



Public Health  
England



immunisations

# Immunisations for **young people**

**Your questions answered** about the HPV,  
Td/IPV and MenACWY vaccinations given  
between school years 7 to 13



**i**mmunisation  
the safest way to protect your health

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**Immunisation,**  
protecting everyone,  
**at every age**

# Introduction

This guide is for young people in school years 7 to 13, and their parents or guardians. It outlines and explains:

- the immunisations that are given to young people usually when they are still at school
- why these immunisations are needed, and
- what side effects they might have.

The guide also answers some of the most common questions about these immunisations. In particular, it describes the HPV vaccine for girls that protects against cervical cancer, the Td/IPV vaccine that boosts the protection you got as a child and the MenACWY vaccine. If you have any questions or want more information, talk to your doctor, school nurse or the practice nurse at your doctor's surgery.

Details of other sources of information are given on page 17 of this booklet.

# Your questions answered

## **Why do we need immunisation?**

The national immunisation programme has meant that dangerous diseases, such as polio, have disappeared in the UK. But these diseases could come back – they are still around in many countries throughout the world. That's why it's so important for you to protect yourself. In the UK, such diseases are kept at bay by the high immunisation rates.

## **How do vaccines work?**

A vaccine contains a small part of the bacterium or virus that causes a disease, or tiny amounts of the chemicals the bacterium produces.

Vaccines work by causing the body's immune system to make antibodies (substances to fight infections and diseases). So if you come into contact with the infection, the antibodies will recognise it and protect you.

# Cervical cancer

## What is cervical cancer?

Cervical cancer is the most common cancer among women under the age of 35. In the UK, around 3000 cases of cervical cancer are diagnosed every year and about 900 women die from it, almost all in older women not protected by the vaccine. Cervical cancer develops in the cervix (the entrance to the womb) and is caused by a virus called the human papillomavirus or HPV. For more information, visit [www.nhs.uk/vaccinations](http://www.nhs.uk/vaccinations)

## What is HPV and how does it spread?

The human papillomavirus is very common and it is caught through intimate sexual contact with another person who already has it. Because it is a very common infection, most people will get it during their lifetime. In most women the virus does not cause cervical cancer. We do not know who is at risk of going on to develop cancer.

## What is the HPV vaccine?

There are many types of human papillomavirus. The HPV vaccine protects against the two types that cause most cases (over 70%) of cervical cancer. Because the vaccine does not protect you against all of the other types, you will still need to have smear tests (cervical screening that picks up early signs of changes in the cervix) when you are older. Having this vaccine will also protect you against the two types of HPV that cause the majority of cases of genital warts. It won't protect you against any other sexually transmitted diseases such as chlamydia and it won't stop you getting pregnant. There is evidence from Australia, Denmark, Scotland and England that the vaccine is already having a major impact on HPV infections.

HPV vaccine has been used in the UK since 2008 and most women aged 15 to 24 years have now been given the vaccine.

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**Having the vaccination will reduce your chance of getting cervical cancer.**

HPV vaccine is used in 84 countries including the USA, Australia, Canada, and most of Europe and more than 80 million people have received the vaccine worldwide.

### **How will I have the vaccination?**

It is important that you have two doses of the HPV vaccine to be protected. The nurse will give you the vaccination in your upper arm. When you are in year 8 you will be offered the first injection. You will be offered the second injection 6 to 12 months after the first, but it can be given up to 24 months after. Your school or GP will inform you when you are due the second dose.

The HPV vaccine is offered to all girls starting in school year 8 (aged 12-13 years) and is recommended for all girls from the age of 12 years up to their twenty-fifth birthday.

### **Are there any side effects?**

Like most injections, the side effects of the HPV vaccination are quite mild. Stinging and soreness in the arm are common but wear off in a couple of days. More serious side effects are extremely rare.

The vaccine meets the rigorous safety standards required for it to be used in the UK and has an excellent safety profile. Millions of doses of vaccine have already been given to girls in the UK and around the world. As with all vaccines, any reports of side effects are closely monitored and reviewed.

See [www.nhs.uk/vaccinations](http://www.nhs.uk/vaccinations) if you'd like more information on side effects.

### **What about giving consent?**

You will probably want to share information about the vaccine with your parents and discuss it together. If you are being offered the vaccination at school, you may be given a consent form that your parent/guardian should sign giving permission for you to have the vaccination.

The doctor or nurse will discuss the HPV vaccine with you at your appointment and will be able to answer any questions you may have.



## **Other frequently asked questions about the HPV vaccination**

### **I've heard you get a sore, swollen arm for a long time after the vaccination. Is that true?**

The soreness and swelling you may get in your arm can last for a few hours, to a couple of days.

### **I missed my vaccination, can I still have it?**

Yes. If you missed either of your vaccinations, for whatever reason, you should speak to your nurse or doctor about making another appointment. It's best to make your appointment as soon as possible after your original one. The most important thing is to have both doses at the right time to get the best protection. Girls are only eligible to start the course of HPV vaccine up to their 25<sup>th</sup> birthday.

### **Now I've had the injections, will I still need to go for smear tests?**

Yes. All women are offered cervical screening (smear tests) when they are old enough (25 and over in England). The vaccine protects against the two human papillomavirus types that cause 70% of the cases of cervical cancer, so screening is still needed to try to pick up cervical abnormalities caused by other HPV types that could lead to cancer.

### **Should girls who have already had sex bother with the vaccination?**

Definitely. If you've had sex, and are in the relevant age group, you should still have the vaccine.



**Please don't forget that smear tests (cervical screening) will continue to be essential whether you have had the HPV vaccination or not.**

### **My older sister had three doses, why am I only getting two?**

Since the HPV vaccination programme started in the UK in 2008, the vaccine has proved to be very effective. Studies conducted since then suggest that two doses of the HPV vaccine will provide excellent, long-lasting protection for younger girls and so many countries have now moved to this new schedule. From September 2014, the routine HPV vaccination programme in the UK has consisted of only two doses.

### **What if I have not had my first HPV vaccine by the age of 15?**

If you have not had any HPV vaccine by the time you are 15 years old you will need three doses to have full protection. This is because the response to two doses in older girls is not quite as good, so to be on the safe side you should have three doses. The second dose should be given around a month after the first dose, and a final dose given around six months after the first dose. You should speak to your nurse or doctor about making an appointment as soon as possible.

### **What if I have had the first two doses of the old three dose HPV course, do I still need the third one now?**

Yes. If you have started the three-dose course of HPV you should complete it as originally planned.

# Tetanus, diphtheria, polio (Td/IPV) and meningitis and septicaemia

## **What is tetanus?**

Tetanus is a painful disease affecting the nervous system which can lead to muscle spasms, cause breathing problems and can kill. It is caused when germs found in the soil and manure get into the body through open cuts or burns. Tetanus cannot be passed from person to person.

## **What is diphtheria?**

Diphtheria is a serious disease that usually begins with a sore throat and can quickly cause breathing problems. It can damage the heart and nervous system, and in severe cases, it can kill.

## **What is polio?**

Polio is a virus that attacks the nervous system which can cause permanent paralysis of muscles. If it affects the chest muscles or the brain, polio can kill.

## **What are meningitis and septicaemia?**

Meningitis is dangerous swelling of the lining around the brain and spinal cord. It can be the result of infection with bacteria or a virus or as a result of injury. Septicaemia is when bacteria enter the bloodstream and cause blood poisoning which can trigger sepsis. Sepsis is an overwhelming and life-threatening immune response to any infection and can lead to tissue damage, organ failure and death.

Meningococcal disease can cause both meningitis and septicaemia. There are five main groups of meningococcal bacteria that cause disease – MenA, MenB, MenC, MenW and MenY. Meningococcal disease is rare but very serious and requires urgent hospital treatment. It can lead to life-changing disabilities such as amputations, hearing loss, brain damage and scars.

See page 15-17 for a full description of meningitis and septicaemia.

## **If I was immunised against tetanus diphtheria and polio as a child am I still fully protected?**

No, you will still need a booster.

## **If I was immunised against meningococcal group C (MenC) as a child am I still protected?**

The MenACWY vaccine will increase your protection against MenC disease and help to protect you against the three other meningococcal groups (A, W and Y).

## **How many boosters do I need to have?**

You need a total of five doses of tetanus, diphtheria and polio vaccines to build up and keep your immunity. You should have had:

- the first three doses as a baby
- the fourth dose when you were between three and five years old, before you started school, and
- the fifth dose is due in year 9 (aged 13 to 14).

For protection against four groups (A, C, W and Y) of meningococcal infection, it is important to have one dose of MenACWY as a teenager.

■ The routine dose of MenACWY is given in year 9/10 (around 14 years)

### **What if I missed my teenage dose of MenACWY vaccine?**

If you were born on or after 1 September 1996 and are eligible but missed your teenage MenACWY vaccine, you can still have the vaccine up to your 25<sup>th</sup> birthday. If you are older and starting university for the first time, you can still have the vaccine up to your 25<sup>th</sup> birthday. If you are still at school then speak to your school provider, otherwise you will need to make an appointment with your GP practice.

### **Does MenACWY vaccine protect against Men B?**

No, MenB is caused by different group of the bug which commonly affects young infants. A different vaccine, which protects against MenB, is given to very young babies. Some adults and older children considered at risk may be eligible on the NHS. You can find out more about how to get the MenB vaccine through the charity websites listed on page 17. If you have any questions about MenACWY talk to your school nurse or doctor.

### **Will I need more boosters in the future?**

You will probably not need further boosters of these vaccines. However, you may need extra doses of some vaccines if you are visiting certain countries or if you have an injury, you may need another tetanus injection. Check with your practice nurse at your surgery.

### **How will I be given the Td/IPV and MenACWY boosters?**

You will have two injections – one in each upper arm, or 2.5cm apart in the same arm. Nobody likes injections, but it is very quick. The needles used are small and you should feel only a tiny pinprick. If you are a bit nervous about having the injection, tell the nurse or doctor before you have it.

## **Are there any other immunisations I need to have now?**

When you are having your Td/IPV, and MenACWY vaccines, it's a good idea to check with the nurse or doctor that all your other immunisations are up to date including MMR (measles, mumps and rubella). It's particularly important to check that your MMR immunisation is up to date because some teenagers have not had two doses of MMR. If you have never had the MMR vaccine, you should have one dose now and another one month later.

## **Are there any reasons why I should not be immunised?**

There are very few teenagers who may not have the HPV, Td/IPV, and MenACWY vaccines.

You should talk to your doctor or school nurse if you are 'immunosuppressed' because you are having treatment for a serious condition such as a transplant or cancer, or you have a condition that affects your immune system, such as severe primary immunodeficiency. The doctor or nurse will get specialist advice on whether you should have the MMR vaccine.

In the UK we have two MMR vaccines. Both vaccines work very well, one contains porcine gelatine and the other doesn't. If you want to have the porcine gelatine free vaccine, talk to your nurse or GP.

## **What if I am ill on the day of the appointment?**

If you have a minor illness without a fever, such as a cold, you should still have the immunisations. If you are ill with a fever, put the immunisations off until you have recovered. This is to avoid the fever being associated with the vaccines and the vaccines increasing the fever you already have. You should speak to your doctor or nurse before having the immunisation if you have:

- had a bleeding disorder, or
- had convulsions (fits) not associated with fever.

## Are there any side effects?

It is common to get some swelling, redness or tenderness where you have the injection. Sometimes a small painless lump develops, but this usually disappears in a few weeks. More serious effects are rare but include fever, headache, dizziness, feeling sick and swollen glands.

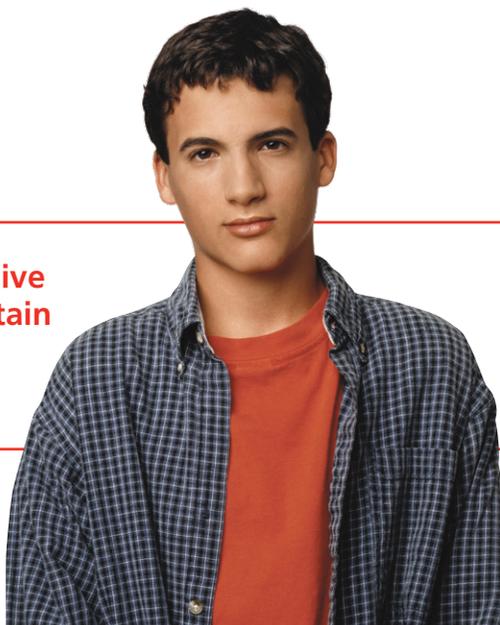
You may experience side effects from the MMR vaccine for up to six weeks after the immunisation. The symptoms are similar to those caused by the diseases, but much milder. Speak to your school nurse or doctor if you are at all concerned.

If you feel unwell after the immunisation, take paracetamol or ibuprofen. Read the instructions on the bottle or packet carefully and take the correct dose for your age. If necessary, take a second dose four to six hours later. If your temperature is still high after the second dose, speak to your GP or call the free NHS helpline 111.

It is not generally recommended that these medicines are routinely given before or after vaccination in anticipation of a fever.

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**Remember, never give medicines that contain aspirin to children under 16.**



# Knowing about meningitis and septicaemia

Meningitis is an infection of the brain. The same germ that causes meningitis can cause septicaemia (blood poisoning). Meningitis and septicaemia are both very serious – they can cause permanent disability and death and the signs can come on quickly – so you must get treatment straight away.

MenACWY vaccine does not protect against all the other bacteria and viruses that cause meningitis and septicaemia, so you still need to know the signs and symptoms.

## **What are the signs and symptoms?**

Many of the early signs – diarrhoea, vomiting, fever, aches, general tiredness and headaches – are also signs of less serious illnesses like colds and flu.

Someone with meningitis and septicaemia will usually become seriously ill in a matter of hours. This is why it is important to keep checking on someone who is ill so you spot if they are getting rapidly worse. It's also important to look for cold hands and feet.

Symptoms such as a rash that doesn't fade (do the glass test shown on page 17), being confused or delirious, or too sleepy to wake occur later and are very serious – seek help immediately.

## **For meningitis, the most important signs to look out for are:**

**fever**

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**a very bad headache (this alone is not a reason to get medical help)**

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**vomiting**

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**stiff neck**

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**dislike of bright lights**

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**rash**

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**confusion, delirium**

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**severe sleepiness, losing consciousness**

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**seizures**

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## **For septicaemia, the most important signs to look out for are:**

**fever and shivering**

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**severe pains and aches in limbs and joints**

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**vomiting**

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**very cold hands and feet**

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**pale or mottled skin**

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**rapid breathing**

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**diarrhoea and stomach cramps**

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**red or purple 'bruised' or blotchy rash on skin\* that do not fade under pressure – do the glass test shown on the next page**

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**difficulty walking or standing**

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**severe sleepiness, losing consciousness**

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\*On dark skin, check inside the eyelids or roof of the mouth where the spots may be more visible.

## **What should I do?**

Not all of these symptoms will develop and they can appear in any order and be mixed between the two illnesses. Meningococcal disease can be hard to identify at first because it can be like a bad case of flu. However, anyone affected with meningococcal disease will usually become seriously ill within a few hours. You should contact your GP (family doctor) or NHS 111 for advice if you have any concerns about your own or a friend's health. If you become worried about yourself or a friend, particularly if symptoms are getting worse, seek medical help urgently at the closest A&E Department or by dialling 999. Early treatment can be life-saving.

# Where can I get more information?

For general information about teenage vaccinations, visit the website at

**[www.nhs.uk/vaccinations](http://www.nhs.uk/vaccinations)**

For non-urgent advice call the free

**NHS helpline 111**

## For information on meningitis

The following charities provide information, advice and support:

### Meningitis Research Foundation

Free helpline 080 8800 3344

(9am to 10pm weekdays, 10am to 8pm weekends and holidays)

**[www.meningitis.org](http://www.meningitis.org)**

### Meningitis Now

24 hour helpline

0808 80 10 388

**[www.meningitisnow.org](http://www.meningitisnow.org)**

## For information on cervical cancer

Visit [www.nhs.uk/vaccinations](http://www.nhs.uk/vaccinations) where you can download a question-and-answer sheet that gives more detailed information on the topics covered in this leaflet. For more information about cervical screening visit [www.cancerscreening.nhs.uk](http://www.cancerscreening.nhs.uk)

## For more information on measles, mumps and rubella

**[www.nhs.uk/conditions/vaccinations/pages/mmr-vaccine-when-needed.aspx](http://www.nhs.uk/conditions/vaccinations/pages/mmr-vaccine-when-needed.aspx)**

You can also see **[www.gov.uk/government/publications/think-measles-patient-leaflet-for-young-people](http://www.gov.uk/government/publications/think-measles-patient-leaflet-for-young-people)** for more information on the MMR vaccine.

## The 'glass test'

Press the side of a glass firmly against the rash so you can see if it fades under pressure\*.

If it doesn't fade, get medical help immediately. If you are feeling very ill, get help anyway, even if the rash fades or doesn't appear at all.



\*On dark skin, check inside the eyelids or roof of the mouth where the spots may be more visible.

# Routine childhood immunisation programme

Most vaccines are given as an injection in the thigh or upper arm. Rotavirus vaccine is given as drops to be swallowed and influenza vaccine as a nasal spray.

When	Diseases protected against	Vaccine given
<b>Eight weeks old</b>	Diphtheria, tetanus, pertussis (whooping cough), polio, <i>Haemophilus influenzae</i> type b (Hib) and hepatitis B	DTaP/IPV/Hib/HepB
	Pneumococcal (13 serotypes)	Pneumococcal conjugate vaccination (PCV)
	Meningococcal group B (MenB)	MenB
	Rotavirus gastroenteritis	Rotavirus
<b>Twelve weeks old</b>	Diphtheria, tetanus, pertussis, polio, Hib and hepatitis B	DTaP/IPV/HibHepB
	Rotavirus	Rotavirus
<b>Sixteen weeks old</b>	Diphtheria, tetanus, pertussis, polio, Hib and hepatitis B	DTaP/IPV/Hib/HepB
	Pneumococcal (13 serotypes)	PCV
	MenB	MenB
<b>One year old</b> on or after the child's first birthday	Hib and MenC	Hib/MenC
	Pneumococcal	PCV
	Measles, mumps and rubella (German measles)	MMR <sup>1</sup>
	MenB	MenB booster
<b>Eligible paediatric age groups<sup>2</sup></b>	Influenza (each year from September)	Live influenza vaccine <sup>1</sup>
<b>Three years and sixteen weeks old or soon after</b>	Diphtheria, tetanus, pertussis and polio	DTaP/IPV
	Measles, mumps and rubella	MMR (check first dose given) <sup>1</sup>
<b>Girls aged 12 to 13 years</b>	Cervical cancer caused by human papillomavirus (HPV) types 16 and 18 (and genital warts caused by types 6 and 11)	HPV (two doses 6-24 months apart)
<b>Fourteen years old</b> (school year 9)	Tetanus, diphtheria and polio	Td/IPV (check MMR status)
	Meningococcal groups A, C, W and Y disease	MenACWY

<sup>1</sup> Contains porcine gelatine.

<sup>2</sup> See Green book chapter 19 or visit [www.gov.uk/government/publications/influenza-the-green-book-chapter-19](http://www.gov.uk/government/publications/influenza-the-green-book-chapter-19) or [www.nhs.uk/conditions/vaccinations/child-flu-vaccine](http://www.nhs.uk/conditions/vaccinations/child-flu-vaccine)

Please talk to your GP or practice nurse for advice.

# from September 2018

## Additional vaccines for individuals with underlying medical conditions

Medical condition	Diseases protected against	Vaccines required
Asplenia or splenic dysfunction (including sickle cell and coeliac disease)	Meningococcal groups A, B, C, W and Y Pneumococcal <i>Haemophilus influenzae</i> type b (Hib) Influenza	Hib/MenC MenACWY MenB PCV13 (up to two years of age) PPV (from two years of age) Annual flu vaccine
Cochlear implants	Pneumococcal	PCV13 (up to two years of age) PPV (from two years of age)
Chronic respiratory and heart conditions (such as severe asthma, chronic pulmonary disease, and heart failure)	Pneumococcal Influenza	PCV13 (up to two years of age) PPV (from two years of age) Annual flu vaccine
Chronic neurological conditions (such as Parkinson's or motor neurone disease, or learning disability)	Pneumococcal Influenza	PCV13 (up to two years of age) PPV (from two years of age) Annual flu vaccine
Diabetes	Pneumococcal Influenza	PCV13 (up to two years of age) PPV (from two years of age) Annual flu vaccine
Chronic kidney disease (CKD) (including haemodialysis)	Pneumococcal (stage 3, 4 and 5 CKD) Influenza (stage 3, 4 and 5 CKD) Hepatitis B (stage 4 and 5 CKD)	PCV13 (up to two years of age) PPV (from two years of age) Annual flu vaccine Hepatitis B
Chronic liver conditions	Pneumococcal Influenza Hepatitis A Hepatitis B	PCV13 (up to two years of age) PPV (from two years of age) Annual flu vaccine Hepatitis A Hepatitis B
Haemophilia	Hepatitis A Hepatitis B	Hepatitis A Hepatitis B
Immunosuppression due to disease or treatment <sup>2</sup>	Pneumococcal Influenza	PCV13 (up to two years of age) <sup>1</sup> PPV (from two years of age) Annual flu vaccine
Complement disorders (including those receiving complement inhibitor therapy)	Meningococcal groups A, B, C, W and Y Pneumococcal <i>Haemophilus influenzae</i> type b (Hib) Influenza	Hib/MenC MenACWY MenB PCV13 (to any age) PPV (from two years of age) Annual flu vaccine

<sup>1</sup> To any age with severe immunosuppression

<sup>2</sup> Consider annual influenza vaccination for household members and those who care for people with these conditions

## Selective immunisation programmes

Target group	Age and schedule	Disease	Vaccines required
Babies born to hepatitis B infected mothers	At birth, four weeks and 12 months old <sup>1,2</sup>	Hepatitis B	Hepatitis B (Engerix B/ HBvaxPRO)
Infants in areas of the country with TB incidence $\geq 40/100,000$	At birth	Tuberculosis	BCG
Infants with a parent or grandparent born in a high incidence country <sup>3</sup>	At birth	Tuberculosis	BCG
Pregnant women	During flu season At any stage of pregnancy	Influenza	Inactivated flu vaccine
Pregnant women	From 20 weeks gestation <sup>4</sup>	Pertussis	dTaP/IPV (Boostrix-IPV or Repevax)

1 Take blood for HBsAg at 12 months to exclude infection

2 In addition hexavalent vaccine (Infanrix hexa) is given at 8, 12 and 16 weeks

3 Where the annual incidence of TB is  $\geq 40/100,000$  – see <https://www.gov.uk/government/publications/tuberculosis-tb-by-country-rates-per-100000-people>

4 Can be given from 16 weeks but usually offered after the anomaly scan



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2902598B 100K MAR 2019 (APS)

First published July 2013

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Tel: 0300 123 1002 Minicom: 0300 123 1003 (8am to 6pm, Monday to Friday)

[www.nhs.uk/vaccinations](http://www.nhs.uk/vaccinations)