Vaccines and Kidney Disease

Vaccines trigger immunity or **protection** against harmful germs (like viruses and bacteria) that cause infections. These infections can spread between people and can be serious or even life-threatening. Vaccines are helpful tools to help keep you and your family safe.

People with late-stage kidney disease, who are on dialysis, or who have received a transplant are more vulnerable to infections. You may get sick easier and experience more severe symptoms. This is why it is important to talk to your healthcare team and stay up to date with vaccinations.

Photo by Poike on iStock.

Vaccines play an important role in keeping you safe and healthy at all stages of kidney disease.

What Do Vaccines Do?

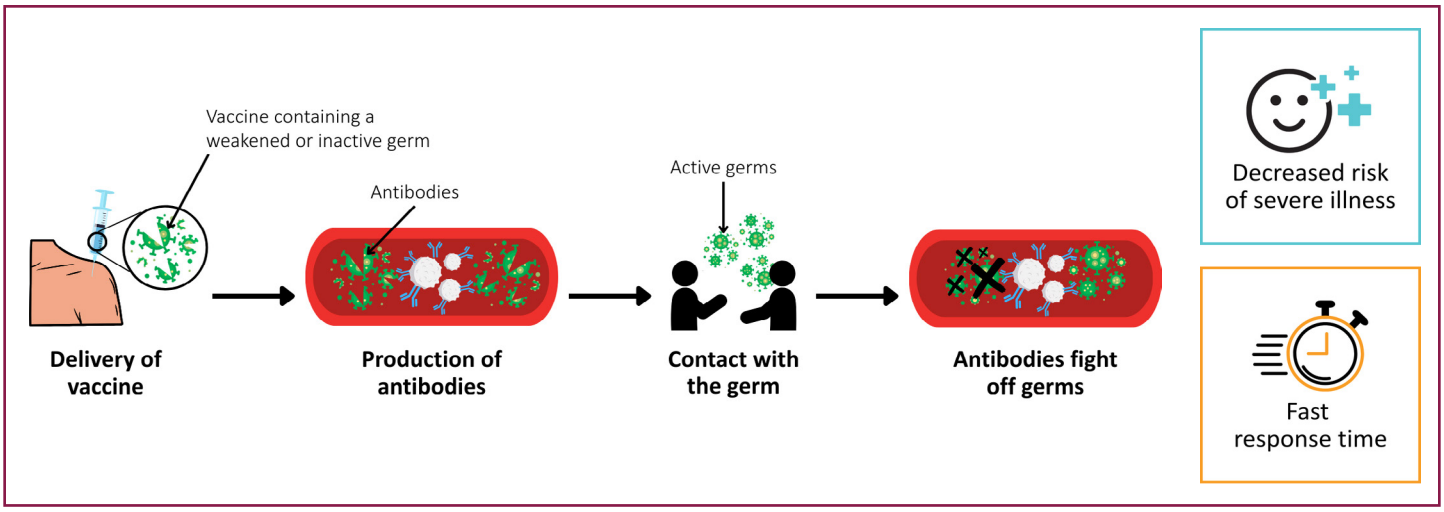
Vaccines prepare your immune system to fight infections.

- Vaccines trigger the production of **antibodies** which can identify and attack germs.
- Antibodies remember germs and can initiate **attack quickly** when they encounter a germ.

Vaccines help prevent illness is 2 ways:

- Protecting against ***catching*** an infection
- Managing the ***response*** to an infection

Always follow the advice and recommendations of your healthcare team to determine which vaccines are right for you and when.



A diagram showing how vaccines, containing a weakened or inactive germ, help to produce antibodies before contact with the active germ, resulting in a faster response and a lower risk of serious illness.

Types of Vaccines

Non-live vaccines (NLVs) use an inactive or unlive germ, or pieces of a germ, to produce antibodies that can fight the actual germ when it encounters it.

Eg. The flu vaccine or pneumococcal vaccine.

- Most vaccines are NLVs.
- There are many different types of NLVs.

Live attenuated vaccines (LAVs) contain a weakened (attenuated) form of an active or live germ. They create a strong and long-lasting immune response.

Eg. The measles, mumps, and rubella (MMR) vaccine

- LAVs are **not recommended** for transplant recipients or people living with advanced kidney disease.

Always follow the advice and recommendations of your healthcare team to determine which vaccines are right for you and when.

Some vaccines need more time or doses to be effective:

Single-dose Vaccines:

Vaccines that are effective and long-lasting after only one dose.

EXAMPLE: Polio vaccine

Multi-dose Vaccines:

Vaccines that need two or more doses over weeks or months to build immunity.

EXAMPLE: COVID-19 vaccine

Annual Vaccines:

Vaccines that are needed every year and are updated to protect against the strains of a virus that are most concerning.

EXAMPLE: Flu vaccine

Boosters:

Some vaccines wear off over time and lose effectiveness. Boosters bring protection levels back up.

EXAMPLE: Tetanus vaccine

Vaccine Safety and Effectiveness

Vaccines are safe and effective for people with kidney disease. All available vaccines are approved by Health Canada.

People with kidney disease may experience **vaccine side effects more often** or for a **longer time**.

- Side effects may include pain, rash, or redness at the injection site, muscle or joint soreness, discomfort or headache, and mild fever or chills.
- Serious side effects are rare and should be discussed with your healthcare team prior to vaccination.

LAVs can produce a very strong immune response and are **not recommended** for people with weakened immune systems because:

- **Medications** taken by transplant recipients or people with chronic illnesses can weaken the immune system.
- Contact with the active germ in a LAV can **increase the risk of vaccine-related side effects**.
- NLVs are generally safe and effective for people living with kidney disease, kidney failure, or a transplant.

Kidney disease and dialysis can **weaken your immune system** over time.

- **Some vaccines may be less effective** for people with weakened immune systems.
- People living with kidney disease or kidney failure **may need higher or extra doses of a vaccine**.
- Your family and friends can lower your risk of infection by getting vaccinated.

Always follow the advice and recommendations of your healthcare team to determine which vaccines are right for you and when.

Important Vaccines for People Living with Kidney Disease

For people with kidney disease **at all stages**:

- The influenza (flu) vaccine
- The COVID-19 vaccine
- The pneumococcal vaccine
- The respiratory syncytial virus (RSV) vaccine

In addition to those, it is recommended that **dialysis and transplant patients** also receive:

- The hepatitis B vaccine
- The herpes zoster (shingles) vaccine

Photo by Prostock-Studio on iStock.

For more information on each of these vaccines, including recommended dosages and timing by Health Canada, safety considerations, and more, visit: **https://kidney.ca/Support/Resources/Vaccines-and-Kidney-Disease**

Please note that vaccine availability and coverage may vary across the country.

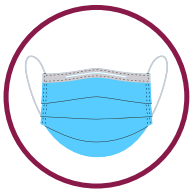
Other vaccines may also be important for you throughout your kidney journey, including the Tdap vaccine, HPV vaccine, varicella (chicken pox) vaccine, hepatitis A (HAV) vaccine, MMR vaccine, meningococcus vaccine, and/or travel vaccines.

The Kidney Foundation of Canada would like to acknowledge and thank Chandni Sehgal and Dr. George Worthen for their contributions and professional expertise in the development of this resource.

Always follow the advice and recommendations of your healthcare team to determine which vaccines are right for you and when.

While vaccines are a powerful way to prevent infections, they are even more effective when combined with the following layers of protection:

WEAR A MASK



- Wearing a **well-fitting and high-quality mask** can help keep you safe during peak respiratory illness season (cold, flu, COVID-19, RSV seasons).
- All masks can be effective, but **medical masks and respirators** (like N95 masks) provide better protection than non-medical (cloth) masks.
- If you choose a cloth mask, ensure it is made of at least **2 layers of tightly woven breathable fabric** (like cotton) and contains a **layer of filter-type fabric** to improve filtration.

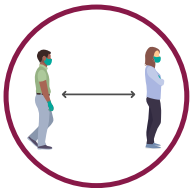
For more information about masking, check out:
Respiratory infectious diseases: Mask use for reducing the spread - Canada.ca

WASH YOUR HANDS

- Many diseases are spread through surface contact (touching door handles, railings, screens).
- Washing your hands with **soap and water for 20 seconds** reduces spread of germs from your hands to your nose, mouth, or eyes.
- **Hand sanitizers with at least 60% alcohol**, can be used when hand washing is inaccessible.

For more information about hand washing, check out:
Clean your hands to help reduce the spread of infectious diseases - Canada.ca

SOCIAL DISTANCE AS NEEDED



- Social distancing means **limiting your exposure** to crowded places and non-essential gatherings, especially indoors.
- Try to reduce common greetings, such as handshakes, and wave instead.
- The recommended distance is **6 feet or 2 meters** (about 2 arms lengths) to be protected.

For more information about hand washing, check out: Social Distancing - Canada.ca

MAINTAIN A HEALTHY LIFESTYLE

- Both your **physical and mental health can affect your immune system**.
- Follow the advice of your healthcare team to ensure your health is the best it can be.
- Talk to a mental health specialist and your care team if you are experiencing any mental health struggles.
  - Check out the mental health resources at kidneyinfo.ca.
  - Connect with other people in the kidney community through our peer support groups (https://kidney.ca/Support/Peer-Support).
- Regular **physical activity** can benefit both your mind, body, and immune system. It can enhance the immune system and boost vaccine response.

Always follow the advice and recommendations of your healthcare team to determine which vaccines are right for you and when.