

Stay Protected: Vaccines and Sickle Cell Disease

This handout explains all the vaccines to get if you have sickle cell disease (SCD). People with SCD have compromised immune systems. For this reason, vaccines are an important part of the care plan. Vaccines can help protect children and adults from getting serious infections.

SCD and the Spleen

Sickle cell disease begins to damage the organs in the first year of life. One of the organs affected is the spleen. The spleen is a small organ on the left side of the abdomen underneath the ribcage. The spleen filters the blood and removes old, damaged red blood cells.

The spleen is a vital part of the immune system. The spleen filters out a type of bacteria from the body's immune system. The spleen creates lymphocytes, a type of white blood cell. These cells help to fight infections. White blood cells compose antibodies after you get sick or have a vaccine.

People with SCD have sickle-shaped blood cells. As a result, the cells can stick together and pool in the spleen. As a result, the spleen is damaged. All spleen function is lost before the age of five. This makes those with SCD more likely to get infected.

Infections

There are many viruses and types of bacteria that can cause infections that are harmful to those with SCD.

Sepsis: A blood infection that causes redness and swelling. It can be life threatening.

Influenza: An infection that affects your nose, throat and lungs. SCD patients are more likely to be admitted to the hospital. Influenza infection can also trigger lung problems like acute chest syndrome.

Bacterial meningitis: A serious infection of the lining of the brain.

Bacteremia: A bacterial blood infection. A child with SCD has a greater chance of getting this if they:

- Have a fever
- Don't take antibiotics
- Are not vaccinated

Streptococcus pneumoniae: A common cause of pneumonia. It can also cause:

- Meningitis
- Bacteremia
- Sepsis

Neisseria meningitidis: The number one cause of bacterial meningitis. It can also cause bacteremia or sepsis.

Haemophilus influenzae type B: This used to be the leading cause of meningitis in a child. Routine vaccines are now available. Therefore, it should not be confused with the influenza virus.

Vaccines

Vaccines can help prevent getting serious infections. Children should receive all recommended vaccines as well as a yearly flu shot.

Adults should make sure their vaccines are up to date. Some vaccines need a series of shots for you to be protected.

Vaccine Guidelines

Pneumococcal vaccines: This helps protect against lung and blood infections. These are caused by a germ called “streptococcus pneumoniae.” If you haven’t had the vaccine yet, get one dose of the updated vaccine as advised. Your spleen isn’t working properly so you should get a booster shot every 5 years.

Hemophilus influenzae type B (Hib): This vaccine protects against a germ that causes serious illness like meningitis in children. Talk to your doctor if you didn’t get this vaccine.

COVID-19 vaccine: People with SCD are at higher risk for severe complications from COVID-19. Yearly vaccines help boost protection against new variants of the virus. The vaccine reduces the risk of hospitalization, severe illness, and long-term complications.

SCD affects how oxygen is carried in the blood. As result, this can lead to organ damage, lung issues, and a weakened immune response. COVID-19 can worsen these problems. COVID-19 triggers conditions like acute chest syndrome, which already poses a serious threat is SCD.

Meningococcal vaccines: These vaccines protect against meningitis. Get a series of 2–4 shots of Menveo® or Menquadfi®. This will protect against types A, C, W, and Y. After the first series, you’ll need a booster shot every 5 years. For type B, you’ll need 2 or 3 doses of Bexsero® or Trumemba® starting at age 10.

Flu shot (influenza vaccine): The flu can make people with SCD very sick. It can cause lung problems like acute chest syndrome. Get a flu shot every year, starting at age 6 months. Flu season runs from about October to March. If you receive your vaccine in January, you will need to get it again next flu season.

Tips for Staying Protected

- **Stay on schedule.** Keep up with your vaccine appointments. Missing a shot can leave you unprotected.
- **Plan for flu season.** The flu season usually runs from October to March. Get your flu shot early to stay safe.
- **Check your boosters.** If your spleen isn’t working, booster shots are important.
- **Talk to your doctor.** Make sure you’re up to date on all your shots. Ask questions if you’re unsure about anything.