Introduction to Immunisations & Cold Chain Management in General Practice

April 2016

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Introduction to Immunisations & Cold Chain Management

This session will cover:

- The role of immunisations in General Practice
- Cold chain management: Keeping vaccines at a safe temperature
- Informed patient consent & Pre-vaccination screening
- Best ways to improve immunisation uptake in your practice
The Role of Immunisation in General Practice

Why immunise?

Immunisation is one of the most effective public health interventions

Worldwide programs prevent 2.5 million deaths each year

Australia has one of the most comprehensive funded immunisation programs in the world

As a result many vaccine-preventable diseases are extremely rare locally
The Role of Immunisation in General Practice

Why immunise?

General Practice is ideally positioned to provide prevention and health promotion care to the community.

Every encounter is an opportunity to check immunisation status.

Catch up vaccinations are important for both children and adults.
### National Immunisation Program Schedule

#### Child programs

<table>
<thead>
<tr>
<th>Age</th>
<th>Vaccine</th>
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<tbody>
<tr>
<td>6 weeks</td>
<td>Hepatitis B (hepB)</td>
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<tr>
<td>2 months</td>
<td>Hepatitis B, diphtheria, tetanus, acellular pertussis (whooping cough), Haemophilus Influenzae type b, inactivated poliomyelitis (polio) (hepB-SPDT-Hib-PN)</td>
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<tr>
<td>4 months</td>
<td>Pneumococcal conjugates (cppPCV)</td>
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<tr>
<td>6 months</td>
<td>Rotavirus</td>
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<td>12 months</td>
<td>Haemophilus influenzae type b and meningococcal C (HiB-MenC)</td>
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<td>18 months</td>
<td>Diphtheria, tetanus, pertussis (whooping cough) (DTPa)</td>
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<tr>
<td>4 years</td>
<td>Diphtheria, tetanus, acellular pertussis (whooping cough) and inactivated poliomyelitis (polio) (DTPa-PN)</td>
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<tr>
<td>18 months to 15 years</td>
<td>Measles, mumps, and rubella (MMR) (to be given only if MMRW vaccine was not given at 18 months)</td>
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</tbody>
</table>

#### School programs

- 16 years: Varicella (chickenpox)
- Human papillomavirus (HPV)
- Meningococcal A
- Meningococcal C
- Haemophilus influenzae type b and pneumococcal (polystyrene)
- Influenza (flu)
- Pneumococcal polysaccharide (cppPV)
- Pneumococcal conjugates (cppPCV)

#### At-risk groups

- Aboriginal and Torres Strait Islanders
- 6 months and over: Pneumococcal conjugates (cppPCV)
- 6 months to less than 5 years: Influenza (flu)
- 5 years and over: Pneumococcal polysaccharide (cppPV)
- 18 years and over: Pneumococcal conjugates (cppPCV)
- 6 months and over: Influenza (flu)
- 65 years and over: Pneumococcal polysaccharide (cppPV)

*Please refer to reverse for footnotes*
Cold Chain Management

Keeping vaccines at a safe temperature

What is cold chain?

Cold chain is the system of transporting and storing vaccines within the safe temperature range of $+2\,^\circ C$ to $+8\,^\circ C$. 
How Sensitive are Vaccines?

Vaccines are delicate and less effective or destroyed if they are:

- Frozen
- Allowed to get too hot
- Exposed to direct sunlight or fluorescent light
Equipment and People

- Refrigerator must have enough capacity to store your maximum need
- Reliable and regularly maintained
- Know your refrigerator
- Ensure thermometer is in Celsius: °C
- Check thermometer accuracy & replace battery at least annually
- Use a temperature monitor chart for each refrigerator
- Keep door openings to a minimum
- Do NOT store food or other goods
- All people handling vaccines need to receive training
- Have a trained designated person responsible for vaccine storage
- Have a backup person!
Vaccine Storage Tips

Do not crowd the vaccines or overfill the shelves

Have at least a 4cm gap from all fridge walls

Keep vaccines in their original boxes

Undertake a self-audit at least every 12 months

Keep vaccine stock to a minimum (1 month supply)

Avoid placing the refrigerator against an outside wall or in direct sunlight
Data Loggers

Can be used to audit the fridge
Get to know hot and cold spots
Print out a report for the week
Double check how high or low temperatures were
Check how long temperature was out of range for
Cold Chain Breach

In the event of a breach (below +2 °C or above +8 °C)
Isolate vaccines (do NOT discard)
Keep refrigerated between +2 °C and +8 °C
Contact Dept of Health for advice
Take steps to correct and prevent the problem from recurring
For private vaccines, contact manufacturer for advice
Fill out a Cold Chain Breach (CCB) form
Managing Cold Chain Problems

Power failure

- If 4hrs or less, keep fridge closed
- If over 4hrs, store vaccines in a cooler with conditioned ice packs

Continue to monitor the temperature by placing a thermometer inside a vaccine box in the cooler
How to Condition an Ice Pack

Normally needs at least 12hrs in a freezer to be thoroughly frozen

**To condition:**

- Remove ice packs from freezer
- Lay out on a single row on their side
- Leave 5cm space around each pack
- Wait until packs begin to sweat (up to 1hrs at +20 °C and less in hotter days)

Ice pack is conditioned as soon as water begins to ‘slosh about’ slightly inside the pack
Temperature Record Chart

Twice Daily Vaccine Fridge Temperature Chart

The acceptable temperature range is +2°C to +8°C - but... Strive for five! (+5°C)

Please record current, minimum, and maximum temperatures then reset the thermometer.

MONTH: ___________________ YEAR: ________________

<table>
<thead>
<tr>
<th>Date</th>
<th>Morning Temperature</th>
<th>Comments/Initials</th>
<th>Afternoon Temperature</th>
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Abbreviations:
- VD: Vaccine delivered
- VD: Vaccine destroyed
- TF: Thermometer failed
- TR: Thermometer recalibrated
- TH: Temperature recorded
- CH: Chest X-ray
- H: Flu vaccine
- H: Hepatitis vaccine
- M: Meningococcal vaccine
- W: Whooping cough vaccine
- F: Flu vaccine
- P: Pneumococcal vaccine
- R: Respiratory syncytial virus vaccine
- E: Encephalitis vaccine
- D: Diphtheria vaccine
- R: Tetanus vaccine
- H: Hepatitis A vaccine
- B: BCG vaccine
- S: Salk vaccine
- V: Varicella vaccine
- R: Rotavirus vaccine
- M: Mumps vaccine
- C: Chickenpox vaccine
- S: Tetanus vaccine
- H: Haemophilus influenzae vaccine
- P: Pneumococcal vaccine
- H: Hepatitis B vaccine
- M: Measles vaccine
- R: Rubella vaccine
- S: Staphylococcus vaccine
- H: Haemophilus influenzae type b vaccine
- M: Meningococcal vaccine
- R: Rotavirus vaccine
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Pre-Vaccination Screening

Preparing an anaphylaxis response kit

Anaphylaxis protocols, equipment and drugs necessary for management should be checked before each vaccination session
Pre-Vaccination Screening

An anaphylaxis response kit should be on hand at all times and should contain:

Adrenaline 1:1000 (minimum of three ampoules – check expiry dates)

Minimum of three 1 mL syringes and 25 mm length needles (for intramuscular [IM] injection)

Cotton wool swabs

Pen and paper to record time of administration of adrenaline

Laminated copy of adrenaline doses (back cover of Immunisation Handbook)

Pre-Vaccination Screening

Check which vaccine(s) are indicated, including any previously missed vaccine doses

Consider whether additional vaccines should be given

Check if there are any contraindications or precautions to the vaccines that are to be given

Ensure the patient is the appropriate age for the vaccines to be given

Check that the correct time interval has passed since any previous vaccine(s) or any blood products were given.
Valid Consent

Voluntary

After sufficient, appropriate and reliable information about the procedure

Including the potential risks and benefits

Including adverse events are possible, how common they are and what they should do about them

Consent should be obtained before each vaccination session

Can be verbal or written
Communicating Risks and Benefits of Vaccines

Use plain language

Encourage patients to ask for further information and provide sufficient time to make a decision

Ideally, printed information should be available to supplement verbal explanations

Detailed vaccine information can be found:

- The Immunise Australia website (www.immunise.health.gov.au)
- The National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases website (www.ncirs.edu.au)
Best Ways to Improve Immunisation Uptake in Your Practice

Good immunisation awareness: waiting room posters, fact sheets and well informed staff

Check immunisation status at every encounter

Robust Recall and Reminder system

Consistent patient notification system eg HotDoc’s SMART Recalls

Jargon-free patient information

Check provider and practice due/overdue reports

Report immunisations administered to the relevant register
Nurses’ scope of practice

RN Div 1 or Med-endorsed EN Div 2

All vaccines are Schedule 4 drugs

Vaccines must be initiated/authorised by a GP prior to administration

A GP must be readily available (at the clinic) in case of anaphylaxis

(including until the last patient’s 15min waiting time is up)

The authorising/ordering GP must make an entry in the patient file

Credentialed Nurse Immunisers

May initiate vaccines as per the National Immunisation Schedule

GP intervention is not required

Nurse must have CPR and anaphylaxis management skills up to date
Billing considerations

Bulk billing vs Private billing

MBS Items:

3 – Brief. Must include a GP consult & entry in patient file

23 - Standard (up to 20min). Must include a GP consult & file entry

10997 – Nurse Monitor/Support. Patient must have a GPMP in place. Consult must include a documented element of monitoring or support of the patient’s chronic illness and not simply “giving the jab”

Private billing without a Medicare rebate

Private fee for nurse consult ($5 - $15+)

Private fee for vaccine if not eligible for Government supply

Must use private stock if charging for vaccines
Thank you for participating!

Got a question?
Email: md@hotdoc.com.au