



Public Health
England

Protecting and improving the nation's health

Occupational pertussis vaccination of healthcare workers

Information for NHS occupational health
departments and healthcare
professionals

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. We do this through world-leading science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. We are an executive agency of the Department of Health and Social Care, and a distinct delivery organisation with operational autonomy. We provide government, local government, the NHS, Parliament, industry and the public with evidence-based professional, scientific and delivery expertise and support.

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Background

Pertussis

Pertussis (whooping cough) is an acute bacterial respiratory infection. Initial symptoms resemble a common cold which can progress to include spasmodic coughing, choking spells, and vomiting after coughing.

The risk of severe complications is highest in very young babies; nearly 90% of the deaths from pertussis in the last 10 years have been in infants aged 3 months or less who cannot be fully protected by immunisation.

In adults, the characteristic 'whoop' noise can be absent on coughing, but it is usually an unpleasant illness that can be difficult to diagnose; sometimes the only symptom is a cough which can be severe and may persist for months.

The bacteria are present in the back of the throat and can be spread by coughing and sneezing. An infected person can pass the infection to other people for 21 days from the onset of their symptoms if not treated with appropriate antibiotics.

Pertussis and healthcare workers

Healthcare workers (HCWs) can be an important source of infection to vulnerable infants. In recent years, the number of reported cases and incidents linked to healthcare settings in England has increased. In addition to putting vulnerable infants at risk of disease, such incidents have been disruptive and resource-intensive requiring staff exclusion, extensive contact-tracing, antibiotic chemoprophylaxis and vaccination in line with [PHE guidelines \(https://www.gov.uk/government/publications/pertussis-guidelines-for-public-health-management-in-a-healthcare-setting\)](https://www.gov.uk/government/publications/pertussis-guidelines-for-public-health-management-in-a-healthcare-setting).

Benefits of vaccinating healthcare workers

Vaccination of HCWs with pertussis vaccine can help prevent nosocomial transmission to infants. Therefore, in 2016, the [Joint Committee on Vaccination and Immunisation \(JCVI\)](#) advised that HCWs with direct contact with vulnerable patients (pregnant women and/or infants) are priority groups for immunisation. However, due to a global shortage of pertussis vaccine, it has not been possible to implement the JCVI advice to date. Supplies of vaccine are now improving and from July 2019 pertussis vaccine will become available to order by NHS occupational health departments for recommended staff groups.

Recommendations

Recommended groups for vaccination

JCVI has advised that health professionals who have not received a pertussis containing vaccine in the last 5 years and have regular contact with pregnant women and/or young infants¹ are prioritised for occupational vaccination. Given the variability in intensity and frequency of contact with pregnant women and /or infants and the current limited availability of vaccine, these HCWs are categorised into three groups who will be offered vaccine in order of priority.

Priority group 1 – HCWs with regular and close clinical contact with severely ill young infants¹ and women in the last month of pregnancy

This includes clinical staff working with women in the last month of pregnancy (e.g. in midwifery, obstetrics and maternity settings) and neonatal and paediatric intensive care staff who are likely to have close and/or prolonged clinical contact with severely ill young infants¹.

Priority group 2 – HCWs with regular clinical contact with young unimmunised infants in hospital or community settings

This includes general paediatric, paediatric cardiology, paediatric surgery and health visitor staff.

Priority group 3 – HCWs with intermitted clinical contact with young unimmunised infants in the community

This includes HCWs in general practice.

When healthcare workers should be vaccinated

All HCWs in 'Priority Group 1' are recommended to be offered the vaccine from July 2019.

¹ Young infants are considered those under 3 months of age

HCWs in this group who are pregnant should be vaccinated as recommended under the **maternal pertussis programme** (ideally between 20- and 32-weeks, although vaccine can be given from as early as 16 weeks).

Vaccine demand will be closely monitored and extension of vaccine to priority groups two and three will occur once stocks allow. Eligible HCWs should be given a single booster dose. There are currently no recommendations for additional booster doses.

The vaccine

The recommended vaccines are the acellular pertussis containing vaccines Repevax and Boostrix-IPV. These are combination vaccines that, in addition to pertussis antigens, contain diphtheria toxoid, tetanus toxoid, and inactivated poliovirus.

- Repevax diphtheria/tetanus/5-component acellular pertussis/ inactivated polio vaccine (dTaP/IPV) – manufactured by Sanofi Pasteur. Occupational Health departments should contact 0800 854 430 (option 1) or gb-vaccinecustomerservices@sanofi.com to order vaccines
- Boostrix-IPV, diphtheria/tetanus/3-component acellular pertussis/inactivated polio vaccine (dTaP/IPV) – manufactured by GlaxoSmithKline. Occupational Health departments should contact AAH Pharmaceuticals on 0344 561 8899 (option 1) to order vaccines

All pertussis-containing vaccines are supplied as single doses of 0.5 ml. They are inactivated so do not contain live organisms and cannot cause the diseases which they protect against.

Vaccines should be stored in the original packaging at +2°C to +8°C and protected from light.

Contraindications

There are very few individuals who cannot receive pertussis-containing vaccines. When there is doubt, appropriate advice should be sought from their consultant (if applicable), a local Screening and Immunisation team, or a consultant in Health Protection rather than withhold vaccine.

The vaccines should not be given to those who have had:

- a confirmed anaphylactic reaction to a previous dose of a diphtheria, tetanus, polio or pertussis containing vaccine, or
- a confirmed anaphylactic reaction to neomycin, streptomycin or polymyxin B (which may be present in the vaccine in trace amounts)

Precautions

Minor illnesses without fever or systemic upset are not valid reasons to postpone immunisation. If an individual is acutely unwell, immunisation should be postponed until they have fully recovered.

Pertussis-containing vaccines are recommended for all pregnant women from 16 weeks gestation and can be given to those who are breastfeeding. Pertussis vaccines can also be given to those with immunosuppression and HIV infection, but they may not make a full antibody response and may require re-immunisation on specialist advice.

Incidents and outbreaks in healthcare settings

Guidelines for the Public Health Management of Pertussis in Healthcare Settings still apply and are available here:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/564657/Guidelines_for_the_Public_Health_Management_of_Pertussis_in_Healthcare_Settings_2016.pdf