

Treating glomerulonephritis

What are the main treatment options for glomerulonephritis, and how effective are they? Here to explain is leading consultant nephrologist [Dr Christopher Lawrence](#):



Why is it difficult to treat glomerulonephritis?

The treatment available for glomerulonephritis depends on a number of factors, not least the type of glomerulonephritis demonstrated by the biopsy.

One of the difficulties we have is that many of the types of glomerulonephritis are so rare that there isn't much knowledge on the best treatment. For some types of glomerulonephritis we have good published literature, or even clinical trials to guide our treatment, whereas for other types of glomerulonephritis their scarcity makes it difficult to perform clinical trials and we have to guide our treatment by trying to understand the mechanisms involved and target our treatment to these.

Another challenge is that unfortunately it is very rarely the case that a one off treatment will solve the problem. The majority of glomerulonephritides can be treated, but the treatment often involves a **course of treatment**. It is more likely that the treatment, if successful, will result in a 'remission' rather than a 'cure' of the glomerulonephritis.

What are the main treatment options?

Steroids

The mainstay of treatment of glomerulonephritis has been **steroids**. Steroids are extremely effective at reducing both the immune response and the inflammation, but high doses of steroids are problematic and result in significant side effects and risks. Modern nephrologists always try to minimise the use, dose and duration of steroids, whilst recognising that sometimes they are unavoidable.

Immunosuppressive agents

Other immunosuppressive agents are available and may reduce or remove the need for steroids, but of course everything comes with its own drawbacks:

- **Tacrolimus**, which is usually used to prevent rejection in kidney transplant recipients can be used with or instead of steroids in; minimal change disease, focal and

segmental glomerulosclerosis, membranous glomerulonephritis and certain types of lupus nephritis.

- **Mycophenolate mofetil or Azathioprine**, two other antirejection drugs which work on different components of the immune system to tacrolimus, can be used in vasculitis, lupus and some other kidney conditions.
- **Rituximab**, a monoclonal antibody that removes B cells from the circulation can be very effective in minimal change disease, membranous glomerulonephritis, and vasculitis. It can also be effective in lupus nephritis – but its use may be limited by a lack of positive randomised controlled trials.

Medication to reduce blood pressure

Regardless of any specific treatments targeted at the immune system, **it is always important to reduce the blood pressure**, and thereby the protein leak. The protein leak is an indicator of the extent of the damage to the kidney, and also predicts how quickly the damage will progress.

Two tablets particularly favoured by nephrologists are:

- **ramipril** - an angiotensin converting enzyme inhibitor (**ACEi**)
- **losartan** - an angiotensin receptor blocker (**ARB**) are particularly favoured by

These have relatively few side effects and work by lowering the blood pressure. One of their effects is to dilate the blood vessel going away from the filter, thus dropping the pressure across the glomerulus. This reduces the force with which blood is pushed around the glomerulus and therefore reduces the protein leak, which is protective to the kidney.

Anything else which may damage the kidneys should be avoided, such as non-steroidal anti-inflammatory drugs (like **ibuprofen**), or certain antibiotics like **gentamicin**.

Our understanding of glomerulonephritis increases year by year and from time to time new treatment strategies are developed. The prognosis of glomerulonephritis in the modern era is very much better than it was previously although it remains the case that many kidney conditions are controlled, or put in to remission, rather than cured. The prognosis of any individual with glomerulonephritis depends on many different factors, the diagnosis obtained from the biopsy, the amount of scarring, or chronic damage that has occurred before the disease comes under control, and very importantly depends on superb control of blood pressure, diabetes (where present) and specific medications to reduce the protein leaking from the kidneys.