

What is special about people with Down syndrome and immunisation

People with Down syndrome have a weakened immune system (immunodeficiency). They are more likely to get respiratory tract infections and for these infections to affect the lower respiratory tract and cause pneumonia, bronchiolitis or croup. Infections may be more severe and it can take longer to recover. Skin conditions, such as eczema, are more common in people with Down syndrome and can be aggravated by chickenpox disease.

Immunisation can protect against some of the bacteria and viruses that cause these diseases. We have provided this fact sheet to help parents, caregivers and adults make an informed decision around immunisation.

Key points

Immunise on-time

- » National Immunisation Schedule vaccines at 6 weeks, 3 months, 5 months, 15 months, 4 years, 11 years, 12 years, 45 years, and 65 years of age.^{Free}
- » Catch-up doses of missed Immunisation Schedule vaccines.^{Free}
- » Annual influenza immunisation from 6 months of age.^{Free}
- » Prevenar 13[®] (replaces Synflorix[®] at 6 weeks, 3 months, 5 months and 15 months of age) and Pneumovax[®]23 to protect against pneumococcal disease.^{Free for children aged under 5 years}
- » Consider whether chickenpox^{Free for some children} or meningococcal^{Not free} immunisations are needed.
- » Consider whether hepatitis B immunisation is needed for adults born before 1988 (when hepatitis B vaccine was added to the Immunisation Schedule).^{Not free}

National Immunisation Schedule vaccines

It is important for babies, children, adolescents and adults with Down syndrome to receive the free National Immunisation Schedule vaccines when they are due (6 weeks, 3 months, 5 months, 15 months, 4 years, 11 years, 12 years, 45 years and 65 years of age).

It is never too late to catch-up most Schedule immunisations.

Other recommended vaccines

Other vaccines are recommended and may be free or can be purchased through your doctor.

Chickenpox^{Free for some children}

Immunisation against chickenpox with Varilrix[®] is recommended for children and adults who have not had chickenpox disease or immunisation, particularly if they have a skin condition like eczema. The vaccine is only free for children born on/after 1 April 2016 or who turn 11 years of age on/after 1 July 2017, and they haven't already had chickenpox disease or immunisation.

Hepatitis B^{Free for children aged under 18 years}

It is important that people living in group accommodation check they have been immunised against hepatitis B. Immunisation can provide lifelong protection against hepatitis B. It is recommended but only free for adults in certain circumstances. Engerix-B[®] can be purchased by adults who are not eligible for free hepatitis B immunisation.

Influenza^{Free}

Annual influenza (flu) immunisation is recommended and free for everyone with Down syndrome from the age of 6 months.

Meningococcal^{Not free}

People living in group accommodation, e.g. boarding school, university hostels, residential or supported accommodation, may have a higher risk of meningococcal disease, an illness that can cause meningitis. Immunisation with NeisVac-C[®], Menactra[®] or Nimenrix[®] is recommended but not free to provide temporary protection against meningococcal disease.

Pneumococcal^{Free for children aged under 5 years}

The following immunisations are recommended to help protect against pneumococcal disease.

- » **Babies and children aged under 5 years**
 - » Prevenar 13 – replaces Synflorix at the 6 weeks, 3 months, 5 months and 15 months of age immunisation visits, and age-appropriate catch-up immunisation for children aged under 5 years if needed.
 - » Prevenar 13 – one dose for children aged under 5 years who received four doses of Synflorix and haven't received any doses of Prevenar 13.
 - » Pneumovax23 – the first dose for children at 2 years of age and a second dose five years later.
- » **Children aged 5 years or older and adults^{Not free}**
 - » Prevenar 13 – one dose.
 - » Pneumovax23 – two or three doses depending on the person's age when they have their first Pneumovax23.

References

- American Academy of Pediatrics. Health supervision for children with Down syndrome. *Pediatrics*. 2011;182(2):393-406.
- Gershon AA, Gershon MD. Pathogenesis and current approaches to control of varicella-zoster virus infections. *Clin Microbiol Rev*. 2013;26(4):728-43.
- Kusters M, Versteegen R, Gemen E, De Vries E. Intrinsic defect of the immune system in children with Down syndrome: A review. *Clin Exp Allergy*. 2009;156(2):189-93.
- Ministry of Health. Immunisation handbook 2017. Wellington: Ministry of Health; 2017.
- Pace D. Review of varicella zoster virus: From epidemiology to prevention. *Malta Medical Journal*. 2008;20(3):7-11.
- Ram G, Chinen J. Infections and immunodeficiency in Down syndrome. *Clin Exp Allergy*. 2011;164(1):9-16.
- Valentini D, Marcellini V, Bianchi S, Villani A, Facchini M, Donatelli I, et al. Generation of switched memory B cells in response to vaccination in Down syndrome children and their siblings. *Vaccine*. 2015;33(48):6689-96.