

# Vaccines and Children with Inflammatory Bowel Disease

Frequent vaccines are part of growing up in developed countries and protect children against many infectious diseases. Children with inflammatory bowel disease (IBD) should receive their vaccines on the same schedule as other children with a few important differences which are due to the medicines needed to control IBD (see below). It may be even more important for children with IBD to be fully vaccinated in order to prevent infection as infections can sometimes lead to flare-ups of IBD. For example, a yearly flu-shot can help keep your child healthy. If your child has IBD and is not taking any immunosuppressant medicines, then there are no restrictions placed on receiving vaccinations.

## Medications and Vaccines

Medicines used to treat IBD such as corticosteroids (e.g. prednisone), 6-mercaptopurine (e.g. 6MP, Purinethol®) azathioprine (e.g. Imuran® and Azasan®), cyclosporine, methotrexate, infliximab (Remicade®) and adalimumab (Humira®) all suppress the immune system.

The immune system is the body's way of fighting disease. It does this by forming antibodies (disease-fighting cells) to specific bacteria and viruses when they cause an infection. When a vaccine is given, the immune system forms antibodies in the same way. If the immune system is suppressed it may not form enough antibodies after a vaccine is given to fight off a disease. If this is a concern your child's doctor can draw blood and measure the antibody levels to a certain disease. Fortunately, most children will have received the majority of their vaccinations before being diagnosed with IBD.

**Live virus vaccines:** Vaccines can be made from killed or 'attenuated' (altered) viruses or live viruses. Examples of live virus vaccines are the nasal flu-mist and measles, mumps and rubella (German measles). Live virus vaccines should be avoided by children taking immunosuppressant medications and their families. Live virus vaccines do not cause disease in people with healthy immune systems, but when the immune system is suppressed they can actually cause the disease that they are trying to prevent. People who are in close contact with someone whose immune system is suppressed can also pass on a disease to them after being vaccinated with a live virus vaccine. Therefore always tell the doctor that your child is taking immunosuppressive medicines before any vaccine is administered to your child or other family members.

## Brief Overview of Commonly Used Childhood Vaccines

**Diphtheria, Tetanus, and Pertussis (whooping cough) Vaccines:** These are not live vaccines and may be given safely to immune suppressed 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 age 11-12 years.

**Measles, mumps, rubella (MMR):** These are all live virus vaccines and should not be given to anyone taking immunosuppressive medicines. They are usually given at around age 1 year and again between ages 4-6 years.

**Varicella (chicken pox):** The chicken pox vaccine is also a live virus vaccine and is usually given at about a year of age.

**(If you are the parent of a young child with inflammatory bowel disease and know that your child's gastroenterologist is planning on starting immunosuppressant medication it is best to ask if the MMR and chicken pox vaccine can be given before the medication is started.)**

**Hepatitis A and B:** The hepatitis vaccines are not live virus vaccines. Currently an infant receives 3 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. Hepatitis A vaccine has recently been recommended for all children, it is given in 2 doses usually in the second year of life. Hepatitis A is an infectious disease that is spread by close personal contact.

**Haemophilus Influenzae:** This is not a live vaccine. Children receive 4 doses of this vaccine. It protects against serious illnesses such as meningitis and throat infections.

**Pneumococcus :** This is not a live vaccine. The vaccine is administered to children in 4 doses. It protects against illnesses caused by the bacteria,

streptococcus pneumoniae, such as pneumonia and meningitis.

**Meningococcal:** The meningococcal vaccine has recently been recommended for all children around 11 to 12 years of age. This vaccine protects against meningitis and in the past was recommended for college freshman as this bacteria can spread in close living conditions.

**Influenza :** The injectable form of this 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).

## **Vaccines Recommended for Foreign Travel**

Different travel destinations require different vaccines. The requirements/recommendations for all areas of the world can be found at the website: [www.cdc.gov/travel](http://www.cdc.gov/travel)

**For more information visit the National Immunization Program Website at <http://www.cdc.gov/nip/>**