Boostrix® program for parents of newborns extended to 30 June 2012

The Victorian Government Department of Health has extended funding for another 12 months of Boostrix® vaccine for parents of newborn infants. This program commenced on 15 June 2009, in response to the continuing epidemic of pertussis in Victoria (see graph below) and nationwide.

**Free Boostrix® vaccine can be given to partners of pregnant women before the baby is born.**

A single booster dose of Boostrix® is recommended for any adolescent or adult requiring protection against whooping cough. The vaccine also boosts protection against diphtheria and tetanus.

Since the commencement of the free Boostrix® vaccine, some parents may be presenting with a second pregnancy. If the parents have received Boostrix® (or Adacel) vaccine previously, they do not require a second dose for this pregnancy.

Please order the vaccine using the Boostrix vaccine for new parents order form and order the updated poster and fact sheet by accessing the form and online resource ordering at: www.health.vic.gov.au/immunisation
Diphtheria death in Brisbane

An unimmunised 22-year-old Queensland woman died earlier this year from diphtheria. She contracted the disease from a friend who had recently returned from international travel. This case highlights that this serious disease still exists and the importance of diphtheria vaccine for children, adults and travellers.

Diphtheria is an acute bacterial infection caused by toxigenic strains of Corynebacterium diphtheriae. It primarily causes severe inflammation of the tonsils, pharynx, nose and larynx. Other mucous membranes and skin can be involved. The bacteria produce toxins that cause an abnormal membrane to grow in the throat, which can lead to suffocation. Other complications include paralysis and heart failure if the toxins spread throughout the body. Around 10 per cent of people exposed to diphtheria die from the disease.

Signs and symptoms of diphtheria include:

- runny nose
- severe sore throat
- low-grade fever
- malaise
- swollen lymph nodes in the throat
- a greyish-white membrane on the throat
- breathing problems
- swallowing problems

Transmission may occur as long as virulent bacteria are present in discharges and lesions. The time is variable but is usually two weeks or less and seldom more than four weeks without antibiotics. Appropriate antibiotic therapy promptly terminates shedding. The rare chronic carrier may shed organisms for six months or more.

Infants born of immune mothers are relatively immune, but passive immunity is usually lost by six months of age. Lifelong immunity is usually, but not always, acquired after disease or inapparent infection. A primary course of toxoid vaccination provides long lasting but not lifelong immunity. Vaccinated individuals may become colonised by C. diphtheriae in the nasopharynx while still being protected from clinical disease. This means they carry the disease and can pass it on to an unvaccinated person.

The diphtheria vaccine is available in a combined vaccine with tetanus and pertussis antigens depending on the formulation. The diphtheria vaccine contains a weakened form of the bacterial toxin, called a toxoid. It works by prompting the body to produce an antitoxin – a specific antibody that neutralises diphtheria toxin. A number of doses are needed to offer good protection against diphtheria.

The diphtheria vaccine schedule

Primary course:
- two, four and six months of age
  (note that in the current pertussis epidemic we encourage the first dose to be given at six weeks of age).

Booster doses:
- four years of age, Year 10 at secondary school or age equivalent and between 50 and 59 years of age (inclusive)

Catch-up immunisations are also available free of charge to any child up to seven years of age (inclusive), Aboriginal or Torres Strait Islander people, and refugees and asylum seekers who have not been fully vaccinated against the disease.

A course of diphtheria-containing vaccine is recommended for anyone who has never been vaccinated. Three doses are given at monthly intervals and two further booster doses are given 10 years apart. The first vaccine can be given as a combination with diphtheria, tetanus and whooping cough. Following doses should be given as diphtheria and tetanus.

Photo of diphtheria courtesy of Centers for Disease Control and Prevention
The Therapeutic Goods Administration (TGA) is advising health professionals not to administer a second dose of Pneumovax23® vaccine. This is pending the outcome of a review of an increased rate of injection site reactions following administration of the second dose.

Pneumovax23® vaccine is used to prevent life-threatening bacterial infections. It has been funded in Victoria since 1998 and was added to the National Immunisation Program in 2005. It is recommended for:

- children at four to five years of age with an underlying medical risk factor
- all people aged 65 or over
- Aboriginal and Torres Strait Islander people aged 50 and over
- tobacco smokers
- people aged 10 and over who have conditions predisposing to invasive pneumococcal disease, including asplenia and chronic cardiac, pulmonary or renal disease, and diabetes.

The Australian immunisation handbook 9th edition currently recommends revaccination five years after the first dose.

Pneumovax23® vaccine is known to be associated with a high rate of local injection site reactions. There is varying evidence from published trials as to whether injection site reactions are more common following revaccination.

In March 2011, seven patients vaccinated in New South Wales were reported to have severe local site reactions including cellulitis and abscess. Since notification of this cluster, TGA has collated and analysed adverse event reports from all states and territories to determine whether this event is confined to a specific vaccine batch. The Australian Technical Advisory Group on Immunisation (ATAGI) is currently reviewing the place of Pneumovax23® in the National Immunisation Program.

This alert does not affect the use of the 7-valent pneumococcal conjugate vaccine Prevenar® given to children.

**Recommendations**

- Health practitioners are advised not to administer Pneumovax23® vaccine to patients who have previously received a dose of Pneumovax23®
- Please report all adverse events to Pneumovax23® vaccine to SAEFVIC on 1300 882 924 or at www.saefvic.org.au
- Any consumer who believes they may have suffered an adverse reaction to Pneumovax23® vaccine is advised to see their health practitioner.

For more information go to www.tga.gov.au/alerts/medicines/pneumovax.htm

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**Influenza vaccine safety surveillance 2011**

**Flu-Safe study** – Following the 2010 increase in adverse events following immunisation (AEFI) in young children after receiving CSL’s trivalent influenza vaccine [2010 formulation: Fluvax or Fluvax junior], a prospective observational study for the 2011 influenza vaccine season has been established.

In an investigator-led study, SAEFVIC at the Murdoch Childrens Research Institute (MCRI), Melbourne and NCIRS at the Children’s Hospital Westmead, Sydney are collecting adverse event data in a real-time scenario, to help detail the safety profile of the 2011 influenza vaccines. Children 5-18 years of age who are receiving this season’s influenza vaccine (regardless of brand) are invited to take part. The study is funded by CSL.

Participation is for a total of four days (including day of vaccination). During this period, participants keep a diary recording an evening temperature (more often if they have a fever), systemic observations such as headache, irritability, malaise and lethargy, and any local reactions such as erythema, induration or swelling. Each evening the participants are contacted by the study team to collect each day’s observations.

Participants are currently recruited from The Royal Children’s Hospital Melbourne Immunisation Drop-In centre, The Children’s Hospital at Westmead and three General Practice Clinics in Victoria.

The study is aiming for a total of 600 participants. To date we have had 171 children who have completed the study. Results of the study will be made available toward the end of this year.

For more information regarding this study please contact the study team on (03) 9345 5066 or saefvic@mcri.edu.au
National Immunisation Program changes

The National Immunisation Program (NIP) comprises a list of the free vaccines recommended from birth to adulthood as well as the scheduled ages the vaccines are to be administered. The following two changes are coming soon:

Scheduled age change

In the near future, the two months of age schedule point will move to six weeks of age. The infant should be six weeks old from date of birth. The scheduled vaccine doses of RotaTeq®, Infanrix hexa® and Prevenar® should all be administered at the same time at six weeks of age. The other schedule points for completion of the primary immunisation schedule at four and six months of age will be unchanged for these infants.

The rationale for the earlier schedule change to six weeks of age is to commence protection against pertussis at the earliest age for the vulnerable infant. However three doses of pertussis containing vaccine given in a timely manner provide the best level of protection to the infant. At the time of production of this newsletter, advice on the formal commencement date of the schedule change is not known. In the meantime we encourage you to commence or continue immunising the infant from six weeks of age if possible.

Prevenar 13®

Schedule change

Prevenar 13® comprises an expanded range of pneumococcal strains to broaden the protection for children against pneumococcal bacteria. The current Prevenar® vaccine will be stopped and Prevenar 13® will replace it in the immunisation schedule at two, four and six months of age.

Catch-up program

The Commonwealth Government has announced that the Prevenar 13® vaccine is to be included in a national catch-up program.

A single free supplementary dose of Prevenar 13® will be provided to children aged between 12 and 35 months who have completed their primary vaccination course with the Prevenar® vaccine.

This will ensure these children can also benefit from the improved vaccine. Prevenar 13® protects against 13 strains of pneumococcal disease, and will replace the existing pneumococcal vaccine, Prevenar® that protects against seven strains.

The catch-up program will be available for one year from 1 October 2011 to 30 September 2012.

The ongoing program for Prevenar 13® for the primary course commences from July 2011.

Invasive pneumococcal disease

Invasive pneumococcal disease (IPD) is caused by the bacteria Streptococcus pneumoniae. It is a gram-positive Streptococcus of which 90 serotypes are known to cause disease. Worldwide, approximately 23 serotypes account for the majority of infections. S. pneumoniae are commonly found in the upper respiratory tract of humans.

Transmission of bacteria is from respiratory droplets, direct oral contact or indirect contact through articles freshly soiled with respiratory discharges.

IPD commonly presents as septicemia, meningitis and pneumonia. Septicaemia and meningitis are more common in children (with the exception of Aboriginal children who present most commonly with pneumonia), while pneumonia is more frequent in adults. Other clinical presentations include septic arthritis, peritonitis, pleurisy and pericardial abscess.


All immunisation providers will be sent advice about the transition from Prevenar® to Prevenar 13®. This advice will include reducing the stock of Prevenar® prior to the automatic pre-allocation of Prevenar 13® stock to all immunisation providers.

Prevenar®

Superseded pneumococcal conjugate vaccine

Serotypes
4, 6B, 9V, 14, 18C, 19F, 23F

Prevenar 13®

Enhanced pneumococcal conjugate vaccine

Serotypes
4, 6B, 9V, 14, 18C, 19F, 23F, 1, 5, 7F, 3, 6A, 19A

A fourth dose should also be given to medically at risk children at 12 months of age.
Become a nurse immuniser mentor

• Are YOU a passionate and experienced nurse immuniser?
• Are YOU a leader in your field and capable of teaching others?
• Are YOU looking for new opportunities to further develop your practice and gain CPD points?

If this sounds like YOU, then look no further we have an opportunity you won’t want to miss!

The nurse immuniser program at La Trobe University is currently looking for nurse immunisers to become clinical practice mentors for nurse immunisers in training.

We are looking for passionate individuals to share their knowledge and experience in the field of immunisation from a workplace perspective, helping to educate, teach and lead others in best practice standards and procedures within a clinical setting.

If this sounds like something you are interested in and you would like to become an accredited mentor with the nurse immuniser program at La Trobe University, please contact the program administrator on 03 9479 5951 or email nip@latrobe.edu.au for further details.

Nurse immuniser course

A registered nurse in Victoria can undertake a course to become a nurse immuniser in Victoria. Currently the La Trobe nurse immuniser course is the only course that meets the Approval under regulation 5(3) of the Drugs, Poisons and Controlled Substances Regulations 2006. The La Trobe nurse immuniser course is seeking accreditation from the Royal College of Nursing Australia (RCNA). The RCNA has agreed to accredit a nurse immuniser course of study provided within Victoria that meets the Victorian Department of Health Approval for nurse immunisers.

To find out more about the La Trobe nurse immuniser course or to read the Approval for nurse immunisers and the Approved client groups for immunisation by accredited nurse immunisers, please go to the immunisation website at www.health.vic.gov.au/immunisation/resources/nurse-immuniser-information

Further reading

Prioritizing healthcare worker vaccinations on the basis of social network analysis. Polgreen PM, Tassier TL, Pemmaraju SV, Segre AM. Infection Control and Hospital Epidemiology 2010;31(9):893-900.


Background: Nosocomial influenza can bring devastating outcomes for patients, and outbreaks in healthcare settings can cause serious staff shortages. Influenza vaccination rates for healthcare workers (HCW) have been consistently low. Applying the social network theory helps design more effective vaccination strategies.

Methods: Human contacts of 148 HCW across 15 job categories were observed between January and December 2006 in a large healthcare facility in the USA. Contact graphs were constructed to represent the social network of the hospital and to model the spread of influenza. The observation data were used in a model to compare a targeted vaccination strategy with other vaccination strategies. Results: 6,654 contacts were recorded in 606 hours. Unit clerks, X-ray technicians, social workers, transporters, and physical and occupational therapists had the most contacts. Preferentially vaccinating healthcare workers in more connected job categories resulted in a substantially lower attack rate and fewer infections than a random vaccination strategy, accounting for all simulation parameters.
Resources updated

Several immunisation resources have required updating in response to the signal identified for the rare event of intussusception following the first dose of rotavirus vaccines.

The **Pre-immunisation checklist** and the **Common reactions to vaccines** information are two resources to assist your informed consent process prior to immunisation. These resources are available in tear-off pads of 100 sheets. The **Rotavirus immunisation** brochure has also been updated with the current advice about intussusception.

These resources are available to download in a range of translations from the immunisation web site at: www.health.vic.gov.au/immunisation

The **Pre-immunisation checklist** now asks if the baby has had intussusception previously and supplies a brief comparison of the benefit of rotavirus vaccine and the risk of intussusception following the rotavirus vaccine.

The **Common reactions to vaccines** sheet now includes a brief description of the rare event of intussusception following rotavirus vaccine and the signs of intussusception in an infant.

The **Free whooping cough vaccine for parents of newborn babies** has also been updated to reflect the extension of the free Boostrix® vaccine program for another 12 months.

All immunisation resources can be ordered on-line at: www.health.vic.gov.au/immunisation/provider-forms/order_resources_online

Contact

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