

## Protect your most precious asset. Immunize your baby against vaccine-preventable diseases now

“Congratulations, your baby is so perfect and adorable!”

New parents are delighted when their babies are born. The infants look so perfect and pure yet they are also fragile. Their bodies are not ready to face all the upcoming challenges in the world, they are not yet equipped with enough natural defences to bar or combat the invasion of various diseases. In other words, their natural immunity is not strong enough.

In order to offer adequate protection to the babies' health, scientists have invented a method to fortify the immune system against a mixture of disease-causing agents. This process is called Immunisation. Immunisation can be performed through various techniques, most commonly through Vaccinations. Vaccines against germs can prepare the body's immune system and hence help the body prevent or fight infections.



**Dr. Eddie Cheung**  
Specialist in Paediatrics

### Why Immunisation?

Immunisation has been called the most important public health intervention in history, after safe drinking water. We know that it has saved millions of lives over the years. We also know that getting our children immunised can protect them from some very serious, life-threatening diseases. Apart from that, what else can immunisation do?

Immunisation of our children can offer protection to their friends, schoolmates, and others in the community from those same diseases, especially for those who have not or cannot receive the vaccines. This is called herd immunity. Immunisation can also rid the world of diseases that have been crippling and killing children for centuries. Smallpox has been successfully eradicated and polio is almost completely gone.

### How do Vaccines Work?

When disease germs first enter your body, they start to reproduce. Your immune system recognises these germs as foreign invaders and responds by making proteins called antibodies. These antibodies help destroy the germs. They cannot act fast enough to prevent you from getting sick, but by eliminating the attacking germs, antibodies help you get well. The second job of antibodies is to protect you from future infections. They remain in the bloodstream even after many years. If the same germs ever try to infect you again, the antibodies can recognise and help destroy them before you have a chance to get sick. This is natural immunity. The only drawback is obvious – you need to get sick before you become immune.

Vaccines solve this problem. They help you develop immunity without getting sick first. Vaccines are made from the weakened or killed disease-causing germs (or parts of them). They are introduced into the body, mostly via an injection. Your immune system reacts to the vaccine by making antibodies which destroys germs in the vaccine, as described earlier. This acts like a training exercise for the immune system. The antibodies then stay in the body, offering you immunity. If you are exposed to real germs in the future, the antibodies are ready to protect you.

### Are Vaccines safe?

Most of the vaccines included in common childhood immunisation programmes have been used for many years and are proved to be very safe. While they are harmless, like other medicines, they could cause reactions. Mostly, these are mild 'local' reactions (soreness or redness over the site where the shot is given) or low-grade fever. These reactions last a day or two and then disappear. Occasionally a child will have a severe allergic reaction to a substance that is component of a vaccine. But the risk is very small, estimated to be around one in a million.

One particular concern about vaccines against Measle, Mumps and Rubella (MMR) is whether the vaccination is associated with the development of autism. In February 1998, The Lancet published an article suggesting that MMR vaccines could contribute to the development of autism. This raised a lot of concerns and many parents refused MMR vaccines for their children. However in 2004, The Lancet published a retraction submitted by 10 of the 13 original authors. The authors stated that there was no connection between the MMR vaccines and autism. There is ample scientific evidence, concluded by subsequent studies done in UK, USA, Sweden, Japan, etc., refuting a connection between MMR vaccine and the development of autism. MMR vaccine is therefore considered safe and beneficial.

### Childhood Immunisation Programme – What Diseases Can Be Prevented?

Different countries or regions have different childhood immunisation programmes. The decision of which diseases to be included depends partly on the prevalence of a particular disease in that locality, i.e. how common the disease is. In Hong Kong, as recommended by the Scientific Committee on Vaccine-preventable Diseases under the Centre for Health Protection of Department of Health, children from birth to primary six (about 11 years old) should receive vaccinations against 10 diseases. These include tuberculosis, poliomyelitis, hepatitis B, diphtheria, pertussis (whooping cough), tetanus, measles, mumps, rubella, and pneumococcal infection. In order to provide further protection against serious infections, such as meningitis, some countries like USA and UK also include vaccinations against Haemophilus influenzae type B (Hib disease) in their childhood immunisation programmes. There are many different kinds of vaccines on the market. Parents should seek advice from doctors on the suitability and timing of such vaccinations for their children.

Reference: [www.cdc.gov](http://www.cdc.gov), [www.dh.gov.hk](http://www.dh.gov.hk)