Rethink IgAN

Rethink IgA nephropathy (IgAN)

IgA nephropathy is a progressive, chronic, autoimmune kidney disease that begins with the immune system—not the kidneys.

Ready to Rethink IgA nephropathy? Scan the code.

IgAN=immunoglobulin A nephropathy

Hearing that you have IgA nephropathy can be overwhelming

You probably have many questions. You may feel uncertain about what comes next. A good place to start is by learning more about IgA nephropathy.

This brochure provides a comprehensive overview of IgA nephropathy, including how it starts and how it progresses. You'll also find helpful advice for working with your nephrologist and managing your condition.

Table of contents

Understanding IgA nephropathy

What *IgA* and *nephropathy* mean:

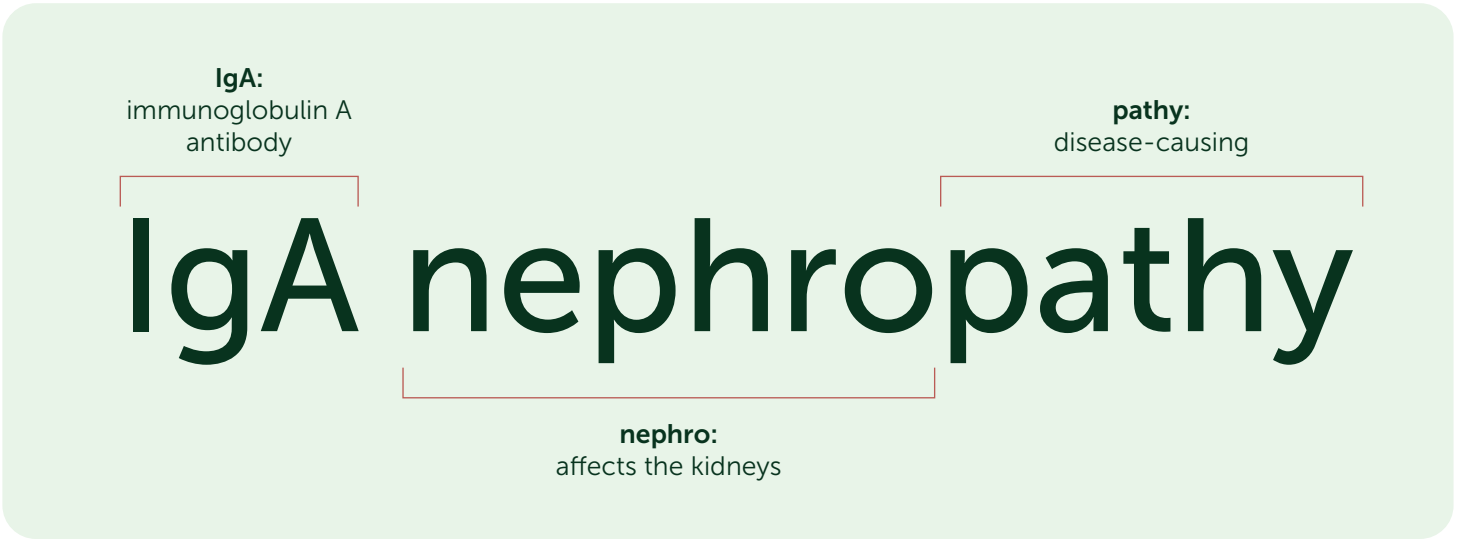
IgA, or immunoglobulin A, is a type of antibody made by your immune system. In IgA nephropathy, your body makes an abnormal form of IgA.

Nephro means it affects the kidneys, and **pathy** means it is disease-causing.

So, **nephropathy** refers to the damage inside your kidneys.

Put together, **IgA nephropathy** means your kidneys are being damaged by abnormal IgA.

It's in the name



IgA nephropathy is a progressive, chronic, autoimmune kidney disease

Progressive

means the damage to your kidneys can worsen over time—often without any noticeable signs or symptoms.

Chronic

means the disease remains continually active, even if you don't notice symptoms.

Autoimmune

means your immune system launches a harmful chain reaction, producing autoantibodies that target abnormal IgA.

Rethinking the impact of IgA nephropathy

The kidney damage caused by IgA nephropathy is irreversible. This means the damage to your kidneys doesn't go away. So, it is important to work closely with your nephrologist to manage this disease.

If IgA nephropathy isn't managed, kidney function can continually worsen over time. Eventually, this may lead to kidney failure, which means your kidneys stop working altogether.

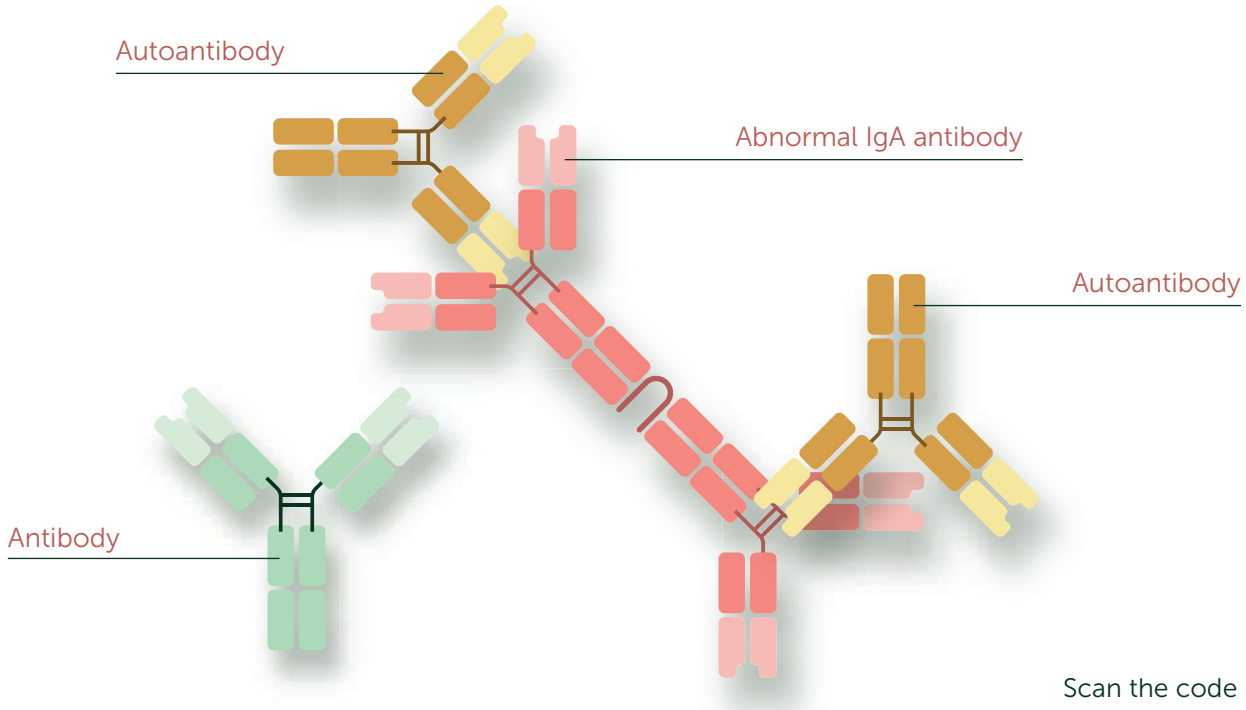
Unfortunately, IgA nephropathy has no cure. People with kidney failure may need dialysis (a treatment that uses a machine to clean your blood) or a kidney transplant to get a healthy kidney.

IgA nephropathy starts with your immune system

Even though it affects the kidneys, IgA nephropathy actually begins with your immune system.

Your immune system helps protect your body by identifying things that could cause you harm. When it sees something it doesn't recognize, your immune system can react by making **antibodies**. Antibodies help your body fight infections. The immune system can also make **autoantibodies**, which are antibodies that attack parts of the body that it doesn't recognize.

In IgA nephropathy, your immune system produces an abnormal IgA antibody that looks different from typical IgA because of changes in structure. Your immune system doesn't recognize abnormal IgA, so it produces autoantibodies to target it (learn more on page 8).



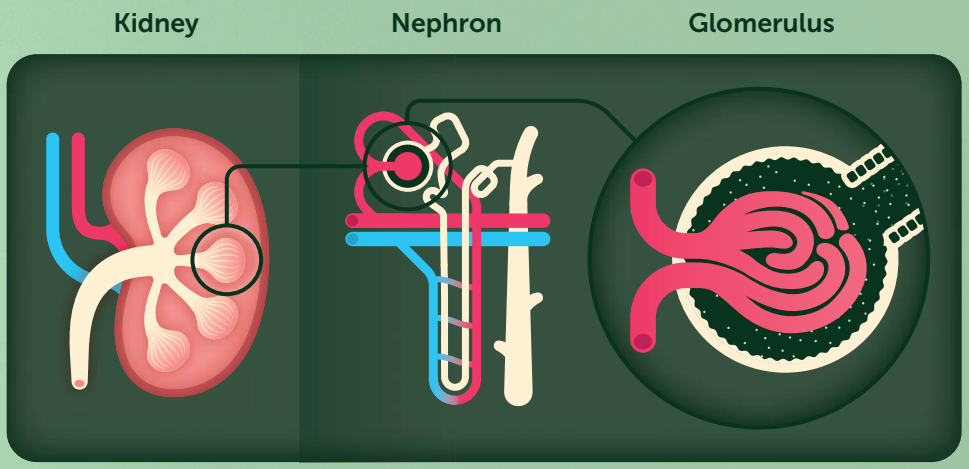
Scan the code for a deeper understanding of IgA nephropathy.

How kidneys are designed to work

Your kidneys work around the clock to keep your body in balance.

Inside each kidney, there are about a million tiny filtering units called **nephrons**. Each nephron contains a single, smaller structure known as a **glomerulus** (**plural: glomeruli**).

A glomerulus acts like a strainer. It filters waste and extra fluid from your blood. Together, nephrons and glomeruli are essential for your kidneys to do their job.



Your kidneys are designed to keep your whole body balanced by:

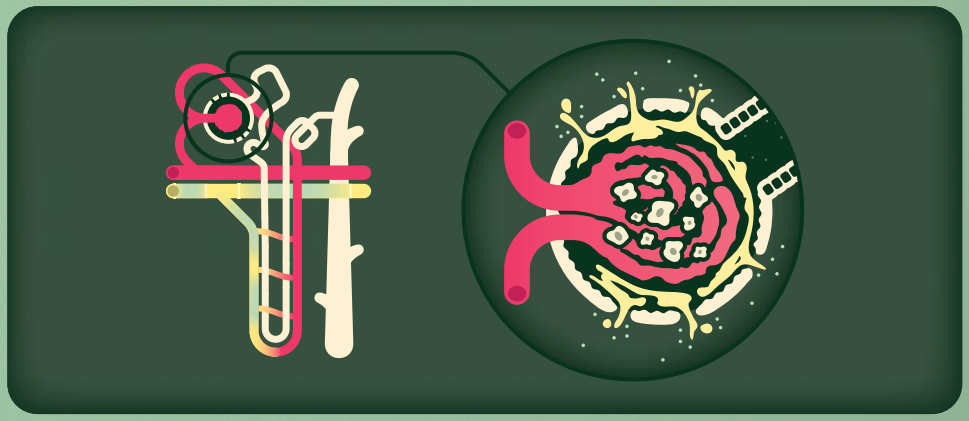
- Filtering waste and toxins
- Balancing fluids and electrolytes
- Regulating blood pressure
- Supporting red blood cell production

Every nephron counts

Even small changes in kidney function can affect many parts of your body. That's why protecting the kidney function you currently have is important.

Damaged Nephron

Damaged Glomerulus



When waste and fluids are not getting processed:

Waste products may build up in your body (causing fatigue)

Fluid may collect in your tissues (leading to swelling)

Your blood pressure may rise

All these issues can put extra strain on your heart and other organs.

Damage can add up

At first, the nephrons that still work pick up the slack for the ones that are lost. However, when a lot of nephrons are lost, your kidneys may not be able to do their job well. They won't be able to effectively remove waste, balance fluids, and regulate blood pressure like they should.

Rethink how symptoms start

Once nephrons become too damaged, they can die and stop functioning completely. This can lead to many of the signs and symptoms of IgA nephropathy, such as:

- Protein in your urine (proteinuria)
- Blood in your urine (hematuria)
- Pain in your lower back (flank pain)
- High blood pressure
- Swelling in your feet or hands (edema)
- Fatigue (tiredness), or anemia

Because kidneys are so efficient, damage may build up silently for years without symptoms. Even if you don't notice any symptoms, IgA nephropathy may still be progressing.

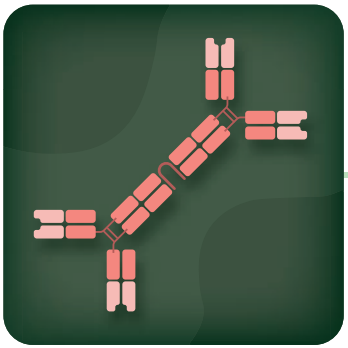
Scan to learn more about kidney anatomy and function.

How IgA nephropathy damages your kidneys: the 4-hit process

In IgA nephropathy, your body experiences a harmful chain reaction called the **4-hit process**. It starts with your immune system and leads to kidney damage.

APRIL is an immune messenger (cytokine) that helps your body make certain types of antibodies, and in IgAN it helps make an abnormal one. Researchers continue to be interested in how APRIL plays a key role in IgA nephropathy.

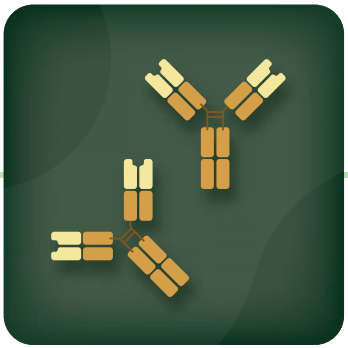
Hit 1:



Production of abnormal IgA

Your body starts making abnormal IgA antibodies (Gd-IgA1).

Hit 2:



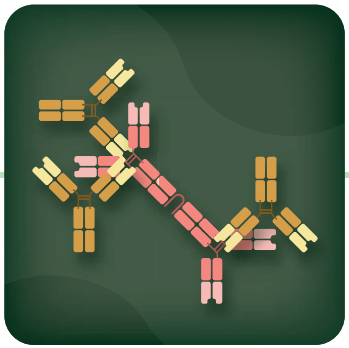
Autoantibodies are produced

Your immune system doesn't recognize abnormal IgA and makes autoantibodies to target it.

Scan to learn more about the 4-hit process.

Gd-IgA1=galactose-deficient immunoglobulin A1
APRIL=A PRoliferation-Inducing Ligand

Hit 3:



Formation of immune complexes

Autoantibodies bind to abnormal IgA. Together they form large clusters called immune complexes. These clusters travel through your bloodstream.

Hit 4:

Immune complexes lead to kidney damage

In the kidneys, the clusters get lodged in the filtering part (glomerulus) of each nephron. The immune system reacts to the clusters by causing inflammation and scarring (fibrosis), which can damage the nephrons and glomeruli.

Rethink kidney damage

The 4-hit process can occur continuously and cause more and more nephrons to become permanently damaged. The damage makes it harder for your kidneys to do their job, which can lead to protein (**proteinuria**) and blood (**hematuria**) in your urine.

Eventually, kidney damage from IgA nephropathy can lead to kidney failure. That's why it's so important to work with your nephrologist to create an IgAN care plan to address disease progression.

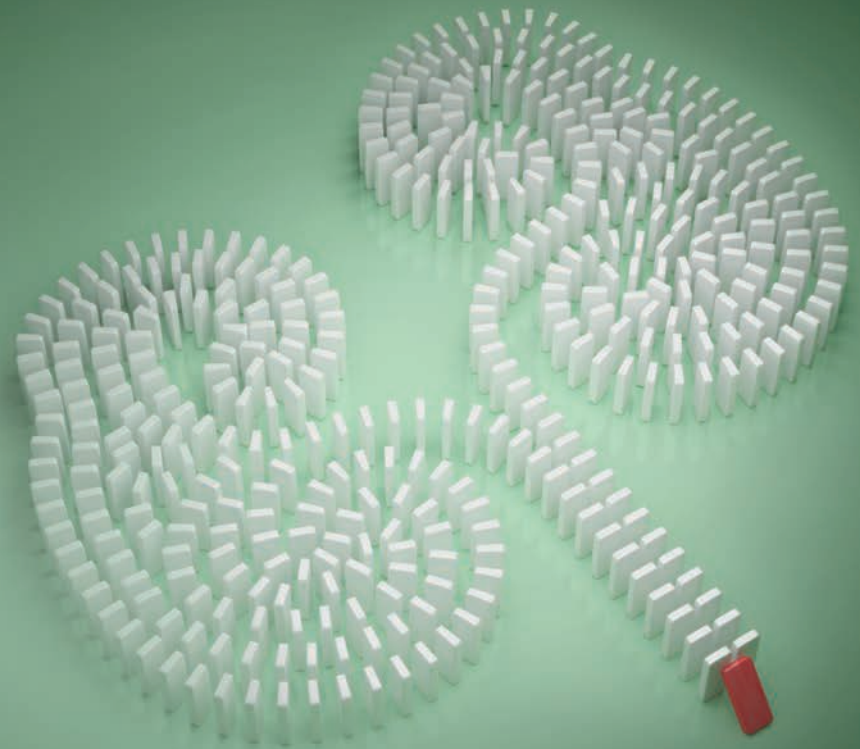
Irreversible damage

Kidney damage or a loss of kidney function caused by the IgAN chain reaction can't be undone. Keeping this harmful chain reaction in check may help preserve your remaining kidney function.

Managing IgA nephropathy: your IgAN care plan

Taking steps to protect your future kidney health.

Work with your nephrologist as soon as possible to develop an IgAN care plan. A personalized IgAN care plan can be designed to help preserve your kidney function.



Your IgAN care plan

Each part of your IgAN care plan is meant to help protect your remaining kidney function.

Consult your nephrologist regularly to keep your plan on track.

Scan to explore other ways to manage life with IgA nephropathy.

Key components of an IgAN care plan

Lifestyle changes to support your kidneys

Diet: Your nephrologist may tell you to eat fresh foods and watch how much salt, potassium, and protein you eat. They may also tell you to drink a set amount of water each day so your kidneys don't get overloaded.

Exercise and weight: Your nephrologist may tell you to walk or do gentle yoga. They may also tell you to keep a healthy weight so your kidneys might work better.

Stress relief: Your IgAN care plan may include deep breathing, light exercise, or talking with someone you trust to help lower stress and blood pressure.

Monitoring your IgA nephropathy with lab tests

Urine tests: Regular checks to measure proteinuria (protein in urine) and hematuria (blood in urine) are often necessary. Urine tests can show your nephrologist how well your kidneys are working and whether there is active inflammation.

eGFR (estimated glomerular filtration rate): This blood test measures how well your kidneys filter waste. Tracking eGFR helps your nephrologist understand how your kidney function is changing over time.

Blood tests for electrolytes and glucose: These tests help identify imbalances that may affect how your kidneys are working.

Supportive care

Treatments that help manage blood pressure and fluid balance*: These medicines ease stress on your remaining nephrons.

Treatments that regulate blood sugar*: If you have high blood sugar or diabetes, therapies to lower glucose may protect your kidneys from additional damage.

Other treatments: Your nephrologist may prescribe other therapies to manage your kidney disease as well.

* Note: Guidelines suggest using ACE inhibitors, ARBs, and SGLT2 inhibitors to help address proteinuria, even if you do not have high blood pressure or high blood sugar.

ACE inhibitors=angiotensin-converting enzyme (ACE) inhibitors; ARBs=angiotensin receptor blockers (ARBs); SGLT2 inhibitors=sodium-glucose cotransporter-2 (SGLT2) inhibitors

Questions for your nephrologist

Your nephrologist is there to help you understand what is happening and to learn more about your condition.

Asking questions may help you feel more confident about what's ahead.

Here are some suggestions to get you started:

Q. What numbers should I focus on to monitor my kidney health?

Q. What numbers should I target?

Q. Do I have protein or blood in my urine?

Q. How often should I have follow-up tests?

Q. Is exercise safe for me? How much is too much?

Q. Should I make changes to my diet?

Q. Are there certain amounts of water, protein, salt, potassium, and sugar that I should target?

Q. What signs and symptoms should I watch for in between visits?

Q. What are the signs that my condition is worsening?

Q. Are there any studies or therapies I should be aware of?

Use this space to add your own questions or to take notes.

Scan to download a printable list of questions for your next appointment.

IgA nephropathy glossary

An IgA nephropathy diagnosis can come with a lot of information and new words.

It may even feel like you need to learn a whole new language. We've defined a few of the key terms you may hear or read.

IgA nephropathy:
A disease where an abnormal IgA antibody leads to damage in the nephrons in your kidneys.

Gd-IgA1:
An abnormal form of IgA antibody that, in IgA nephropathy, can trigger a harmful chain reaction known as the 4-hit process. This can lead to inflammation and scarring (fibrosis) in your kidneys.

Nephron:
The tiny filtering units inside each kidney that remove waste and balance fluids.

Glomerulus:
A cluster of tiny blood vessels inside each nephron that act like a sieve to filter your blood.

4-hit process:
The harmful chain reaction in IgA nephropathy that starts with your immune system and leads to irreversible kidney damage.

Proteinuria:
Protein leaking into your urine; a sign that kidney filters are damaged. May make your urine appear foamy.

Hematuria:
Blood in the urine, which may appear pink- or cola-colored or be invisible and detected only by lab tests.

eGFR (estimated glomerular filtration rate):
A blood test that measures how well your kidneys remove waste from your blood.

Fibrosis:
Scarring in the kidneys caused by ongoing inflammation and damage.

Biopsy:
A procedure to remove a small piece of kidney tissue so doctors can look at it under a microscope. The only way to definitively diagnose IgA nephropathy.

Cytokine:
An immune messenger that helps cells in the immune system communicate; APRIL is one example.

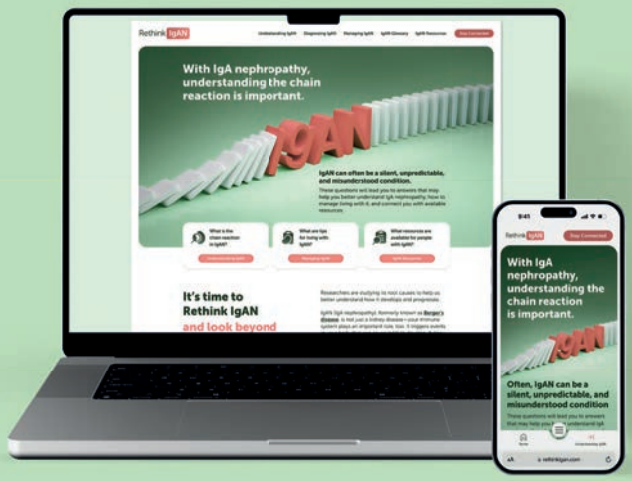
APRIL:
A cytokine (A PRoliferation-Inducing Ligand) that can cause your body to make abnormal IgA antibodies.

Autoantibody:
An antibody made by your immune system that attacks your own body's tissues.

Scan to review additional glossary terms at **RethinkIgAN.com.**

Are you ready to Rethink IgA nephropathy (IgAN)?

Stay connected and informed at RethinkIgAN.com



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