• This slide set provides an overview ‘What’s new’ in the 10th edition of *The Australian Immunisation Handbook*, released in March 2013.

• It assumes immunisation providers are familiar with both the 9th edition of the *Handbook* (published in 2008) and electronic updates that have been made since, as well as being generally familiar with vaccines and immunisation practice in Australia.

• The 10th edition replaces both the 9th edition and electronic updates prior to 2013.
• This presentation is divided into the sections shown on this slide.

• The major changes in the 10th edition are highlighted under each section.

• Immunisation providers should consult each section of the Handbook in for details of all changes to specific recommendations.

• [Note: A detailed set of ‘speaker’s notes’ accompanies the slide set. References to page and table numbers provided in the notes correspond to the printed/hard copy of the Handbook. Should you wish to jump directly to any specific topic, hyperlinks to each section of the presentation are available in the PDF version without ‘speaker’s notes’ (i.e. slides only version). Likewise, external hyperlinks are provided to relevant additional resources throughout the presentation.]

• [Note: Immunisation providers should also consult their state or territory health department for information relevant to their jurisdiction, and the ‘Immunise Australia’ website of the Australian Government for other materials relevant to the National Immunisation Program (NIP).]
Introduction

- *The Australian Immunisation Handbook* is a clinical practice guideline for health professionals regarding the safe and effective use of vaccines in Australia.

- The 10th edition *Handbook* was:
  - Commissioned and published by the Australian Government Department of Health and Ageing
  - Produced by ATAGI
  - Prepared by NCIRS staff (with ATAGI)
  - Endorsed by the NHMRC

- The *Handbook* is intended as a resource for healthcare professionals, providing clinical practice guidelines on the use of vaccines in Australia.

- Substantial efforts have gone into the development of the 10th edition over the past 3 years.

- NCIRS was commissioned by the Australian Government Department of Health and Ageing to assist the Australian Technical Advisory Group on Immunisation (ATAGI) to develop the *Handbook*.

- [Note: The Handbook development process included:
  - Literature searches on focused clinical questions
  - Critical analysis of available evidence
  - Writing by NCIRS technical writers and ATAGI members
  - An iterative process of expert review (of individual chapters, sections and the whole Handbook)
  - Public consultation on a draft version in 2012
  - Further revisions and consultation
  - NHMRC review and endorsement.]
The 10th edition Handbook covers all vaccines registered for use in Australia as of June 2012, including:
- NIP funded
- Non-NIP funded

Two versions of the NIP schedule card are included
- Current to 30 June 2013
- New NIP schedule from July 2013

- The 10th edition *Handbook* covers all vaccines registered for use in Australia as of June 2012. This includes vaccines funded through differing mechanisms, such as:
  - the National Immunisation Program (NIP), and
  - other mechanisms.

- A summary of vaccines funded under the NIP is available on the new NIP schedule cards, supplied with the *Handbook*.

- Changes to the NIP schedule will occur in mid-2013 when MMRV combination vaccine is introduced; therefore, two versions of the schedule card will be made available.
  - The first card is applicable from now to 30 June.
  - The second card is to be used from 1 July 2013.

- The recommendations covered by the 10th edition *Handbook* come into effect from the time of its publication in March 2013.

- [Note: Each state and territory may also produce a schedule, which specifies the vaccines used in the NIP within their respective jurisdictions].

An updated slide set is available at [www.ncirs.edu.au](http://www.ncirs.edu.au)
• Similar to the 9th edition, the 10th edition Handbook is available in multiple formats: as printed copies and online via the Department of Health and Ageing website (www.immunise.health.gov.au).

• The presentation and layout of the 10th edition Handbook differs from the previous edition; the layout has changed from three to five parts.
1.1 Background
1.2 Development of the 10th edition of the Handbook
1.3 How to use the 10th edition Handbook
1.4 What’s new
1.5 Fundamentals of immunisation
   - Overview of active and passive immunisation
   - Vaccine efficacy, vaccine effectiveness and vaccine failures
   - Vaccine safety and adverse events following immunisation

- Part 1 is new in the 10th edition.
- It includes an overview of the general principles of immunisation, including:
  - both active and passive immunisation
  - vaccine efficacy and vaccine safety (pg. 18)
- As before, a detailed list of What’s new in this edition has been provided (pg. 7). We encourage you to consult this list in addition to this slide set.
Part 2 of the Handbook is divided into three chapters, which describe the processes and procedures around a vaccination encounter.

2.1 Pre-vaccination
2.2 Administration of vaccines
2.3 Post-vaccination

An updated slide set is available at www.ncirs.edu.au
The first chapter in Part 2 covers pre-vaccination requirements (pg. 24).

Detailed information about optimal vaccine storage has been removed from this chapter.

Readers are referred to ‘National vaccine storage guidelines – Strive for 5’.
  - [Note: The ‘Strive for 5’ guideline is currently being updated.]

The table (Table 2.1.5, pg. 46) containing information on the minimum acceptable age for the 1st vaccine doses in infants now provides advice on action required in the case of inadvertent early vaccine administration.
Pre-vaccination: Catch-up

- Revised screening tool and catch-up worksheet
- Revisions to catch-up tables:
  - Now refer to children aged <10 years and persons aged ≥10 years
  - Additional vaccines
  - Pneumococcal recommendations clearer and provided for children up to 5 years of age

Planning catch-up vaccines for adults?

Consider ...  
Health
Age
Lifestyle
Occupation

- Catch-up recommendations and tables have been revised.
- An improved version of the screening tool (Table 2.1.1, pg. 30) and catch-up vaccination worksheet (Figure 2.1.1, pg. 45) have been provided.
  - [Note: These can be easily reprinted or copied for use in immunisation practices.]
- The catch-up tables (Tables 2.1.8 through to 2.1.12, from pg. 54) now refer to children aged up to 10 years rather than 8 years, and adolescents and adults from age 10 years.
- Additional vaccines have been included in these tables, such as:
  - the four-in-one vaccine against measles, mumps, rubella and varicella (MMRV),
  - a combined *Haemophilus influenzae* type b and meningococcal C conjugate vaccine (Hib-MenCCV), and
  - both 13-valent and 10-valent pneumococcal conjugate vaccines (13vPCV and 10vPCV).
- Additional vaccines added for adolescents and adults also include:
  - monovalent meningococcal C conjugate vaccines (MenCCV),
  - 23-valent pneumococcal polysaccharide vaccine (23vPPV), and
  - zoster vaccine.

- As catch-up vaccination for adults can be less straightforward than for children and adolescents, a useful principle to consider when planning catch-up vaccines is the assessment of vaccines needed depending on risk factors of Health, Age, Lifestyle and Occupation.
  - [Note: Some examples of how this is used in practice are also described in the Handbook (pg. 61).]
The second chapter of Part 2 includes a detailed discussion on the administration of vaccines (pg. 65).

Advice is now given on what to do if a vaccine is inadvertently administered via the incorrect route.
- [e.g. the recommendation to revaccinate using inactivated rabies or hepatitis B vaccines, if the initial vaccine was given subcutaneously instead of intramuscularly]

Information is now provided on vaccinating people with medical conditions that limit choice of vaccine site.
- [e.g. persons with congenital limb malformations, spica casts or lymphoedema]

Advice is given on the order in which to give sequential vaccines, and on simultaneous injections by two providers, when giving multiple vaccines in the same visit.

Information is provided on the use of multi-dose vials, which may, for example, be used in an influenza pandemic.
Post-vaccination

- Advice on adverse events following immunisation (AEFI)
  - enhanced and expanded
  - more information on management
  - new advice on adrenaline autoinjectors
  - notification

- Details for notifying and obtaining vaccine history from the HPV register

- Description of other state-based registers

- The third chapter in Part 2 provides information on post-vaccination considerations (pg. 85).

- The sections on adverse events following immunisation (abbreviated to AEFI throughout this presentation) have been enhanced and expanded.

- The term AEFI is defined, and there is more detail on types of common and uncommon adverse events. Information on management of AEFI has been expanded.

- This includes advice on the use of adrenaline autoinjectors (pg. 90).

- Updated information for the notification of AEFI within each jurisdiction or directly to the TGA is also provided (Table 2.3.3, pg. 96).

- Contact details have been added for notifying and obtaining HPV vaccination history.
  - www.hpvregister.org.au

- The section on documentation of vaccination also discusses other registers.
In Part 3 of the Handbook, there are three chapters, each dedicated to vaccinations for different special risk groups.

3.1 Vaccination for Aboriginal and Torres Strait Islander people
3.2 Vaccination for international travel
3.3 Groups with special vaccination requirements
Vaccination for Aboriginal and Torres Strait Islander people

• New information and recommendations on:
  – Rationale for influenza vaccination
    • especially ≥6 months – <5 years of age
  – Assessing hepatitis B risk and vaccination status, and vaccination if non-immune
  – Need to assess rubella immunity, especially in women of child-bearing age
  – Booster dose of 13vPCV at 12–18 months of age
  – New table summarising additional vaccines

• The first chapter of Part 3 (pg. 104) summarises the information specific to vaccination of Aboriginal and Torres Strait Islander people.

• Information is now provided on the burden of influenza in Indigenous children and the rationale for vaccination, especially vaccination of children from 6 months to less than 5 years of age.

• A section on hepatitis B has been added. It is now recommended that Indigenous people have their risks and vaccination status for hepatitis B reviewed, and, where relevant, be offered testing for previous hepatitis B infection, and vaccination if non-immune.

• Information on the importance of ensuring immunity to rubella, especially among rural and remote Indigenous women of child-bearing age, has been added.

• For children living in certain jurisdictions, a 4th dose of 13vPCV was listed on the NIP schedule from October 2012.
  • [Note: See Part 4: Pneumococcal disease.]

• A new table (Table 3.1.1, pg. 105) has been added summarising the vaccine recommendations specifically for Aboriginal and Torres Strait Islander people; i.e. vaccines recommended in addition to those for all Australians.
Vaccination for international travel

• Updated and expanded
• Divided into:
  – Routinely recommended vaccines
  – Selected vaccines based on travel itinerary, activities and risk of exposure
  • e.g. tetanus-containing vaccine boosters:
    • 5-yearly for high-risk travel
    • 10-yearly for others

• The second chapter of Part 3 reviews vaccination of international travellers as a special risk group (pg. 113).

• This section has been updated and expanded. Vaccines are divided into two groups:
  1) routinely recommended vaccines that are relevant to all travellers, irrespective of destination or type of travel, and
  2) selected vaccines that are recommended based on travel itinerary, activities and likely risk of exposure.

• It is now recommended that for optimal protection against tetanus, travellers at increased risk of tetanus-prone wounds, such as those visiting remote areas or doing adventurous activities, be offered tetanus vaccine if 5 years (rather than 10 years) have elapsed since their last vaccine dose.
• The third chapter of Part 3 looks at many other groups with special vaccination requirements (pg. 130).

• Updated and expanded information has been provided for vaccination of persons who have had a prior AEFI (Section 3.3.1, pg. 130).

  • For example, recommendations are made for providing influenza vaccine to persons with egg allergies.

    A number of studies indicate that most persons with egg allergy, including anaphylaxis, can be safely vaccinated [with influenza vaccines that contain less than 1 μg of ovalbumin per dose].

    • Given that there is still a small risk of anaphylaxis, it is essential that persons with a history of a severe allergic reaction to eggs are vaccinated in facilities that have staff who are able to recognise and treat anaphylaxis.

• Measles-mumps-rubella (MMR) vaccines contain only a negligible quantity of egg ovalbumin and are not contraindicated for persons with egg allergy.
• The section on vaccination of women who are planning pregnancy, pregnant or breastfeeding, and preterm infants has also been updated and expanded (Section 3.3.2, pg. 133).

• Influenza vaccination is now available on the NIP, and recommended, for all pregnant women at any stage of pregnancy, particularly those who will be in the second or third trimester during the influenza season.

• Advice is now provided regarding the option of giving the pertussis vaccine (dTpa) during the 3rd trimester of pregnancy as an acceptable alternative to post-partum or pre-conception vaccination.
  • [Note: Vaccination during pregnancy has the benefit of allowing antibodies generated in the mother to cross the placenta to protect the baby].

• Tables within the chapter (Table 3.31, pg. 135) have also been updated to include new vaccines.
Groups with special vaccination requirements ... cont.

- New recommendations for immunocompromised persons
  - 2 doses of influenza vaccine, irrespective of age, during first year of vaccination
  - New vaccines for solid organ (SOT) and haematopoietic stem cell (HSCT) transplant recipients
  - More info on vaccines for children and adults with HIV

- The section on vaccination of immunocompromised persons, including transplant recipients and oncology patients, has been updated and expanded.

- All immunocompromised persons, irrespective of age, who receive influenza vaccine for the first time are now recommended to receive 2 vaccine doses, at least 4 weeks apart, and 1 dose annually thereafter.

- The tables of recommendations for vaccination of transplant recipients have been updated to include new vaccines (*Table 3.3.2, pg. 151 and Table 3.3.3, pg. 156*).

- Information on recommendations for persons infected with human immunodeficiency virus (HIV) now discusses both children and adults, and includes rotavirus, HPV, varicella and zoster vaccines.

- The section on vaccination of persons with functional and anatomical asplenia has been updated to include new vaccines. A new table summarising vaccine recommendations in this group is included (*Table 3.3.5, pg. 163*).
Groups with special vaccination requirements ... cont.

- Expanded and updated sections on vaccinations for:
  - Persons with autoimmune diseases
    - e.g. those treated with immunosuppressive agents, those with Guillain-Barré syndrome or other chronic conditions
  - Migrants to Australia
  - Occupational groups
    - New groups and vaccines

- The section on vaccination of persons with autoimmune diseases has been expanded to include those undergoing treatment with immunosuppressive agents, and those with Guillain-Barré syndrome and other chronic conditions (hypopituitarism and metabolic diseases).

- The section on vaccination of migrants to Australia has been expanded.

- Vaccinations for persons at risk of occupationally acquired vaccine-preventable diseases (Table 3.3.7, pg. 170) has been updated to include new occupational groups and recommendations.
Part 4 (pg. 176) of the Handbook contains 24 chapters, each dealing with an individual disease for which a vaccine, or vaccines, are currently available in Australia.

As in the previous version of the Handbook, these chapters all follow the same format and are divided into various sections describing the biology, clinical features and epidemiology of the disease, vaccines, recommendations for vaccination, and so forth.

[Note:
- The chapter previously called ‘Australian bat lyssavirus infection (ABLV) and rabies’, which was Chapter 1 in the 9th edition, is now Chapter 16 Rabies and other lyssaviruses (including Australian bat lyssavirus).
- The chapter on immunoglobulins, which was previously included in this part of the 9th edition Handbook, has been moved to a separate section (Part 5).
- The following slides do not necessarily follow the alphabetical order utilised in the Handbook; however, hyperlinks are provided if you would like to jump to the slides on any specific disease (hyperlink feature available on the slide-only PDF version)].
What’s new in Part 4?

• ‘Pregnancy and breastfeeding’ section has been added to each disease chapter.

• ‘Public health management’ of each disease is only detailed where there are specific additional vaccine recommendations – refer to CDNA’s Series of National Guidelines (SoNGs).

• ‘Transport, storage and handling’ section provides info on reconstitution and stability of reconstituted vaccines.

• ‘Dosage and administration’ section includes info on co-administration with other vaccines and the interchangeability of vaccines.

In the 10th edition of the Handbook:

• A ‘Pregnancy and breastfeeding’ section has been added to each disease chapter.

• Information on the public health management of each disease is only given in detail where there are specific additional recommendations for vaccine use in the context of disease control and/or post-exposure prophylaxis.

• Readers are now referred to published guidelines from the Communicable Diseases Network Australia (CDNA) where these are available.

• Where relevant, information on reconstitution and stability of reconstituted vaccines has been included in the ‘Transport, storage and handling’ section.

• Also, where relevant, information on co-administration with other vaccines and inter-changeability of vaccines is now included in the ‘Dosage and administration’ section.
New and updated recommendations within the respective chapters on diphtheria- (pg. 182), tetanus- (pg. 408) and pertussis- (pg. 302) containing vaccines are discussed in the following two slides.

For the child formulations of DTPa:

- The 1st dose can now be given from 6 weeks of age.
- An additional pertussis-containing vaccine dose can be given in the 2nd year of life (e.g. at 18 months of age), if parents wish to minimise the likelihood of their child developing pertussis.
  - This is, however, not currently funded under the NIP schedule.
- The booster dose recommended on the NIP schedule at 4 years of age can be given as early as 3.5 years of age.
- DTPa-containing vaccines can be used for primary or booster doses in children aged less than 10 years; the age cut-off was previously 8 years.
For the adolescent/adult formulation (dTpa) (referred to in the Handbook as ‘reduced antigen content’ formulation):

- This vaccine should now be offered to those aged 10 years and older.
- The booster vaccine dose, recommended for adolescents, should preferably be given between 11 and 13 years of age.
- Adults aged ≥65 years: single booster if no booster in previous 10 years.
- Adults at risk for acquiring or transmitting pertussis
  - revaccinate every 10 years
  - every 5 years in the context of pregnancy

For adults in certain risk categories for either acquiring or transmitting pertussis (e.g. healthcare workers), there are recommendations on revaccination.

- Revaccination with dTpa is recommended 10 years after receipt of a prior pertussis-containing vaccine.
- This interval can be shortened to 5 years in the context of pregnancy.
Diphtheria, Tetanus and Pertussis ... cont.

Expanded advice regarding strategies to prevent pertussis in newborns

• Vaccinate all close contacts to ‘cocoon’
• Options for maternal vaccination
  – post-partum or pre-conception
  – third trimester vaccination as alternative
  – give booster dose of dTpa if ≥5 years between previous dose and expected date of delivery

• More detailed advice is provided on how to prevent pertussis in newborns and young babies, such as ensuring all close contacts of newborns are vaccinated to form a protective ‘cocoon’.

• The adolescent/adult dTpa formulation is recommended as a single dose, given either during pre-pregnancy planning, or as soon as possible after delivery.

• Another option is to give a booster dose of dTpa in the third trimester.
  • [Note: This has the added benefit of allowing antibodies generated in the mother to cross the placenta to protect the baby.]

• If 5 years or more have elapsed between a previous dose and the expected date of delivery for a subsequent pregnancy, a booster dose of dTpa (either in the third trimester or early post-partum) is recommended.
  • [Note: This interval is shorter than the 10-year interval between booster doses recommended for those at increased risk of acquiring or transmitting pertussis, such as healthcare workers.]
Within the chapter on Hib-containing vaccines (pg. 191), changes include:

- The addition of a combination Hib and meningococcal C conjugate vaccine (Hib-MenCCV).
- Hib vaccination recommendations no longer differentiate between Aboriginal and Torres Strait Islander children, and non-Indigenous children. Recommendations now apply to all children because, currently, only the Hib-tetanus protein conjugate (PRP-T) vaccines are in use.
- [Note: PRP-T Hib vaccines (containing the Hib capsular polysaccharide, polyribosyl-ribitol-phosphate, conjugated to tetanus toxoid) are in use; vaccines conjugated to the N. meningitidis outer membrane protein (PRP-OMP Hib), which have a different schedule, are unavailable].

Within the chapter on hepatitis A (pg. 198), changes include:

- The expansion of recommendations to include more details on screening older persons for immunity before vaccination.
- Hep A vaccination is now recommended in preference to normal human immunoglobulin (NHIG) for use in post-exposure prophylaxis (PEP) in immunocompetent persons 12 months of age and older.
The new and updated recommendations to the chapter on hepatitis B (pg. 208) are highlighted in the following two slides.

The section on serological testing for hepatitis B prior to vaccination has been expanded to include more detail on the rationale for testing and/or vaccinating certain groups, including hepatitis B vaccine non-responders.

New info has been provided on checking for infection or immunity in infants born to mothers with chronic hepatitis B infection. This should be done approximately 3–12 months after the primary vaccine course.

[Note: These infants should also receive hepatitis B immune globulin at birth, as well as 4 doses of vaccine in the 1st year of life.]

Aboriginal and Torres Strait Islander people should have their risks and vaccination status for hepatitis B reviewed, be offered testing for previous hepatitis B infection, and be offered vaccination if non-immune. This is also relevant for migrants from countries where hepatitis B is endemic.

[Note: Additional advice is also provided regarding validity of Hep B vaccinations received overseas.]
• It is now recommended that the final dose of an infant's hepatitis B course should not be given before the age of 24 weeks.
  • [Note: This may be either the 3rd or 4th dose an infant has received, depending on whether they received a birth dose.]

• The various schedules for Hep B vaccination, including the minimum interval between doses, are now described in greater detail.

• A minimum 4-month interval between the 1st and 3rd doses is now recommended for children aged from 1 year, adolescents and adults.
Human papillomavirus (HPV)

- Vaccination recommended for:
  - Females aged 9–18 years (optimally at 11–13 years)
  - Males aged 9–18 years (optimally at 11–13 years)
- Not routine for women aged 19–26 years → conduct risk-benefit assessment (same for males)
- Specific recommendations for:
  - Immunocompromised persons
  - Men who have sex with men

- HPV (Human papillomavirus, pg. 231) vaccination is now recommended for girls from 9 years of age; this was previously 10 years. The optimal age for vaccination is 11–13 years.

- HPV vaccination is now recommended for boys aged 9–18 years, with the optimal age for vaccination being 11–13 years.

- HPV vaccination is now not routinely recommended for men and women aged 19–26 years. A risk-benefit assessment should be conducted when contemplating vaccination for women, and men, of this age or older.

- Specific recommendations are now included for the use of HPV vaccine in persons at high risk of HPV-related cancers, such as immunocompromised persons and men who have sex with men.
From 2013, the current school-based program for females is extended to include males aged 12–13 years, with a catch-up program in 2013 and 2014 for males aged 14–15 years.

An implementation schedule has been established for each state and territory, and is summarised in these illustrations.

A website dedicated to the program has also been established by the Department of Health and Ageing, where you can find additional information and materials.


Influenza

- Information added on:
  - Intradermal vaccines
  - Age specifications for each vaccine brand
    - e.g. Fluvax (CSL) not recommended for children aged <10 years*
  - Benefits of vaccination in
    - Pregnancy
    - Children (especially aged ≥6 months and <5 years)
- New for immunocompromised
  - In first year give 2 doses of vaccine ≥4 weeks apart
  - Then 1 dose annually

* See speaker’s notes for details.

Within the influenza chapter (pg. 243):

- Intradermal vaccines are now included.
- The ages for which different brands of influenza vaccine are registered have now been specified.

[*Note: Fluvax (CSL) is registered by the TGA for administration in children ≥5 years of age; however, in the 10th edition of the Handbook it is not recommended for use in children <10 years of age. A similar recommendation has been made in the ATAGI statement on ‘Clinical advice for immunisation providers regarding the administration of 2013 trivalent seasonal influenza vaccines March 2013’ i.e.:
  - Fluvax is approved for use in persons 5 years and older; however, the Product Information for Fluvax indicates that this vaccine should only be used in children aged 5 to 9 years based on careful consideration of potential benefits and risks to the individual.
  - Fluvax is not approved by the TGA for use in children under 5 years of age in 2013 and must not be given to this age group.]

- Additional details have been provided on the disease burden, and benefits and rationale for influenza vaccination in pregnancy and in children, especially those from 6 months to less than 5 years of age.
- All immunocompromised persons, irrespective of age, who receive influenza vaccine for the first time are now recommended to receive 2 vaccine doses, at least 4 weeks apart, and 1 dose annually.
thereafter.

An updated slide set is available at www.ncirs.edu.au

ARCHIVE PURPOSES ONLY
Influenza vaccination is recommended for a number of groups who are at increased risk for acquiring the disease.

In the 10th edition, recommendations include new groups, in addition to those already listed in the 9th edition:

- Staff working in early childhood education and care settings
- Persons working in the pork industry, and
- Those at increased risk of influenza complications, including persons with:
  - significant obesity (Body Mass Index, BMI ≥30),
  - Down syndrome (irrespective of whether or not they have heart disease), and
  - Alcoholism.
Measles, Mumps, Rubella & Varicella

- From 1 July 2013 new measles-mumps-rubella-varicella (MMRV) vaccines available
  - Give MMRV as 2nd dose of measles-containing vaccine at 18 months of age
  - Brings forward 2nd dose of MMR (from 4 years)
  - MMRV not recommended as 1st dose of measles-containing vaccine in children <4 years
    - due to small increased risk of fever and febrile seizures (when given as 1st dose)
  - MMRV not recommended in adolescents ≥14 years

- MMRV vaccines will be available from July 2013. Note that:
  - MMR vaccines should be used for the 1st dose at 12 months of age. MMRV is not recommended for use as the 1st dose of MMR-containing vaccine in children less than 4 years of age due to a small but increased risk of fever and febrile seizures.
  - MMRV can, however, be used as the 2nd dose of MMR-containing vaccine and to provide a single dose of varicella vaccine at 18 months of age.
    - This means that the recommended age for administration of the 2nd dose of measles-containing vaccine moves from 4 years to 18 months from July 2013.
    - [Note: New tables (Table 4.9.1, pg. 273; Table 4.22.1, pg. 428) summarising these recommendations have been added.]
  - MMRV vaccines are also not currently recommended in persons aged 14 years and older due to a lack of data on safety and immunogenicity/efficacy in this age group.
    - [Note: New recommendations may be found within respective chapters for measles (pg. 267), mumps (pg. 295), rubella (pg. 384) and varicella (pg. 423).]
• Note that having an egg allergy is not a contraindication for MMR or MMRV vaccines. These vaccines contain negligible amounts of egg ovalbumin and can be safely given in a primary care setting.

• For post-exposure prophylaxis (PEP) for measles a new table (Table 4.9.2, pg. 281) has been included, which gives more specific age ranges, MMR vaccination history, and advice regarding persons who are immunocompromised.
New meningococcal vaccines have been included in the 10th edition of the Handbook (pg. 283). These include a combination Hib and meningococcal C conjugate vaccine (Hib-MenCCV). A single dose of MenCCV continues to be recommended for all children at the age of 12 months.

Quadrivalent conjugate vaccines (4vMenCV) are also newly added, and these should be used in preference to polysaccharide vaccine (4vMenPV) in persons aged 9 months and older who are at high risk for meningococcal disease.

Recommendations surrounding the use of these vaccines for persons with medical conditions placing them at high risk for meningococcal disease have also been updated.

In infants with medical risk factors, a course of meningococcal C conjugate vaccine (MenCCV) is recommended from 6 weeks of age. [Note: The number of doses will be dependent on the age at which the risk condition is first identified].

From 12 months of age, quadrivalent conjugate vaccine (4vMenCV) is recommended in a 2-dose schedule. 5-yearly booster doses are recommended for those at ongoing risk.

[Note: These changes are also seen in the new and revised tables in Part 3 of the Handbook. For example, a new table has been added summarising the use of meningococcal and other vaccines in persons with functional and anatomical asplenia (Table 3.3.5).]
For pneumococcal disease (pg. 317):

- 10-valent (10vPCV) and 13-valent (13vPCV) pneumococcal conjugate vaccines are included.
- For Aboriginal and Torres Strait Islander children living in the Northern Territory, Queensland, South Australia or Western Australia, a booster dose of 13vPCV at 12–18 months of age replaces 23vPPV.
- Revised tables and lists:
  - Include both adults and children
  - Disease risk conditions divided into:
    - ‘Highest increased risk’ (category A)
    - ‘Increased risk’ (category B)
- Tables (Tables 4.13.1 to 4.13.3) and lists (List 4.13.1) within the chapter have also undergone considerable revisions.
  - The list of medical conditions associated with increased risks of invasive pneumococcal disease (IPD) is the same for both adults and children and is now divided into two parts:
    - Those conditions posing the ‘highest increased risk’ of developing disease
    - Those associated with ‘increased risk’ of disease.
  - Recommendations for people in these two categories differ and are explained throughout the chapter.
A newly added recommendation is for the use of a single dose of 13-valent conjugate vaccine (13vPCV) in adults and children aged >5 years with ‘highest increased risk’ of invasive disease, who have not previously received 13vPCV.

- The timing of this dose, in relationship to previous or subsequent polysaccharide vaccine (23vPPV) doses, is described.

In December 2011, ATAGI revised its recommendations for the use of 23vPPV for non-Indigenous adults aged 65 years and older under the NIP (see also immunise.health.gov.au).

- Every effort should be made to provide a dose to anyone aged over 65 years who has not previously received a dose of 23vPPV.

- For non-Indigenous adults aged 65 years and older, a 2nd dose (a single revaccination) of 23vPPV is recommended for those who have a condition that predisposes them to an increased risk of IPD.

- A 2nd dose is no longer recommended for those without any of these predisposing conditions.
Within the chapter on rabies (pg. 353), more detail and clarity on management of all potential lyssavirus exposures has been added.

This includes the potential for lyssavirus infection from exposure to bats in non-rabies enzootic countries (Australia and other countries).

New summary tables have been added, including:

- a table on the WHO exposure categories for rabies and bat lyssavirus (including ABLV) (Table 4.16.1, pg. 360), and
- advice regarding the completion of post-exposure prophylaxis (PEP) commenced overseas (Table 4.16.2, pg. 365).

A 4-dose PEP schedule is now recommended for immunocompetent persons. A 5-dose schedule is only recommended for persons who are immunocompromised.

Detailed algorithms showing recommended pathways for PEP for rabies and bat lyssavirus (including ABLV), and boosters for persons at ongoing risk of exposure, have been provided.

[Note: Much of this information can also be found in the most recent version of the CDNA National Guidelines.]
• Age limits more clearly defined

• New contraindications
  – history of intussusception (IS)
  – severe combined immunodeficiency (SCID)

• Updated information on risk of IS post vaccination
  – low, but increased, risk of IS occurring following 1st and 2nd doses of both vaccines

• The upper age limits for each dose of rotavirus (pg. 372) vaccine are now more clearly defined.

• Contraindications to rotavirus vaccine now include previous history of intussusception and severe combined immunodeficiency in infants.

• Information on AEFI with rotavirus vaccine has been updated and expanded, including new information on the low but increased risk of intussusception occurring following the 1st or 2nd dose of either rotavirus vaccine.

• [Note: The risk of vaccine-attributable IS has recently been re-assessed to be slightly higher than first estimated. It is now estimated at approximately 6 additional cases of intussusception per every 100,000 infants vaccinated each year. Further details are provided in the Handbook.]
The new *Handbook* updates the chapter on herpes zoster (Chapter 4.24, pg. 446) that was published online in 2009.

A single dose of zoster vaccine is recommended for adults ≥60 years of age and older who have not previously received a dose of zoster vaccine.

Information on the efficacy of vaccination against herpes zoster in persons aged 50–59 years has also been added:

- The incidence of zoster is higher in this age group than in younger groups; however, the likelihood of developing post-herpetic neuralgia (PHN) and other complications is lower than in older persons.
- Routine population-based use of zoster vaccine in persons in this age group is not recommended.

[Note: Since registration of this vaccine (Zostavax, CSL/Merck) there has been limited vaccine availability.]
Cholera
• Repeat primary vaccination if interval between primary and booster dose is:
  – >6 months in children aged 2–6 years
  OR
  – >2 years in persons aged over 6 years

Japanese encephalitis (JE)
• Previous inactivated JE vaccine replaced with 2 new JE vaccines:
  – one live attenuated
  – one inactivated vaccine
• Updated advice on booster doses and AEFI

• Other less relevant but still important changes to Part 4 of the Handbook are summarised in the next three slides.

• Within the chapter on cholera (pg. 176):
  • New recommendations state that primary immunisation should be repeated if the interval between primary immunisation and the booster dose is:
    – more than 6 months in children aged 2–6 years, or
    – more than 2 years in adults and children aged over 6 years.

• Within the chapter on Japanese encephalitis (JE, pg. 259):
  Information on two new vaccines against JE has been added.
  • This includes one live attenuated vaccine and one inactivated vaccine.
  • The two available JE vaccines are registered for different age groups, and have different vaccination schedules, booster dose requirements, and contraindications.
  • [Note: These factors should be taken into account when deciding the most appropriate vaccine to use.]
**Poliomyelitis**

- 1st dose IPV-containing vaccine, due at 2 months, can be given as early as 6 weeks of age
- Booster dose, recommended at 4 years of age, can be given as early as 3½ years

**Q fever**

- Online training for skin testing and vaccination available via vaccine manufacturer
- In addition to existing risk groups, vaccine now recommended for:
  - professional dog and cat breeders
  - wildlife and zoo workers in contact with at-risk animals

Within the chapter on polio (pg. 317):

- The 1st dose of inactivated poliovirus (IPV)-containing combination vaccine due at 2 months of age can now be given as early as 6 weeks of age.
- The booster dose, recommended at 4 years of age, can be given as early as 3½ years.

Within the chapter on Q fever (pg. 345):

- Training for Q fever vaccination and skin testing is now undertaken via an educational video available online.

In addition to the existing risk groups, vaccination is now recommended for:

- professional dog and cat breeders, and
- wildlife and zoo workers who have contact with at-risk animals (including kangaroos and bandicoots).
Tuberculosis

• BCG now not recommended for all neonates <2.5 kg
• Generalised septic skin disease, skin conditions (e.g. eczema, dermatitis, psoriasis) and febrile illness
  – no longer contraindications to BCG vaccine but, if present, vaccination should be deferred

Yellow fever

• Not recommended in women who are breastfeeding infants aged <9 months
• Details on how to access the WHO information on areas of high yellow fever activity and on requirements for travel

• Within the chapter on tuberculosis (pg. 408):
  • BCG vaccination is no longer routinely recommended for neonates weighing less than 2.5 kilograms.
  • Generalised septic skin disease, skin conditions such as eczema, dermatitis and psoriasis, and significant febrile illness are no longer contraindications to BCG vaccination, but, if any of these conditions are present, vaccination should be deferred.

• Within the chapter on yellow fever (Chapter 4.23, pg. 439)
  • Vaccines are now not recommended in women who are breastfeeding infants aged less than 9 months.
  • Details are now provided on how to access World Health Organization information regarding vaccination requirements for travel.
    • www.who.int/csr/disease/yellowfev/en

An updated slide set is available at www.ncirs.edu.au

ARCHIVE PURPOSES ONLY
• Part 5 (pg. 456) of the *Handbook* pertains to passive immunisation using immunoglobulin preparations and provides an overview of the available products and their intended uses.

An updated slide set is available at www.ncirs.edu.au
Information regarding the use of intravenous immunoglobulins as treatment for disease conditions (such as Kawasaki disease) or as replacement therapy for immunodeficient individuals is no longer included in the Handbook.

Readers are referred to National Blood Authority guidelines and other relevant guidelines for information on therapeutic uses of immunoglobulin.
As before, there are a number of useful appendices (pg. 465) to the Handbook, including for example:

- Contact details for state and territory health departments
- Components used in the vaccines available via the NIP
- Some commonly asked questions
- Glossary and abbreviations

[Note:
- The appendix containing a list of conditions identified as potential vaccine-attributable AEFI has been removed. Information on these conditions is now provided in Part 2 (Section 2.3.2 Adverse events following immunisation, pg. 85) and also in the relevant adverse events sections of the disease-specific chapters. Some of these terms are also defined in the Glossary (Appendix 5).
- Work is underway across the states/territories and Australian Government Department of Health and Ageing to develop new national harmonised definitions of AEFI for use in vaccine safety surveillance.]
• There are a number of useful online resources for more information about:
  • The *Handbook*
  • Various organisations involved in its development
  • Guidelines on the prevention and treatment of vaccine-preventable diseases.

- NCIRS: [www.ncirs.edu.au](http://www.ncirs.edu.au)
  - Electronic version of the 10th edition of the *Handbook*
  - NIP schedule cards
  - ATAGI
  - Links to state and territory websites
- ASCIA: [www.allergy.org.au](http://www.allergy.org.au)
- WHO, yellow fever vaccination requirements: [www.who.int/csr/disease/yellowfev/en](http://www.who.int/csr/disease/yellowfev/en)

An updated slide set is available at [www.ncirs.edu.au](http://www.ncirs.edu.au)
• Health professionals are reminded to review the full version of the Handbook for detailed recommendations before implementing any practices, and to regularly check the Department of Health and Ageing website for updates on these recommendations.
We would like to thank and acknowledge:

• All those involved in the development of the *Handbook*
• Staff of the NCIRS who developed this slide set
• All health professionals involved in immunisation programs who utilise the *Handbook* and enable the effective and safe use of vaccines in Australia.

• Thank you for your attention, and we hope you find the 10th edition of *The Australian Immunisation Handbook* a useful resource.