Immunisation

Peer reviewed by **Dr Doug McKechnie, MRCGP**
Last updated by **Dr Philippa Vincent, MRCGP**
Last updated 8 Oct 2024
Meets Patient's **editorial guidelines**
Est. **10 min** reading time

This leaflet provides information about the normal immunisation schedule for people in the UK.

In this article:

Normal immunisation schedule for all people in the UK

UK 2024 Immunisation Schedule

This is the complete routine immunisation schedule and includes the childhood immunisation schedule, including the routine injections for babies, children aged 1 year, children in their pre-school year, vaccines offered whilst at school, vaccines for pregnant women and the immunisations for those over 65 years of age.

AGE	Immunisation (Vaccine Given)

8 weeks	**DTaP/IPV(polio)/Hib/HepB** (diphtheria, tetanus, pertussis (whooping cough), polio, *Haemophilus influenzae* type b and hepatitis B) - 6-in-one injection (Infanrix hexa®); plus: **Rotavirus** (Rotarix®) - oral route (drops). **Meningitis B** Bexsero®).
12 weeks	**DTaP/IPV(polio)/Hib/HepB** 6-in-one injection, 2nd dose (Infanrix hexa®); plus: **PCV** (pneumococcal conjugate vaccine) - in a separate injection (Prevenar 13®) **Rotavirus** (Rotarix®) - oral route (drops).
16 weeks	**DTaP/IPV(polio)/Hib/HepB** 6-in-one injection, 3rd dose (Infanrix hexa®); plus: **Meningitis B** 2nd dose (Bexsero®).
Between 12 and 13 months	**Hib/MenC** (combined as one injection) - 4th dose of Hib and 1st dose of MenC (Menitorix®); plus: **MMR** (measles, mumps and rubella) - combined as one injection (Priorix® or M-M-RVAXPRO®); plus: **PCV** 2nd dose (Prevenar 13®) - in a separate injection. **Meningitis B** 3rd dose (Bexsero®).
2 years-end of primary school	**Nasal flu spray** annually (Fluenz Tetra®) for all children. For children aged 2, 3 and 4, this is usually given in the GP surgery. Children in primary school should have this at school.
3 years and four months	**Preschool booster of DTaP/IPV(polio)**. 4-in-one injection (Repevax® or Boostrix IPV-IPV®); plus: **MMR** 2nd dose (Priorix® or M-M-RVAXPRO®) - in a separate injection.
12-13 years (boys and girls)	**HPV** (human papillomavirus types 16 and 18) - **two** injections (Gardasil®). The second injection is given 6-24 months after the first one.

14 years	**Td/IPV(polio) booster**. 3-in-one injection (Revaxis®). **Men ACWY**: combined protection against meningitis A, C, W and Y (Nimenrix® or Menveo®).
Adults	Influenza (annual) and PPV (pneumococcal polysaccharide vaccine): for those aged over 65 years, for all pregnant women and also those in high-risk groups. **DTaP/IPV**: for pregnant women from 16 weeks of gestation to protect the newborn baby against whooping cough or people travelling to high risk areas (Boostrix-IPV® or Repevax®). Shingles (Shingrix®) vaccine: for adults aged 70 or 78 years. (Plus catch-up for adults born after 2nd September 1942 who have not previously been immunised if they are under 80 years). Respiratory syncytial virus (RSV) vaccine: for pregnant women and for adults between 75 and 79. This is new from September 2024. In future years, it will be available for those turning 75 that year. Covid vaccination: this is available in 2024 for people at increased risk, such as those who have an underactive immune system, healthcare workers or people over the age of 65. It is not yet clear what future covid vaccination programmes will look like.

More information about specific immunisations

There are leaflets available with more information about some of the vaccines listed in the schedule above. Follow the links within the table to learn more about the individual vaccines. There are also some leaflets available for the specific brands of vaccine given.

How does immunisation work?

The body is given a vaccine which is a small dose of an inactive form of a bacteria or virus, or an inactive form of the toxin made by that bacteria or virus. As it is inactive, it does not cause infection.

The body makes antibodies and/or white blood cells (immune cells) against the bacteria, virus or toxin. Antibodies are proteins in the bloodstream that attack infections. Once someone has been immunised, the antibodies and/or immune cells

are ready to attack the germ if it begins to invade their body. More antibodies can quickly be made from cells which have previously made the particular antibody.

For some bacteria and viruses it has been difficult to produce a vaccine; however, technology is advancing and new vaccines will be available in the future.

Active and passive immunity

Immunisation with vaccines is called active immunity and provides long-term protection against specific diseases.

A newborn baby already has immunity to several diseases, such as measles, mumps and rubella (MMR), due to antibodies passed from its mother via the placenta, if the mother has her own antibodies, either from vaccination or from past infection. This is called passive immunity and usually only lasts for a few weeks or months. For MMR, however, it lasts up to one year.

Why immunise?

- Immunisation has caused dramatic improvements in health; diphtheria, tetanus, whooping cough (pertussis), measles and polio are now rare in many countries.
- Vaccination resulted in smallpox being eradicated from the world. It is hoped the same will soon be true for polio.
- Even some of the less serious illnesses for which there are vaccines can have life-threatening complications in some people. Immunisation saves countless lives.
- Some immunisations are offered to all people through the childhood immunisation programme.
- Some are offered to particular at-risk groups - listed below.
- There have been lots of scare-stories and misinformation about immunisations over the last 20-30 years. This has caused some people to feel anxious or worried about vaccinating their babies and children. However, the fact remains that immunisation is one of the greatest success stories in health over the last few decades and countless lives have been saved by immunisation. There is a significant risk to children's own health (as well as the health of others, who may have problems with their immune system) by not giving children their vaccinations.

- Over time, people forget how serious some conditions such as mumps, measles or flu can be. 4 out of 10,000 people who get mumps will die. In the UK, about 1 in 5,000 people who get measles will die but as many as 1 in 100 people who get measles will die in some parts of the world. Between 13,000 and 23,000 people in the UK are thought to die from flu every year. It is easy to think immunisation is less important when we don't see as many infectious diseases as we used to - but the reason we see fewer of these is due to immunisation. If fewer people get their immunisations there is a significant risk that the number of illnesses and deaths will start to increase again.

What if I forget about or delay immunisations?

It is best to have the immunisations at the correct time as the earlier the child is protected the better. However, if the usual schedule is interrupted or delayed for any reason, it can be resumed at any time. There is no need to start again. For some vaccines a delay may change the schedule slightly and this is explained in the leaflets for those individual vaccines.

Further immunisations for at-risk groups

If you travel abroad

It is recommended that people travelling abroad should be protected against the local infections if immunisations are available. Some general practices offer travel immunisations but others do not and there are private clinics available for these. Nurses are regularly updated with immunisation requirements for every country in the world and will usually be able to advise on what vaccines are needed.

The flu jab (seasonal influenza immunisation)

Seasonal influenza is the strain of influenza virus that arrives in the UK each autumn. The actual strain varies from year to year and a new immunisation is developed each year to protect against the prevailing strain. The aim is to protect people who are more likely to develop complications from flu. It is given each year on the NHS to people considered to be in an 'at-risk group', ie those who are more likely to develop complications. It is also possible to choose to pay and have it done privately - for example, at many pharmacies.

Read all about the 'flu jab' and who should have it in the separate leaflet called Immunisation for flu.

Pneumococcal immunisation

Pneumococcus is a bacteria that can cause pneumonia and meningitis. Immunisation against pneumococcus with the pneumococcal conjugate vaccine (PCV) is part of the routine childhood immunisation programme as above. In addition, people who are at increased risk of infection with this bacterium should be immunised.

To read more about this immunisation, and who should have it, see the separate leaflet called Pneumococcal immunisation.

Immunisation against tuberculosis (TB) - the BCG vaccine

The BCG vaccine (BCG stands for bacillus Calmette-Guérin) is offered to people in the UK considered to be at higher risk only. This is because TB is quite uncommon in the UK.

Read about whether you or your child would be offered this immunisation in the separate leaflet called BCG immunisation.

Hepatitis B immunisation

From August 2017, hepatitis B immunisation became a part of the routine childhood vaccination programme - see above. People who are at increased risk of contracting hepatitis B should consider having the hepatitis B immunisation. This is available on the NHS. You can read about at-risk groups in the separate leaflet called Hepatitis B vaccine. People travelling to certain places may also be advised to have the vaccine, although in this situation it is not available on the NHS.

Immunisation against chickenpox (varicella)

A vaccine is offered to healthcare workers (doctors, nurses, etc) who have not previously had chickenpox and so are not immune and may catch chickenpox. (About 1 adult in 10 has not had chickenpox as a child.) A blood test can check if people have had chickenpox in the past.

The aim is to protect healthcare workers from developing chickenpox, but also patients.

Close contacts of people with a poor immune system who are not immune to chickenpox should also have this immunisation, for example, brothers and sisters of a child with leukaemia who have not previously had chickenpox. Infection with chickenpox can be very serious for people with a poor immune system.

The vaccine is also sometimes given to patients who may develop a weakened immune system in the future, for example, those who are likely to need high doses of steroid tablets. The specialist team managing the condition will be able to give more information about this.

It is not currently routinely available on the NHS, outside of the groups mentioned above, but is available privately.

Shingles immunisation

In the UK, adults in their 70s are offered a vaccination against a condition which gives a painful skin rash called shingles. This condition can occur at any age but is more common and causes more side effects in older people.

Respiratory syncytial virus

In the UK, adults between the ages of 75 and 79 will be offered an RSV vaccine in Autumn 2024 and this will be offered to all adults turning 75 in the future. Respiratory syncytial virus is a very common virus causing coughs and colds but can cause severe disease in the elderly and in young children.

Pregnant women

In the winter months, all pregnant women are advised to have the flu jab (influenza immunisation). Pregnant women are also advised to have the whooping cough (pertussis) vaccine from 16 weeks of pregnancy to protect their newborn baby from whooping cough until the baby is old enough to start the vaccination programme.

Other situations

In some special circumstances other immunisations are considered. For example, workers who handle animals may be offered rabies immunisation. Those in close contact with people who have certain forms of meningitis may be offered specific immunisations. Discuss with your doctor or practice nurse if you think you fall into one of these groups.

Adults - are you fully immunised?

Some adults are not fully immunised against polio and tetanus. These immunisations were first introduced into the UK in the late 1950s. People born before then might not have received full protection from these illnesses. The practice nurse will be able to advise further.

Who should NOT be immunised?

There are very few reasons why people should not receive their full course of immunisations. Immunisations are generally very safe and effective.

The main reasons for a person not to have a vaccine are if they have had a severe allergic reaction to:

- A previous dose of that vaccine.
- An ingredient in the vaccine that was also present in a different vaccine.

People who have had very severe allergic reactions to egg should not have the yellow fever or some (but not all) flu vaccines other than under specialist care. This is because there may be small amounts of egg protein in these vaccines.

Certain vaccines (for example, the BCG vaccine) are not usually given to women who are pregnant. They may not be suitable for people whose immune systems are not working very well (people who are immunosuppressed). Vaccination is usually delayed if people are unwell with a high fever. See the separate leaflets on individual immunisations for more details.

Dr Mary Lowth is an author or the original author of this leaflet.

Further reading and references

- (https://www.gov.uk/government/news/pregnant-women-to-be-offered-whooping-cough-vaccination)Pregnant women to be offered whooping cough vaccination, Dept of Health, 28 September 2012
- Immunisation against infectious disease - the Green Book (latest edition) (https://www.gov.uk/government/collections/immunisation-against-infectious-disease-the-[illegible]): UK Health Security Agency

- NHS complete routine immunisation schedule (https://www.gov.uk/government/publications/the-complete-routine-immunisation-schedule); GOV.UK
- Hexavalent combination vaccine: programme guidance (https://www.gov.uk/government/publications/hexavalent-combination-vaccine-programme-guidance); UK Health Security Agency (July 2017, updated June 2025)
- (https://www.gov.uk/government/publications/jcvi-statement-extending-the-hpv-vaccination-programme-conclusions)Joint Committee on Vaccination and Immunisation (JCVI) Statement on HPV vaccination in boys 2018
- Vaccine uptake in the general population (https://www.nice.org.uk/guidance/ng218); NICE guideline (May 2022)

Article history

The information on this page is written and peer reviewed by qualified clinicians.

- Next review due: 7 Oct 2027

- **8 Oct 2024** | Latest version

  Last updated by

  Dr Philippa Vincent, MRCGP

  Peer reviewed by

  Dr Doug McKechnie, MRCGP