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Immunisation

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

Normal immunisation schedule for all people in the UK

UK 2018 Immunisation Schedule	
AGE	**Immunisation (Vaccine Given)**
2 months	• **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: • **PCV** (pneumococcal conjugate vaccine) - in a separate injection (Prevenar 13®). • **Rotavirus** (Rotarix®) - oral route (drops). • **Meningitis B** Bexsero®).
3 months	• **DTaP/IPV(polio)/Hib/HepB** 6-in-one injection, 2nd dose (Infanrix hexa®); plus: • **Rotavirus** (Rotarix®) - oral route (drops).
4 months	• **DTaP/IPV(polio)/Hib/HepB** 6-in-one injection, 3rd dose (Infanrix hexa®); plus: • **PCV** 2nd dose (Prevenar 13®) - in a separate injection. • **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** 3rd dose (Prevenar 13®) - in a separate injection. • **Meningitis B** 3rd dose (Bexsero®).
2-8 years	• **Nasal flu spray** annually (Fluenz®). For children aged 2, 3 and 4, this is usually given in the GP surgery. Children in school years 1, 2 and 3 may have this at school.
3 years and four months	• **Preschool booster of DTaP/IPV(polio)**. 4-in-one injection (Repevax® or Infanrix-IPV®); plus: • **MMR** 2nd dose (Priorix® or M-M-RVAXPRO®) - in a separate injection.
12-13 years (girls)	• **HPV** (human papillomavirus types 16 and 18) - **two** injections (Gardasil®). The second injection is given 6-12 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 and also those in high-risk groups. • **Td/IPV(polio)**: for those not fully immunised as a child (Revaxis®). • **DTaP/IPV**: for pregnant women from 20 weeks of gestation to protect the newborn baby against whooping cough (Boostrix-IPV® or Repevax®). • **Shingles** (Zostavax®) vaccine: for adults aged 70 years. (Plus catch-up for adults aged 78 and 79.)

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 germ (bacterium or virus), or a poison (toxin) made by the germ. As it is inactive, it does not cause infection. However, the body makes antibodies and/or white blood cells (immune cells) against the germ or toxin. Antibodies are proteins in the bloodstream that attack infecting germs. Once we are immunised, the antibodies and/or immune cells are ready to attack the germ if it begins to invade our body. More antibody 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. 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 at-risk groups - listed below.

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. 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

If you travel abroad it is recommended that you should be protected against the local infections if immunisations are available. Ideally, see your practice nurse or GP for advice on travel at least two months prior to your departure. Doctors and nurses are regularly updated with immunisation requirements for every country in the world.

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. You can also 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 germ (bacterium) 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. If you are travelling to certain places you may also be advised to have the vaccine, although you may have to pay for this privately as 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.) If you are not sure if you have had chickenpox then a blood test can check if you have previously had it.

The aim is to protect healthcare workers from developing chickenpox, but also patients. If chickenpox does not occur in any healthcare staff, this protects patients with a poor immune system (such as people with leukaemia) who may catch chickenpox from a healthcare worker who may be developing a chickenpox infection without realising it.

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. Your doctor will be able to give more information about this.

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 in older people.

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 in the first weeks 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. If you were born before then you might not have received full protection from these illnesses. Your practice nurse will be able to advise you if you are unsure.

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 is if they have had a severe allergic reaction to a previous dose of that vaccine or to 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 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).

If you are unwell with a high temperature (fever), vaccination is usually put off until you are well again.

See the separate leaflets on individual immunisations for more details.

Further reading & references

- Immunisation against infectious disease - the Green Book (latest edition); Public Health England
- NHS complete routine immunisation schedule; GOV.UK
- Pregnant women to be offered whooping cough vaccination, Dept of Health, 28 September 2012
- Hexavalent combination vaccine: programme guidance; Public Health England (July 2017)

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