

Vaccination for healthcare workers

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Healthcare workers may be exposed to, and transmit, vaccine-preventable diseases such as influenza, measles, rubella and pertussis. Maintaining immunity in the healthcare worker population helps prevent transmission of vaccine-preventable diseases to and from healthcare workers and patients.

The likelihood of contact with patients and/or blood or body substances determines vaccination recommendations. Healthcare workers should receive the vaccines they require preferably before or at minimum within the first few weeks of employment, with the exception of influenza vaccine, which should be administered annually between March and May. Work activities, rather than job title, should be considered on an individual basis to ensure an appropriate level of protection is afforded to each healthcare worker.

Medical facilities are encouraged to formulate a comprehensive vaccination policy for all healthcare workers. Each worker should be individually assessed for specific vaccines, taking possible contraindications into account.

Work practices should include the use of standard and additional precautions to minimise exposure to blood and body fluids. If exposure does occur, guidelines for post exposure prophylaxis should be followed. Ensure that post exposure guidelines are easily accessible 24 hours a day.

Vaccination program

Database

Health services should have a register that:

- contains details of staff vaccine preventable disease history, vaccination, antibody and test (for example, mantoux status) results, record of vaccines consented/refused or non-response to vaccination, batch number and brand name of vaccine
- is secure and accessible by authorised personnel when needed (24 hours a day/seven days a week)

- is updated when new events (vaccination, test, disease) occur
- is maintained by a designated staff member.

Funding

The health service provides screening, testing and database maintenance.

The Department of Health provides free influenza vaccine for public hospital healthcare workers. Influenza vaccine is ordered using the Government funded vaccine order form at www.health.vic.gov.au/immunisation/vaccine-order-forms.htm.

Informed consent

Informed consent, preferably in writing, should be obtained before screening and vaccination. The provision of information about the relevant vaccine-preventable diseases should be provided as part of the process of informed consent. If recommended vaccines are declined, obtain signed documentation using a declination form. This may be requested by the employer to meet their Occupational Health and Safety requirements. Employers should take all reasonable steps to encourage non-immune workers to be vaccinated.

Healthcare worker personal immunisation record

Each healthcare worker should be given a personal immunisation record that documents vaccinations given and test results. These records, along with other program resources, are available from the Health Department's immunisation program website at www.health.vic.gov.au/immunisation/ or telephone 1300 882 008.

Risk categorisation

The following categorisation of healthcare workers may be used to guide vaccine protocols.

Category A – Direct contact with blood or body substances

This includes all persons who have physical contact with, or potential exposure to blood or body substances. Examples include dentists, medical practitioners, nurses, allied health practitioners, healthcare students, emergency personnel (fire, ambulance and volunteer first aid workers), biomedical and engineering staff, mortuary technicians, central sterile supply staff, and staff responsible for cleaning, decontamination and disposal of contaminated materials.

Category B – Indirect contact with blood and body substances

This includes workers in patient areas who rarely have direct contact with blood or body substances. These employees may be exposed to infections spread by droplets, such as measles and rubella, but are unlikely to be at risk from blood borne diseases. Examples include catering staff and ward clerks.

Category C – Minimal patient contact

In many healthcare establishments, clerical staff, gardening staff and other occupational groups have no greater exposure to infectious diseases than the general public. These employees do not need to be included in vaccination programs or other programs aimed at protecting category A and B staff.

Laboratory staff

Laboratories pose special risks because of the equipment used (such as centrifuges) and the possibility of exposure to high concentrations of micro-organisms generated by culture procedures. An additional risk to laboratory staff occurs in handling human blood and tissues.

Strategies for controlling infectious hazards in laboratories to create a safe working environment are covered in laboratory manuals and in AS/NZS2243.3:2002 Safety in laboratories – Microbiological aspects and containment facilities. An example of a detailed protocol is the Code of practice in clinical laboratories, Health Commission of New South Wales.

Vaccine preventable diseases

All adults should be up to date with routinely recommended vaccines such as diphtheria-tetanus containing vaccines, poliomyelitis vaccine and measles-mumps-rubella vaccines.

Pertussis

- A booster dose (given as dTpa vaccine) is recommended for healthcare workers particularly in paediatric settings, maternity and neonatal settings. A booster dose of dTpa is recommended if 10 years have elapsed since a previous dose.

Measles/mumps/rubella (MMR)

- Document at least two doses of MMR vaccine for all non-immune staff born during or since 1966. Serological evidence of immunity to measles is also acceptable. Those born prior to 1966 are considered immune.
- If in doubt, offer two doses of MMR vaccine a minimum of one month apart.

Varicella (chickenpox)

- Seek and document a history of chickenpox from all healthcare workers. A history of chickenpox is strongly predictive of prior infection (>90 per cent). Consider serological screening of people with no definite prior history of chickenpox (approximately 50 per cent of this group will be susceptible). Document results of testing.
- All non-immune Category A and B staff (see above for definition) should be vaccinated with varicella vaccine. Two doses of vaccine at least one month apart are required for adults.
- A small percentage of people vaccinated (<5 per cent) will develop a rash after the vaccine. These people, and only these, should be reassigned to duties that require no patient contact or placed on sick leave for the duration of the rash.

Hepatitis B

- Document a course of either three doses of paediatric formulation hepatitis B vaccine or 2 doses of adult formulation hepatitis B vaccine (given between 11 and 15 years of age) or three doses of adult formulation hepatitis B vaccine.
- Offer a course of three doses of vaccine to all non-immune healthcare workers; emphasise that it is essential for all staff in categories A and laboratory staff.

- Perform post-vaccination serological testing four to eight weeks after the third dose of vaccine. If adequate anti-HBs antibodies are not reached following the third dose, the possibility of HBsAg carriage should be investigated. Those who are HBsAg negative and do not respond should be offered further doses of hepatitis B vaccine. Refer to the current edition of *The Australian immunisation handbook*. Persistent non-responders should be informed about the need for HBsIg within 72 hours of parenteral exposure to hepatitis B.
- Booster doses of hepatitis B vaccine are no longer recommended for people who have an adequate antibody response to the primary course, as there is good evidence that a primary course provides long lasting protection.

Hepatitis A

- Staff at higher risk of occupational exposure to hepatitis A includes nursing staff and other healthcare workers in contact with patients from Indigenous communities, in paediatric wards, infectious disease wards, emergency rooms and intensive care units or who frequently attend patients in rural and remote Indigenous communities.

Influenza

- Offer annual influenza vaccine to all staff in direct care of patients.

Meningococcal disease

- Laboratory personnel who frequently handle N. meningitidis should receive a single dose of quadrivalent meningococcal conjugate vaccine which offers protection against strains A, C, W₁₃₅ and Y.
- Meningococcal B conjugate vaccine is available.

Typhoid

- Laboratory personnel who frequently handle this infectious agent on a routine basis.

Yellow fever

- Laboratory personnel who frequently handle this infectious agent on a routine basis.

Japanese encephalitis

- Laboratory personnel who frequently handle this infectious agent on a routine basis.

Poliomyelitis

- Laboratory personnel who frequently handle this infectious agent on a routine basis.

Q Fever

- Laboratory personnel who frequently handle this infectious agent on a routine basis.

Rabies

- Laboratory personnel who frequently handle this infectious agent on a routine basis.

Tuberculosis

- Refer to the Tuberculosis chapter of the current edition of *The Australian immunisation handbook*.

References

NHMRC (2010) *Australian Guidelines for the Prevention and Control of Infection in Healthcare*. Commonwealth of Australia
www.nhmrc.gov.au/_files_nhmrc/publications/attachments/cd33_infection_control_healthcare_typo_fix_4.2.4_140616.pdf.

The Australian Immunisation Handbook. 10th edition 2013 (updated January 2014)

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Available at

<www.health.vic.gov.au/immunisation/resources.htm>