



# How do vaccines affect immunity?

## Vaccines strengthen natural immunity



### How do vaccines work?

Vaccines train a baby's immune system to quickly recognise and clear out germs (bacteria and viruses) that can cause serious illnesses. Vaccines strengthen a baby's immune system a bit like exercise strengthens muscles.

### Can vaccines overwhelm my baby's immune system?

**Vaccines cannot overwhelm a baby's immune system.**

From the moment they are born babies are exposed to countless germs (bacteria and viruses) every day through their skin, noses, throats and guts. Babies' immune systems are designed to deal with this constant exposure to new things, learning to recognise and respond to things that are harmful. Even if all the vaccine doses on the schedule were given to a baby all at once, only a small fraction of available immune cells would be occupied. The immune system is still able to respond to all other threats at any time.

## Wouldn't it be safer to vaccinate babies when they are older?

**Vaccines are given as soon as it is safe to give them.** Babies and young children are most vulnerable to infections when they are very young. In order to protect babies from diseases, they need to be vaccinated before they come into contact with the diseases. Delaying vaccination would leave babies and young children in danger of catching diseases for longer. Babies need the protection vaccines can give them as soon as possible.

## Isn't it better for children to develop immunity from the disease?

**Allowing children to develop immunity by catching the diseases is not safe.** Although catching a vaccine-preventable disease often protects a child from catching it again, it can make them seriously ill in the process. In comparison, vaccines are designed so that they can stimulate immunity but without causing disease. The side effects of vaccination are usually mild (like getting a sore arm) and pass quickly but the diseases they prevent can cause serious illnesses requiring hospital treatment. Occasionally children still die in Australia from vaccine-preventable diseases. Vaccination is recommended because it is the safest way to develop immunity.

### About us

This fast fact sheet has been developed to help doctors and nurses to answer parents' questions about vaccinations by a group of researchers called the SARAH Collaboration. It was written by Nina Berry PhD and Julie Leask PhD from the University of Sydney, Margie Danchin PhD from the University of Melbourne, Tom Snelling PhD from the Telethon Kids Institute, and Kristine Macartney MD and Melina Georgousakis PhD from NCIRS. SARAH is funded by the Australian Government Department of Health.

### Further reading

[www.science.org.au/immunisation](http://www.science.org.au/immunisation)  
[www.immunise.health.gov.au](http://www.immunise.health.gov.au)