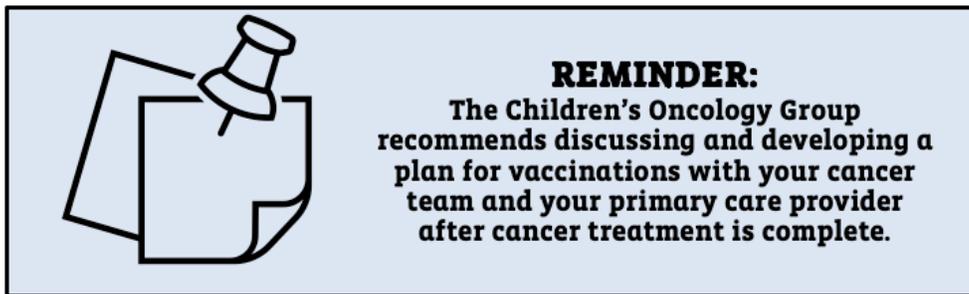


Vaccines after Treatment for Cancer Survivors Treated with Chemotherapy and/or Radiation (Non-HCT)

Vaccines are an important tool to protect against infections and prevent infection-related deaths. Vaccines help the immune system recognize and fight serious infections. Most vaccines are given during childhood and provide protection against infection into adulthood. After cancer treatment, survivors may need to catch up on recommended childhood vaccines that were missed during treatment or get booster vaccines to protect against vaccine-preventable infections.

Sometimes recommended vaccine doses are delayed during cancer treatment. After completing treatment for cancer, it is important to make a plan to catch up on missed vaccines, even if delayed by months or years.

For childhood cancer survivors who have not missed any vaccinations during treatment, an extra dose of a vaccine (a “booster” vaccine) may be recommended to strengthen the immune system against vaccine-preventable infections.



Who should get booster vaccines?

- All children and adolescents who have received chemotherapy and/or abdominal radiation should discuss vaccines with their cancer team and primary care provider.
- Your child's provider may recommend boosters with or without checking antibody levels (also called titers) that confirms loss of immunity before vaccines are given.

Why should childhood cancer survivors receive vaccines or booster doses?

- Vaccines and booster shots after cancer treatment protect from infection and infection-related death.

How do vaccines and booster doses work?

- Vaccines protect you from infection by creating an immune response which makes antibodies and memory cells, your body's tools to effectively fight off viruses and bacteria. These antibodies and cells remain in the body for many years and protect against infections into adulthood.
- A booster vaccine is an additional dose of a vaccine. Booster vaccines “boost” the number of antibodies and cells to fight an infection that you have been vaccinated for in the past and provides greater protection against infection.

What are the risks of booster vaccines?

- Booster vaccines are considered very safe.
- Common side effects include swelling and/or discomfort at the vaccination site and low-grade fever.
- Serious reactions are rare. If you have concerns about vaccine safety, more information can be found at the Centers for Disease Control website: <https://www.cdc.gov/vaccines/schedules/index.html>

Where should my child go to receive vaccines?

- Vaccines can be given by your primary care provider.
- Some primary care providers may not be familiar with your specific catch up or booster vaccine schedule. Make sure to give your primary care provider your cancer team's contact information for questions.

When should my child get vaccines after cancer treatment?

- Most vaccines are delayed at least six months after cancer treatment ends.
- The timing of vaccination should be given to you by your cancer team. Certain treatments such as steroids, IVIG, and immune suppression drugs may affect your vaccine schedule.

Are there any vaccines that protect against cancer?

- Yes!
 - The Hepatitis B virus vaccine protects against liver cancer caused by the Hepatitis B virus.
 - The human papilloma virus (HPV) vaccine protects against a virus known to cause many different types of cancer (head and neck cancers, cervical cancer, vaginal cancer, anal cancer, penile cancer, and vulvar cancer).
 - Survivors of childhood cancer are at increased risk of HPV-related cancers and should receive a three-dose series of the vaccination, regardless of the age at which the first vaccine was given.

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Additional health information for childhood cancer survivors is available at www.survivorshipguidelines.org

Note: Throughout this *Health Links* series, the term "childhood cancer" is used to designate pediatric cancers that may occur during childhood, adolescence, or young adulthood. Health Links are designed to provide health information for survivors of pediatric cancer, regardless of whether the cancer occurred during childhood, adolescence, or young adulthood.

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