Why are multiple doses needed for each vaccine?

Depending on the vaccine, your child will need more than one dose to build high enough immunity to help prevent disease or to boost immunity that fades over time. Your child may also receive more than one dose to make sure they are protected if they did not get immunity from a first dose, or to protect them against germs that change over time, like flu. Every dose is important because each protects against an infectious disease that can be especially serious for infants and very young children.

Why do adolescents need vaccines?

Vaccines are recommended throughout our lives to protect against serious diseases. As protection from childhood vaccines wears off, adolescents need vaccines that will extend protection. Vaccines are an important part of adolescent healthcare and are essential for protecting their health and well-being both now and in the future.

Should I delay some vaccines or follow a non-standard schedule?

Children do not receive any known benefits from following schedules that delay

vaccines. Infants and young children who follow immunization schedules that spread out or leave out shots are at risk of developing diseases during the time you delay their shots.

Can I wait until my child goes to school to catch up on immunization?

No. Before entering school, children are exposed to vaccine-preventable diseases anytime. Children under age 5 are especially susceptible to diseases because their immune systems have not built up the necessary defenses to fight infection.

If I am breast-feeding, do I vaccinate my baby on schedule?

Yes, breastfed children need protection through vaccines at the recommended ages. Breast milk provides important protection from some infections as your baby's immune system is developing. For example, babies who are breastfed have a lower risk of ear infections, respiratory tract infections, and diarrhea. However, breast milk does not protect children against all diseases. Even in breastfed infants, vaccines are the most effective way to prevent many diseases.

Why do some individuals, particularly children, still experience vaccinepreventable diseases even after receiving vaccination against those diseases?

Despite vaccination efforts, some individuals, including children, may still experience vaccine-preventable diseases due to factors such as incomplete immunity, waning immunity over time, variability in vaccine effectiveness, breakthrough infections, and incomplete vaccination. While vaccines are highly effective at preventing many diseases, no vaccine is perfect, and breakthrough infections can occur. However, widespread vaccination still plays a crucial role in reducing the overall burden of vaccine-preventable diseases and protecting public health.

Are vaccines designed primarily to prevent specific diseases, or do they just serve to mitigate the severity of the disease if contracted?

Vaccines are primarily designed to prevent specific diseases by stimulating the immune system's ability to recognize and combat pathogens, but they can also contribute to reducing the severity of a disease if it is contracted.

CONTACT US V

For more information about the Vaccine Research Theme, visit us via: http://www.lshtm.ac.uk/research/units/mrcuganda/vaccine-research-theme

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Medical Research Council







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### What is a vaccine?

A vaccine is made from parts of germs that cause diseases but cannot make you sick. It teaches your body's defense system to learn how to fight off these germs if you are exposed to them. It does this by training your immune system to make special proteins called antibodies. These antibodies remember how to defeat the germs, so if you encounter them in the future, your body can quickly fight them off, keeping you from getting sick or making the illness less severe.

02

### Are vaccines safe?

Yes, vaccines are generally safe. Before a vaccine is approved for use, it undergoes rigorous testing in clinical trials to ensure its safety and effectiveness. Additionally, regulatory agencies continually monitor vaccines for any potential side effects or adverse reactions once they are in use.

03

### What are the benefits of vaccines?

Vaccines play a crucial role in protecting individuals and communities from infectious diseases and promoting public health worldwide. They do this by:

- Stimulating the body's immune system to recognize and fight off specific infectious disease-causing pathogens, such as viruses or bacteria.
- Reducing the spread of diseases within communities and protecting vulnerable individuals who cannot be vaccinated, such as newborns or individuals with weakened immune systems.
- Preventing or reducing the severity of diseases that can lead to serious complications, hospitalization, or even death.
- Preventing illness and contributing to improved overall health and wellbeing, allowing individuals to lead healthier and more productive lives.
- 04

# If a person has suffered from a vaccine-preventable disease in the past, do they still require vaccination against that disease?

Vaccination is recommended for individuals who have previously suffered from a vaccine-preventable disease to ensure ongoing protection against future infections, reduce the risk of complications, and contribute to overall public health efforts to control and eliminate these diseases. It is important to follow the recommendations of healthcare professionals regarding vaccination.

05

#### Can a sick child be vaccinated?

It is essential to consult with a healthcare provider if you have any concerns about vaccinating a sick child. They can provide guidance based on the child's individual health status and the specific vaccine being considered. In some

cases, vaccination may be recommended if the benefits outweigh the risks, but this decision should be made in consultation with a healthcare professional.

06

### Why are vaccines administered at particular locations on the body?

Vaccines are administered at specific sites to ensure they are absorbed properly and safely. Experts carefully choose the method, site, and dose of vaccine administration following a rigorous development and research process.

07

### If a child misses a dose of multi-dose vaccines can they get them all at once?

If a child for one reason or another missed a dose, administering all missed doses at once may not be recommended, as it could increase the risk of adverse reactions or interfere with the vaccine's effectiveness. Instead, the healthcare worker may need to schedule the missed doses according to the recommended catch-up schedule to ensure the child receives optimal protection while minimizing risks. Healthcare professionals usually assess each situation individually and follow guidelines to ensure the child receives appropriate vaccination while minimizing risks.

08

# If a child is brought late for the first vaccines given at birth (for example, after a month), should a child receive those vaccines?

Certainly, if a child misses the first vaccines administered at birth, they should still receive those vaccines. Even if a child misses the recommended timing for a vaccine, it is generally advised to catch up on missed vaccines promptly. This ensures the child receives holistic protection against diseases as soon as possible.

09

### Why does a child get a fever after receiving a vaccine?

Sometimes, a child might develop a fever after getting a vaccine because their immune system reacts to the vaccine's ingredients. Vaccines work by introducing a weakened virus or bacteria or parts of them into the body, which triggers the immune system to respond. The immune s stem makes antibodies and activates cells to fight off these foreign components, which can cause a fever.

While a fever after vaccination is normal and usually not worrisome, if the fever is high or comes with other worrying symptoms, it is best to talk to a healthcare provider for advice and assessment.

10

### What are the common side effects of vaccines?

Common side effects of vaccines are usually mild and temporary. They can include soreness at the injection site, fussiness, or a slight fever. They usually go away within a few days. They can be managed at home for instance; applying a cool, damp cloth to the sore area can help relieve discomfort.

11

#### Is it correct to say that vaccines administer the disease in a modified form?

No, it is not accurate to say that vaccines administer the disease in a modified form. Vaccines do not contain the disease-causing agent in its complete or active form. Instead, vaccines contain weakened or inactivated forms of the virus or bacteria, or they may contain only specific parts of the pathogen that stimulate the immune system. Vaccines do not administer the disease itself; rather, they stimulate the immune system to provide protection against it.

12

### Why do pregnant women require vaccination against Tetanus?

Pregnant women need tetanus vaccination to safeguard themselves and their unborn babies from this bacterial infection. Tetanus originates from a bacterium commonly found in soil and on dirty surfaces. The bacteria can enter the body through cuts, wounds, or puncture injuries, causing a severe and sometimes deadly sickness.

13

### How does the Tetanus vaccine protect the unborn child?

Maternal immunization with the tetanus vaccine helps to ensure that newborns are born with some level of immunity to tetanus, reducing their risk of contracting the disease in the critical early months of life.

14

### $\label{loss} Does\,a\,woman\,need\,to\,get\,the\,Tetanus\,vaccine\,for\,each\,successive\,pregnancy?$

Yes, it is generally recommended that women receive a tetanus vaccine during each pregnancy. This is because the protection from the vaccine wanes over time, so receiving the vaccine during each pregnancy helps ensure that both the mother and the newborn have protection against tetanus. The tetanus vaccine often combined with the diphtheria and pertussis vaccines (Tdap) in a single shot typically given during the third trimester of each pregnancy, between weeks 27 and 36, to maximize the transfer of protective antibodies to the baby before birth.