go on to develop chronic (long-term) kidney disease.

You are more likely to make a good recovery if you are diagnosed and treated early and if your kidney damage is not severe when you are diagnosed.

Even if you are recovering well your doctor will want to monitor you carefully for a while. So you will need to see your doctor every few weeks for several months to see how you are doing and to have some tests.

Your doctor is likely to suggest that you are careful about what you eat and drink. This might mean making changes to your diet so that you don't consume too much salt or fat. You may also need to drink less fluid and eat less protein than you used to.

You can discuss your diet and how any changes will affect your life with your doctor.

What did you think about this patient information guide?

Complete the online survey or scan the QR code to help us to ensure our content is of the highest quality and relevant for patients. The survey is anonymous and will take around 5 minutes to complete.

BMJ Group