

Maternal immunisation and infant immunisation: core business for GPs What's new in 2017?

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Vaccines - Free and user pays

Children:

- **Free – National Immunisation Program (Commonwealth)**
 - 18 month pertussis
 - Influenza for children with increased risk of severe disease
- **Free - funded by State Governments**
 - Meningococcal ACWY – adolescents
 - **WA: Influenza for children < 5 years**
- **User pays - not funded under NIP (Commonwealth)**
 - Meningococcal B (all) and ACWY (non-adolescents)
 - 2nd dose varicella

Maternal – in pregnancy:

- **Free - NIP (Commonwealth) – influenza**
- **Free - funded by State Governments – pertussis**

Overview

1. Medical contraindications – an update
2. Pertussis and Influenza – protecting babies
3. Meningococcal disease - was B, now W and why?

No conflicts of interest

Contraindications – an update

2 policies: No Jab No Pay



- Australian Government policy change from 1 Jan 2016
- Parents of incompletely immunised children <20 years not eligible for tax and child care benefits unless
 - Medical contraindication
 - Natural immunity
 - On recognised catch-up schedule
- Free catch-up <10 yrs (ongoing) & 10-19 yrs (to end 2017)

No Jab No Play

- Victoria – “no jab no play” policy now NSW and ? SA
 - Exclusion from child care and pre-school if not fully immunised

 medicare	Australian Childhood Immunisation Register Immunisation medical exemption
<p>Purpose of this form Use this form if you are a General Practitioner and would like to notify the Australian Government Department of Human Services of an individual (under 20 years of age) who has a vaccine exemption due to a medical contraindication or natural immunity.</p>	<p>Vaccines exempt due to medical contraindication The medical basis for vaccine exemption is to be based on guidance in <i>The Australian Immunisation Handbook</i>. Advice on what constitutes a valid medical exemption to vaccination is provided on page 3 of this form.</p>
<p>For more information For more information about the Australian Childhood Immunisation Register (ACIR), go to humanservices.gov.au/acir or call 1800 653 809 Monday to Friday, between 8.00 am and 5.00 pm, Australian Eastern Standard Time. Note: Call charges apply from mobile phones.</p>	<p>6 The individual identified on this form has a:</p> <p><input type="checkbox"/> permanent vaccine exemption due to medical contraindication because of the following:</p> <p><input type="checkbox"/> previous anaphylaxis (to vaccine/vaccine component)</p> <p style="text-align: center;">/ /</p> <p><input type="checkbox"/> significant immunocompromise (live attenuated vaccines only)</p>
<p>Filling in this form</p>	<p style="text-align: right;">no</p>

When can I submit exemption due to natural immunity?

Antigens exempt due to natural immunity

Natural immunity to a disease is a valid exemption to vaccination for the antigens listed below. Exemption to a combination vaccine(s) on the basis of natural immunity is only valid if immunity is confirmed for all vaccine antigens. Advice on what constitutes acceptable evidence of natural immunity is provided on page 3 of this form.

8 The child has a natural immunity to:

Hepatitis B Mumps Varicella
Measles Rubella

This has been confirmed by:

Laboratory testing / /

OR

Physician-based clinical diagnosis / /

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Clinical Scenario

Mother Sally is concerned because her 18 month old son Nick had a fever and rash after MMR @ 12 months – and a febrile convulsion 2 months ago. Will you sign medical contraindication form so he does not have to have MMR-V?

Issues:

- Does not fulfil exemption criteria
- You offer serology for M, M and R and monovalent varicella
- Serology positive measles and rubella; negative for mumps
- You have to give MMR anyway
- Better option probably to counsel that minimum risk of fever with MMR-V post MMR 1 and just go ahead

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Resources to support hesitant parents

- SKAI resources

<http://www.immunise.health.gov.au/internet/immunise/publicContent.nsf/Content/fact-sheets-concerns-vaccination>

- NCIRS fact sheets

<http://www.ncirs.edu.au/provider-resources/ncirs-fact-sheets/>

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What about autism?
Many large studies have found vaccines do not cause autism

How do we know?
A number of high quality studies have compared the health of large numbers of vaccinated and unvaccinated children over many years. The largest study included 557,000 children born in Denmark and found that unvaccinated children were just as likely to develop autism as vaccinated children. When the results of this study were compared with the results of nine other studies to include medical information from nearly 1.1 million children being followed up, vaccine researchers were able to confirm that vaccination could not be causing autism.

Then, what causes autism?
It is not known exactly why some children develop autism. The idea that vaccination caused autism was attractive to some people who wanted to find a clear cause. However, this idea does not fit the studies that were highly conducted and that have been proven wrong. Current research suggests that autism cannot be explained by a single cause, but is probably due to a combination of developmental, genetic and environmental factors.

So, where did the misunderstanding come from?
In 1998, a research group in the US led by Andrew Wakefield reported that some children who had received measles-mumps-rubella (MMR) vaccine also had an ileocolitis (inflammation of the large intestine) and developmental disorders such as autism. The results of the research, which had included only seven children, were published in a respected medical journal. However, the authors omitted their data that have since been made available and were found to be flawed. The paper was withdrawn from the journal in 2001 after the General Medical Council had concluded that the study was not fit to be published. What if a group was misled by the paper?

After it became clear that MMR vaccine was not the problem, some people suggested a connection between autism and vaccines that was not supported by the evidence. The connection was made by a group of people who were not involved in the original study. Some of the claims were made in a book written by Andrew Wakefield and others. The book was written in a way that was misleading and caused a lot of concern. The book was written in a way that was misleading and caused a lot of concern. The book was written in a way that was misleading and caused a lot of concern.

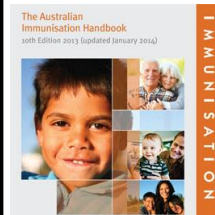
SKAI **ncirs** **National Centre for Immunisation Research & Surveillance**

Pertussis

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Section 4.12 Pertussis

- Dose of dTpa **each** pregnancy
- Optimal time early in the third trimester (**28 to 32 weeks**) BUT
- Can be given **at any time** up to delivery & pre 28 weeks (no repeat dose required)
- 92% effective against pertussis in < 3 months, especially severe pertussis**



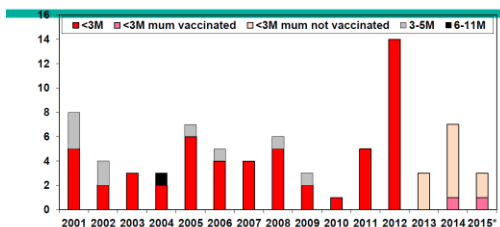
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Safety of ante-natal pertussis vaccination

Reassuring data – studies of 20,000 pregnancies (UK) and 120,000 (US)

UK pertussis deaths post program – no “herd” protection for infants of non-immunised mothers

Reconciled deaths from pertussis in infants, England



Sources: lab confirmed cases, certified deaths, Hospital episode statistics, GP registration details, HPZone

*reported by 21/9/2015

LATION
LANCZ

FactSheet

Vaccinations during pregnancy protect expectant mothers and their babies

Vaccination against pertussis (whooping cough) and influenza is strongly recommended during pregnancy to protect expectant mothers and their babies against these serious infections. Other inactivated vaccines are not routinely recommended during pregnancy but may be considered in special circumstances. Live attenuated vaccines are the only types of vaccines that are not to be given during pregnancy. Some vaccines, like rubella, may be needed when planning pregnancy so the mother is immune before she becomes pregnant.

Pertussis vaccine and pregnancy

Pertussis is a highly contagious infection which is most severe in young babies

Pertussis (whooping cough) is a highly contagious respiratory infection. In Australia, pertussis is most

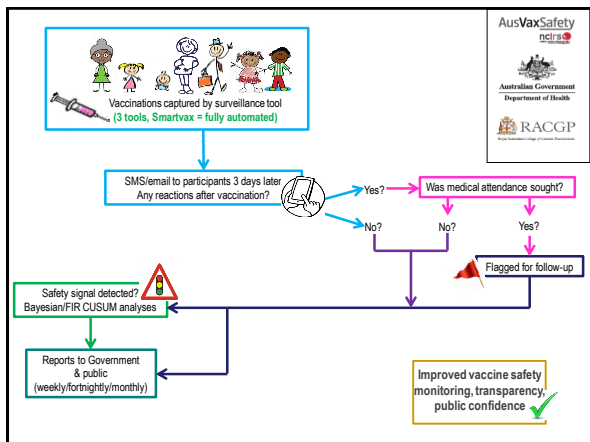
Pertussis vaccine is not funded for pregnant women under the National Immunisation Program (NIP) but is currently free under state and territory initiatives. For detailed information on pertussis vaccines and

18 m dose

Recommended in Handbook since 2010

Funded from April 2016 (and required for no jab, no pay)

- Reduce sibling infections
- Should eliminate any concern about lower infant antibodies post maternal immunisation



Extensive limb swelling reactions after DTPa boosters



www.ausvaxsafety.org.au

www.smartvax.com.au

see short video explanation
Sign up via SmartVax website

Influenza vaccines are safe and effective in children

Dr Alan Loeb WA




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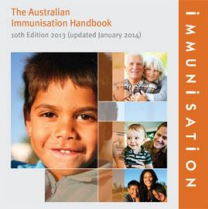

Influenza

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ANNUAL ONLINE UPDATE + ATAGI statement
www.immunise.health.gov.au

Section 4.7 Influenza

- Recommended - all pregnant
- Timing depends on influenza season/vaccine availability relative to pregnancy
- Transplacental Ab transfer!!
- PROTECTS Mum
- PROTECTS Bub

Influenza and pertussis vaccines in pregnancy – important findings from WA¹⁻⁴

- Safety**
 - N=2885 women; 14% self-reported AEFI (1.4% medically attended)¹
 - Pregnant < non-Pregnant (13% vs 17.5%)²
 - Local reactions higher if previous dTpa (18.6% vs 10.8%)³
- Uptake⁴**
 - Most important reasons not to have flu vaccine: not recommended + concern re side effects
 - Most important reason to have flu vaccine: “for baby”**

1. Regan et al ANZJOG 2014; 2. Regan et al BMC Preg and Childbirth 2015; 3. Regan et al Women and Birth 2016; 4. Regan et al Vaccine 2016

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Benefits to foetus and newborn from influenza vaccine - more from WA

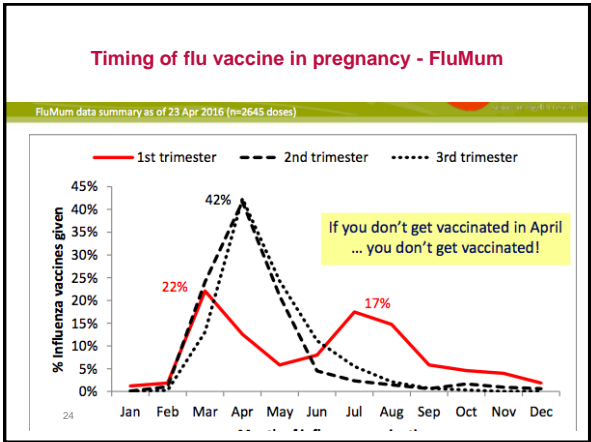
Clinical Infectious Diseases
MAJOR ARTICLE

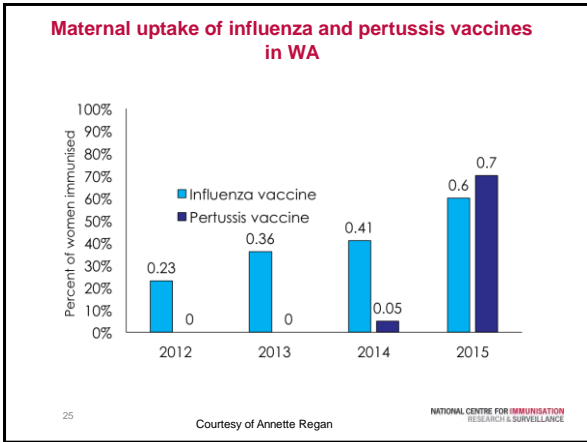
AIDSA **hivma**
Infectious Diseases Society of America the medicine association

Seasonal Trivalent Influenza Vaccination During Pregnancy and the Incidence of Stillbirth: Population-Based Retrospective Cohort Study
Annette K. Regan,^{1,2} Hannah C. Moore,² Nicholas de Klerk,³ Saad B. Omer,⁴ Geoffrey Sheehan,^{1,4} Donna B. Mak,² and Paul V. Effler^{1,2}

Still births < 37 weeks reduced by 50%

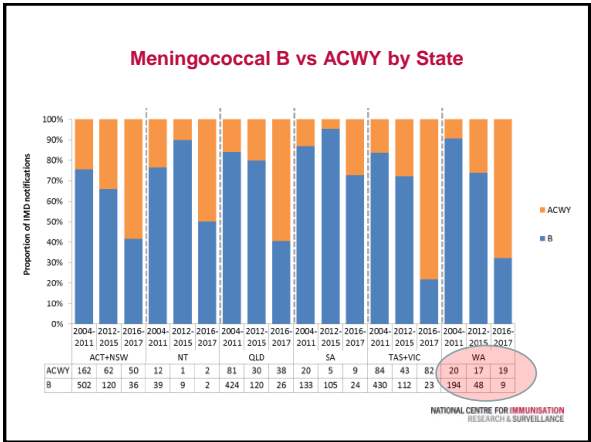
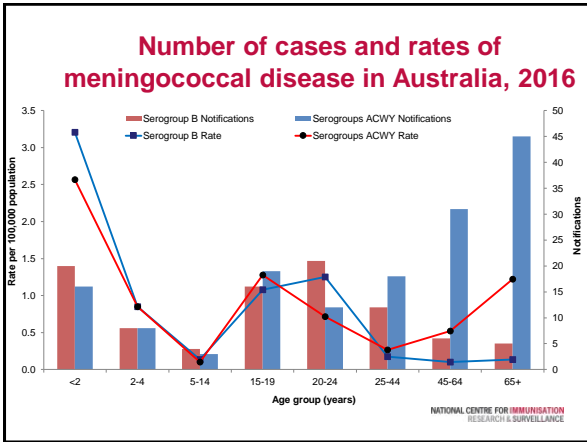
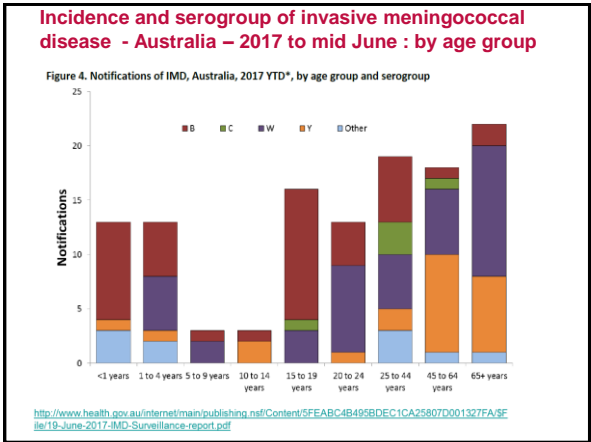
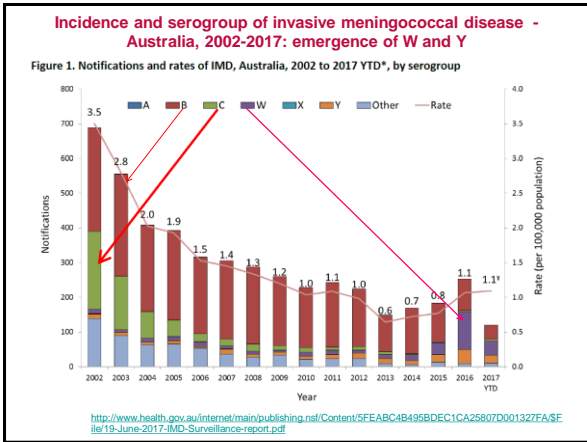
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Meningococcal disease

Rare but dreaded disease
(around 1 case per in 100,000 population overall)
~5-10% mortality



Case study: Advice to mothers of newborns about meningococcal vaccines -1

Sarah brings 6 week old daughter Lily for post natal check @ 6 weeks. Seen story about meningococcal baby death in parent magazine; wants to know how best to protect Lily.

Your advice:

Info: Meningo is rare but nasty especially in young babies. Until recently was mostly type b (Bexsero vaccine) but now other types = almost 50%. Best protection needs another vaccine for these other 4 types.

Fever common with Bexsero – need panadol with dose. Can have with other vaccines

Both vaccines = 3 injections @ 2,4,6m and another @ 12 m (total of 8) + not much change out of \$1000.

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Case study: Advice to mothers of newborns about meningococcal vaccines - 2

Sarah is keen to do all she can to protect Lily but worried about injections and cost.

Other options:

Lowest cost: 2 dose of Bexsero @ 2 and 4 months, with 3rd dose @ 12 m + dose Nimenrix @ 12 m = 4 doses/\$500

Why? Probably some cross-protection from Bexsero & only one Nimenrix dose @ 12 m

Intermediate: 3 doses of Bexsero and Menveo or Nimenrix @ 2, 4 and 12 months = 6 doses/\$600

Why? Enhance protection against W and Y

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What do we know about how well meningo vaccines protect in babies?

UK using Bexsero since 2015 @ 2,4 + 12 months:

- 2 doses about 80% effective (Bexsero does not protect against all B strains; should protect against W to some extent but uncertain)
- 1 dose probably doesn't do much in young infants – UK estimated ~ 20% - had a death post 1 dose

Take home message for Sarah:

Need at least 2 doses and if worth doing then probably go for ACWY doses as well

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SUMMARY: Take home messages

- Few medical contraindications** to vaccination
 - Serology probably not worthwhile
- Importance of GPs - in pregnancy and “extra” vaccines**
 - Not just in “flu season”; align with pertussis @ 28-30w
 - Current flu vaccines safe in kids & free in WA for > 5's!
- Changes in meningococcal strains** – W+Y now > B
 - B still predominates in infants (2 + 1 schedule)
 - W and Y emerging

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Vaccines against meningococcal disease – minimum doses by age group

Age group	Men B (Bexsero)	MenACWY (Menveo)	MenACWY (Nimenrix)	MenACWY (Menactra)
2-<9 months (from 6 wks) 3 dose Total	2 doses >8 weeks apart 3 rd dose @ 12m	2 doses >8 weeks apart 3 rd dose @ 12m	2 doses >8 weeks apart 3 rd dose @ 12m	No data
9 - <12 months 2 dose Total	1 dose now 2 nd dose @ 12m or > 8 weeks	1 dose now 2 nd dose @ 12m or > 8 weeks	1 dose now 2 nd dose @ 12m or > 8 weeks	
12 -23 months 1/2 doses	2 doses >8 weeks apart	2 doses >8 weeks apart	Single dose	2 doses >8 wks apart
24 months + 1/2 doses	2 doses >8 weeks apart	Single dose	Single dose	Single dose

Personal view – for registered and other data see fact sheets

**Vaccines against meningococcal disease –
more doses in youngest infants**

Age group	Men B (Bexsero)	MenACWY (Menveo)	MenACWY (Nimenrix)	MenACWY (Menactra)
2-<6 months (from 6 wks) 4 dose Total	3 doses >8 weeks apart 4 th dose @ 12m	3 doses >8 weeks apart 4 th dose @ 12m	3 doses >8 weeks apart 4 th dose @ 12m	No data
6 - <12 months 3 dose Total	1 dose now 2 nd > 8 weeks 3 rd dose @ 12 m	1 dose now 2 nd > 8 weeks 3 rd @ 12 m	1 dose now 2 nd > 8 weeks 3 rd dose @ 12m	
12 -23 months 1/2 doses	2 doses >8 weeks apart	2 doses >8 weeks apart	Single dose	2 doses >8 wks apart
24 months + 1/2 doses	2 doses >8 weeks apart	Single dose	Single dose	Single dose

Personal view – for registered and other data see fact sheets

Thank you.
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