

Vaccines and Children With Inflammatory Bowel Disease

In general, children with inflammatory bowel disease (IBD) should receive their vaccines on the same schedule as other children.

However, some medicines used to treat IBD suppress the immune system, including corticosteroids (such as prednisone), 6-mercaptopurine (6MP; brand name: Purinethol®) azathioprine (brand names: Imuran®, Azasan®), cyclosporine, methotrexate, infliximab (brand name: Remicade®), adalimumab (brand name: Humira®), certolizumab pegol (brand name: Cimzia®), vedolizumab (brand name: Entyvio®), tofacitanib (brand name: Xeljanz®), and ustekinumab (brand name: Stelara®).

The immune system is the body's way of fighting disease. Disease-fighting immune cells make antibodies to specific bacteria or viruses when they infect the body. Similarly, a vaccine works by also causing the immune system to form antibodies but does not cause disease. If the immune

system is suppressed, it may not form enough antibodies after a vaccine is given to fight off a disease.

If your child is on an immunosuppressive medication, be sure to let your doctor know before they are vaccinated.

If your child has IBD and is not taking any immunosuppressant medicines, then there are no restrictions on receiving vaccinations. In fact, it may be even more important for children with IBD to be fully vaccinated to prevent infections. (Infections can sometimes cause IBD flare-ups.) Live vaccines such as MMR, chicken pox (varicella), and nasal flu vaccination are generally NOT recommended for children on immunosuppressant medications. However, the flu shot is not a live vaccine and is encouraged, as a yearly flu shot can help keep your child healthy.

If you have any concerns about vaccine safety, consult your pediatrician.



Brief Overview of Commonly Used Childhood Vaccines

<https://www.cdc.gov/vaccines/index.html>

- **Diphtheria, tetanus, and pertussis (whooping cough) vaccines:** These are not live vaccines and may be given safely to immunosuppressed individuals. They are part of the routine series of vaccinations given as part of well-child care. It is now recommended that all adolescents receive a booster shot at 11–12 years of age.
- **Measles, mumps, and rubella (MMR) vaccine:** The MMR vaccine is a live virus vaccine and should not be given to anyone taking immunosuppressive medicines. The vaccine is usually given at around 1 year of age and again at 4–6 years of age. If your child has not received the two doses of MMR, it is best to ask if the MMR vaccine can be given before starting immunosuppressive medications. Patients will need to wait at least 6 weeks after receiving the MMR vaccine before starting immunosuppressive medications.
- **Varicella (chicken pox) vaccine:** The chicken pox vaccine is a live virus vaccine and should not be given to anyone taking immunosuppressive medicines. The vaccine is usually given at 1 year of age and again at 4–6 years of age. Titers should be drawn to check your child's immune status prior to starting therapy. If your child is not immune to varicella, it is best to ask if the varicella vaccine can be given before starting immunosuppressive medications. Patients will need to wait at least 4 weeks after receiving the varicella vaccine before starting immunosuppressive medications.
- **Hepatitis A and B vaccines:** The hepatitis vaccines are not live virus vaccines. Currently an infant receives three doses of hepatitis B vaccine during the first year of life. Adolescents who did not receive the hepatitis B series as infants should be immunized. Hepatitis B is spread through blood and body fluids. It is important to check that patients are negative for hepatitis B before starting treatment because of the risk of viral reactivation. Patients who are not immune to hepatitis B should be vaccinated. Hepatitis A is an infectious disease that is spread by close personal

contact. Hepatitis A vaccine has recently been recommended for all children, and it is given in two doses usually in the second year of life.

- **Haemophilus influenzae vaccine:** The Haemophilus influenzae vaccine is not a live vaccine. Children receive four doses of this vaccine. It protects against serious illnesses such as meningitis and throat infections.
- **Pneumococcus vaccine:** The pneumococcus vaccine is not a live vaccine. The vaccine is administered to children in four doses. It protects against illnesses caused by the bacteria, Streptococcus pneumoniae, such as pneumonia and meningitis. Patients on immunosuppressive medications should receive a dose of pneumococcal 13 vaccine, followed by a dose of pneumococcal 23 vaccine at least 8 weeks later.
- **Meningococcal vaccine:** The meningococcal vaccine is not a live vaccine. The vaccine has recently been recommended for all children around 11–12 years of age. This vaccine protects against meningitis and in the past was recommended for college freshman because these bacteria can spread in close living conditions.
- **Influenza vaccine:** The injectable form of the influenza vaccine is not a live vaccine. However, the nasal mist is a live vaccine and should not be given to immunosuppressed individuals. Children over 6 months of age should be vaccinated yearly against the flu, especially those with a chronic illness (see above).
- **Human papillomavirus vaccine:** The human papillomavirus vaccine is not a live vaccine. The vaccine is a three-dose series recommended for females and males at 11–12 years of age. Human papillomavirus causes mouth, throat, and cervical cancer and genital warts.

Vaccines Recommended for Foreign Travel

Different travel destinations require different vaccines. The requirements/recommendations for all areas of the world can be found at www.cdc.gov/travel.

For more information, visit the National Immunization Program website at: <https://www.cdc.gov/vaccines/index.html>

Edited by Athos Bousvaros, April 2020

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IMPORTANT REMINDER: This information from the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN) is intended only to provide general educational information as a definitive basis for diagnosis or treatment in any particular case. It is very important that you consult your doctor about your specific condition.

714 N Bethlehem Pike, Suite 300, Ambler, PA 19002 **Phone:** 215-641-9800 **Fax:** 215-641-1995 **naspghan.org**
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