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# Immunisation Schedule Changes 1 JULY 2020

#### National Immunisation Program (NSW) Schedule

			CHILDHO	OD WACCINES			
AGE		DISEASE		VACCINE	INFORMATION		
Birth	Hepatitisib			OR ENGERIC B (M)	Within 7 days of birth (ideally with 20 hours)		
Influenzee		tetanus, pertussis. Alienvophilus type b, hepatitis b, polio		INFANRIX HEXA (IM)	ROTARIX: Dose Tlimited to 5-14 weeks o BEXSERC: Prophylactic paracetamol		
	Pneumococ		2002	PREVENAR 13 (M)	recommended. Catch up available for		
	Rotavinus			ROTARIX (Oral)	Aboriginal children <2 un6/ 30/06/2023		
		ccal B (Aboriginal <sup>a</sup> ch		DEXSERD (M)			
Millenzae		totanus, portussis. A ype b, hepatitis b, pr		INFANRIX HEXA (IM)	BOTARIC Dose 3 Invited to 10-38 weeks BEXSERO: Prophylactic paracetamol		
	Pneumococ	ical		PREVENAR13 (IM)	recommended. Catch up available for Abariginal children (2 unbl 30/05/2023		
	Rotavirus	Commence and	19991124	ROTARIX (Oral)	Addrighter children of uner school study		
6 months Diphthoria		Ingococcal B (Aborginal children only) hthera, tolanas, partissis, Harmophilas anzae type b, hepatitis b, polio		BEXSERO (IM) INFANRIX HEXA (IM)	Children with at rak conditions for PDd recommended to incolve an additional of of PREVENAR IS - see AH* Aborginal children with certain at risk conditions require an additional does of Becares - see AH*		
T months	Maningoco	VMCN IN 1		NIMENRIX (M)	Becaeto Prophylactic paracetarnol		
				PREVENAR13 (Ph	recommended. Catch up available for		
	Pneumococ Measles, mu	umps, rubella		MMR II OR PRIORIX (M or SC)	Aboriginel children v2 until 30/06/2021		
	Meningocox	ocal B	10.00	BEXSERO (IM)	-		
		tetanus, pertussis, p	olio	INFANELCOR TRIPACEL (M)	_		
	Moosles, mu	feasies, mumps, rubeita, variceita		PRIORIC TETRA OR PROGUAD (M or SC)			
	Hoamophili	Hoomophilus influenzae type b		- C.			
4 years	Diphthena.	tetanik, pertikisi, p	olio	UNEANROCIPY OR GUADRACEL (IM)	Childron with at Hisk conditions for IPDA recommended to receive an additional of PREVENAR IS - see APT		
		AT DISK	GROUPS AD	OLESCENTS AND A			
AGE/GRO	UP	DISE		VACCINE	INFORMATION		
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COLORNALINE TRANSPORT

### **NSW Immunisation Schedule**

Funded July 2020



		CHILD	HOOD VACCINES	
AGE		DISEASE	VACCINE	INFORMATION
Birth	Hepatitis B		H-B-VAX II OR ENGERIX B (II	Within 7 days of birth M) (ideally within 24 hours)
influenzae t		tetanus, pertussis, <i>Haemophilus</i> ype b, hepatitis B, polio	INFANRIX HEXA	ROTARIX: Dose 1 limited to 6-14 weeks of age
	Pneumocoo	cal	PREVENAR 13 (IM	recommended. Catch up available for
	Rotavirus		ROTARIX (Oral)	Aboriginal children <2 until 30/06/2023
		cal B (Aboriginal <sup>+</sup> children only)	BEXSERO (IM)	
4 months		tetanus, pertussis, Haemophilus	INFANRIX HEXA	(IM) ROTARIX: Dose 2 limited to 10-24 weeks
		ype b, hepatitis B, polio		DEVEEDO, Develo de ette encontremed
	Pneumococ	cal	PREVENAR 13 (IM	recommended. Catch up available for
	Rotavirus	and Divide states in the billing sector	ROTARIX (Oral)	Aboriginal children <2 until 30/06/2023
		cal B (Aboriginal children only)	BEXSERO (IM)	(IM) Children ≥6 months with at risk conditions
6 months Diphtheria,		tetanus, pertussis, <i>Haemophilus</i> ype b, hepatitis B, polio	INFANRIX HEXA	(IM) Children 26 months with at tisk conditions for IPD1 are recommended to receive an additional dose of PREVENAR 13 - see AIH* Aboriginal children 26 months with certain at risk conditions may require an additional dose of Bexsero - see AIH*
2 months	Meningocod	cal ACWY	NIMENRIX (IM)	
	Pneumocoo		PREVENAR 13 (IM	1) Bexsero: Prophylactic paracetamol
		imps, rubella	MMR II OR PRIOR (IM or SC)	IX recommended. Catch up available for Aboriginal children <2 until 30/06/2023
	Meningocod	ccal B (Aboriginal children only)	BEXSERO (IM)	
Measles, mu		tetanus, pertussis	INFANRIX OR TRIPACEL (IM)	
		umps, rubella, varicella	PRIORIX TETRA ( PROQUAD (IM or	
	Haemophilus influenzae type b		ACT-HIB (IM OR S	
	4 years Diphtheria, tetanus, pertu			
4 years	Dipntneria, 1	tetanus, pertussis, polio	QUADRACEL (IM	recommended to receive an additional dose
4 years	Dipntneria, 1	AT RISK GROUPS,	QUADRACEL (IM	<ul> <li>recommended to receive an additional dose of PNEUMOVAX 23 - see AIH*</li> </ul>
			QUADRACEL (IM	<ul> <li>recommended to receive an additional dose of PNEUMOVAX 23 - see AIH*</li> </ul>
AGE/GRO All people w asplenia, hy complemen	UP /ith posplenia, t deficiency	AT RISK GROUPS, DISEASE Meningococcal ACWY	QUADRACEL (IM ADOLESCENTS AN VACCINE NIMENRIX (IM)	recommended to receive an additional dose of PNEUMOVAX 23 - see AlH*     ID ADULTS     INFORMATION     See AlH* for required doses and timing Additional groups are recommended
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AGE/GRO All people w asplenia, hy complemen and treatme with eculizu >5 years wit or hyposple	UP vith pospienia, t deficiency ent mab h aspienia	AT RISK GROUPS, DISEASE Meningococcal ACWY Meningococcal B Haemophilus influenzae type	QUADRACEL (IM ADOLESCENTS AN VACCINE NIMENRIX (IM) BEXSERO (IM) D ACT-HIB (IM or S	recommended to receive an additional dose of PNEUMOVAX 23 - see AIH*     ID ADULTS     INFORMATION     See AIH* for required doses and timing     Additional groups are recommended     to receive these vaccines but these are     not funded
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AGE/GRO All people w asplenia, hy complemen and treatme with eculizu with eculizu or hyposple Year 7 Year 10	UP vith pospienia, t deficiency int mab h aspienia nia	AT RISK GROUPS, DISEASE Meningococcal ACWY Meningococcal B Haemophilus influenzae type I Diphtheria, tetanus, pertussis Human papillomavirus Meningococcal ACWY Influenza	QUADRACEL (IM ADOLESCENTS AN VACCINE NIMENRIX (IM) BEXSERO (IM) ACT-HIB (IM or S BOOSTRIX (IM) GARDASIL 9 (IM, NIMENRIX (IM) INFLUENZA BOOSTRIX OR A	recommended to receive an additional dose of PNEUMOVAX 23 - see AlH*     ID ADULTS     INFORMATION     See AlH* for required doses and timing Additional groups are recommended to receive these vaccines but these are not funded     if incompletely vaccinated or not vaccinated in childhood     if incompletely vaccinated influenza: Any trimester     Pertussis: each pregnancy between 20-32 weeks     M) then     Prevenar 13:250 years
AGE/GRO All people w asplenia, hy omplemen and treatme with eculizu vith eculizu vith eculizu vith eculizu vith eculizu vith eculizu vith eculizu vith eculizu vith eculizu vith eculization vith	UP vith pospienia, t deficiency int mab h aspienia nia	AT RISK GROUPS, DISEASE Meningococcal ACWY Meningococcal B Haemophilus influenzae type I Diphtheria, tetanus, pertussis Human papillomavirus Meningococcal ACWY Influenza Pertussis	QUADRACEL (IM ADOLESCENTS AN VACCINE NIMENRIX (IM) BEXSERO (IM) D ACT-HIB (IM or S BOOSTRIX (IM) GARDASIL 9 (IM) NIMENRIX (IM) INFLUENZA BOOSTRIX OR A (IM) PREVENAR 13 (II)	recommended to receive an additional dose of PNEUMOVAX 23 - see AlH*      ID ADULTS     INFORMATION     See AlH* for required doses and timing Additional groups are recommended to receive these vaccines but these are not funded     (C) If incompletely vaccinated or not vaccinated in childhood     (C) If incompletely vaccinated or not vaccinated in childhood     (C) If incompletely vaccinated or not vaccinated in childhood     (D)     (Influenza: Any trimester DACEL Pertussis: each pregnancy between 20-32 weeks     (IM) Prevenar 13: 250 years     (IM) Pneumovax 23: 2-12 months later Pneumovax 23: 2-12 months later Pneumovax 23: 2-12 months later     Pneumovax 23: 2-12 months later     Pneumo
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AGE/GRO All people w asplenia, hy complemen and treatme with eculizu by the eculization of the	AUP vith posplenia, t deficiency int mab h asplenia nia people at risk	AT RISK GROUPS, DISEASE Meningococcal ACWY Meningococcal ACWY Meningococcal B Haemophilus influenzae type I Diphtheria, tetanus, pertussis Human papillomavirus Meningococcal ACWY Influenza Pertussis Pneumococcal Pneumococcal Zoster See the online AIH* for conditi	QUADRACEL (IM ADOLESCENTS AN VACCINE NIMENRIX (IM) BEXSERO (IM) D ACT-HIB (IM or S BOOSTRIX (IM) GARDASIL 9 (IM, NIMENRIX (IM) INFLUENZA BOOSTRIX OR A (IM) PREVENAR 13 (II PREVENAR 13 (II ZOSTAVAX (SC) ions recommended to r	recommended to receive an additional dose of PNEUMOVAX 23 - see AlH*     INFORMATION     See AlH* for required doses and timing Additional groups are recommended to receive these vaccines but these are not funded     If incompletely vaccinated or not vaccinated in childhood     If incompletely vaccinated or not vaccinated in childhood     If incompletely vaccinated O    If incompletely vaccinated or not vaccinated in childhood     Influenza: Any trimester DACEL Pertussis: each pregnancy between 20-32 weeks     M) then Prevenar 13: 250 years     M Pneumovax 23: 2-12 months later Pneumovax 23: 2-12 months later Pneumovaz 23: at least 5 years later M) Pneumococcal funded for people 270 Zoster: Catch up available for
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\* The term Aboriginal is inclusive of Aboriginal and Torres Strait Islander people. IPD: Invasive pneumococcal disease. \*AH: Online Australian Immunisation Handbook.



### Pneumococcal program

Routine infant schedule

Routine older Australian schedule

Medically at risk

Indigenous

At risk schedule Behavioural

risk factors



## Overview of changes in vaccine recommendations and NIP-funded doses from July 2020

Disease       Specific vaccine       older adults without pneumo- coccal risk conditions       Complement deficiency/ eculizumab treatment       Functional or anatomical asplenia       Pneumococcal at risk medical conditions       Infants (with catch-up for age <2 years)			Non-Indigenous	People with so	me medical at ri	sk conditions	Aboriginal and Torres Strait Islander people			
Pneumococcal     13VPCV     NIP-funded     New     NIP-funded     NIP-funded     NIP-funded     Ni	Disease		without pneumo- coccal risk	deficiency/ eculizumab	anatomical	at risk medical	catch-up for	children in NT, Qld, SA,		
23vPPV     No longer recommended     NIP-funded     NIP-funded for some conditions     NIP-funded for some conditions     NIP-funded     NIP-funded       MenB     MenB     Newly NIP-funded     Newly NIP-funded	Desurranee	13vPCV				New				
Meningococcal     MenB     Newly NIP-funded     Newly NIP-funded     Newly NIP-funded     Newly NIP-funded     NIP-funded     NIP-funded       Hib (if required)     Hib vaccine (if required)     Hib vaccine (if required)     Newly NIP-funded     Newly NIP-funded     Schedule point       HepA     Image: Schedule point     Schedule point	Pneumococcal	23vPPV				NIP-funded for				
MenACWY     MenACWY       Hib (if required)     Hib vaccine (if required)       HepA     HepA	Meningococcal	MenB								
required)     (if required)     NIP-funded       HepAtitis A     HepA     Schedule point		MenACWY		- Mir-funded	NIF-Idhded					
Hepatitis A	`									
- vaccine change	Hepatitis A	HepA vaccine						Schedule point change		
									Page 8	



## Changes to the at-risk schedule

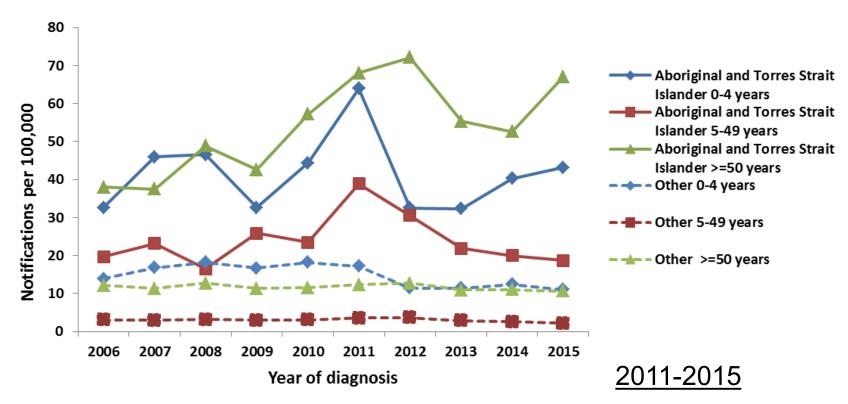
### Feedback from providers were that previous recommendations were too complex

Extensive literature review to inform creation of a "single" at risk table

- PCV13 + PPV23 + PPV23 funded for many very high risk patients previously unable to access funded pneumococcal vaccine

- Previous episode of invasive pneumococcal disease
- Functional or anatomical asplenia, including sickle cell disease or other haemoglobinopathies, congenital or acquired asplenia or hyposplenia
- Immunocompromising conditions, including o congenital or acquired immune deficiency, including symptomatic IgG subclass or isolated IgA deficiency
  - o haematological malignancies
  - o solid organ and haematopoietic stem cell transplant
  - HIV infection
  - o immunosuppressive therapy, where sufficient immune reconstitution for vaccine response is expected
  - onon-haematological malignancies receiving chemo or radiotherapy
- Proven or presumptive CSF leak, including cochlear implants and intracranial shunts
- Chronic respiratory disease, including suppurative lung disease, bronchiectasis, cystic fibrosis, severe ashtma and chronic lung disease in preterm infants
- Chronic renal disease, including relapsing or persistent nephrotic syndrome and chronic renal impairment (eGFR <30 mL/min)
- At risk Cardiac disease, including congenital heart disease, coronary artery disease and heart failure
  - Children born less than 28 weeks gestation
  - Trisomy 21
  - Chronic liver disease, including chronic hepatitis, cirrhosis, biliary atresia
  - Diabetes
  - Smoking (current or in the immediate past)
  - Harmful use of alcohol

Invasive pneumococcal disease notifications by age and Indigenous status, Australia, 2006-2015



- 3x higher in <5yrs
- 10x higher in 5-49yrs
- 6x higher in ≥50yrs

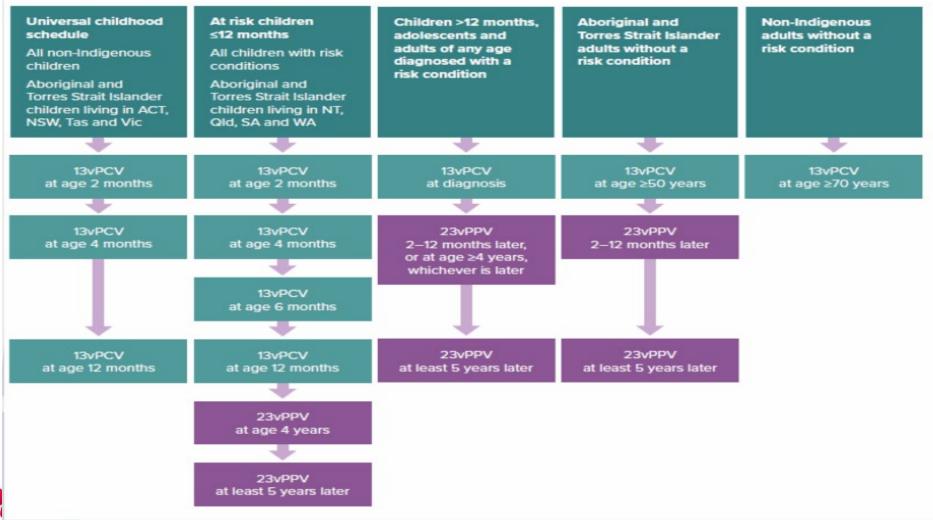


### New chart



### Figure 1. NIP funded pneumococcal vaccine schedule from 1 July 2020

The list of risk conditions is set out in **Table 1** over the page. Some of these conditions are eligible for NIP funded doses of pneumococcal vaccine.



Hunter New Englances://www.health.gov.au/sites/default/files/documents/2020/06/national-immunisation-program-pneumococcal-vaccination-schedule-from-1-july-2020-Local Health District clinical-decision-tree-for-vaccination-providers-national-immunisation-program-pneumococcal-vaccination-schedule-from-1-july-2020-clinical-de.pdf Australian Government Department of Health Australian Immunisation Handbook

### Pneumococcal vaccination for children <5 years old

Pneumococcal disease is a rare but serious condition that can cause significant illness, disability and death.

#### Australia-wide Routine 13vPCV schedule dose 1 at age 2 months dose 2 at age 4 months dose 3 at age 12 months Children 23vPPV 13vPCV with a risk condition for dose 1 at age 2 months dose 1 at age 4 years pneumococcal dose 2 at least 5 years later dose 2 at age 4 months disease dose 3 at age 6 months dose 4 at age 12 months



These vaccines are funded under the National Immunisation Program. See the Australian Immunisation Handbook for the list of risk conditions.



See the Australian Immunisation Handbook for more details.

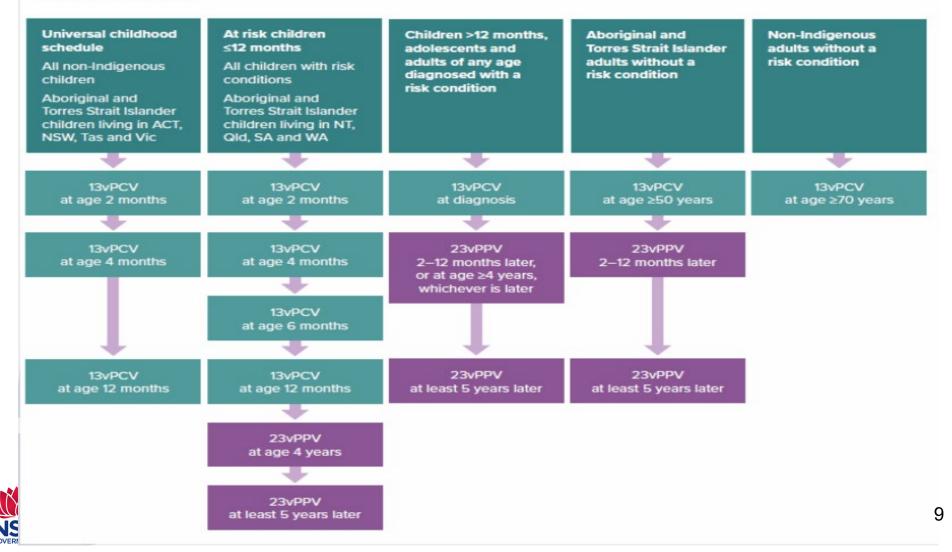


### New chart



### Figure 1. NIP funded pneumococcal vaccine schedule from 1 July 2020

The list of risk conditions is set out in **Table 1** over the page. Some of these conditions are eligible for NIP funded doses of pneumococcal vaccine.





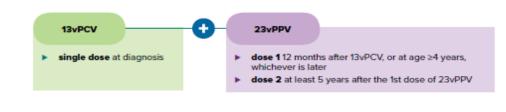
Australian Immunisation Handbook



### Pneumococcal vaccination for people with risk conditions for pneumococcal disease

People with certain conditions have an increased risk of pneumococcal disease. They need extra doses of vaccines to optimise protection.

Anyone over 12 months of age who is diagnosed with a risk condition should receive:



Risk conditions for pneumococcal disease include:

- previous episode of invasive pneumococcal disease
- immunocompromising conditions, including asplenia
- CSF leak
- chronic respiratory disease
- chronic kidney disease
- chronic liver disease
- cardiac disease
- extremely premature birth
- trisomy 21
- diabetes
- smoking
- harmful use of alcohol

See the Australian Immunisation Handbook for the full list of risk conditions, including which conditions are funded under the National Immunisation Program.

Many children and adults with these risk conditions are eligible for funded doses of pneumococcal vaccines under the National Immunisation Program



## **Pneumococcal Changes**

### **Pneumococcal Changes**

- List of at risk conditions condensed into 1 list i.e. there is no longer category A and category B lists
- All conditions are recommended to receive pneumococcal vaccination but it is only <u>funded</u> for some
- Now limited to 2 lifetime doses of Pneumovax 23

List. Updated list of risk conditions for pneumococcal vaccine recommendations and their eligibility for funding under the national immunisation program (NIP)

age       Previous episode of invasive pneumococcal disease     ✓       Functional or anatomical asplenia, including     ✓       – sickle cell disease or other haemoglokinopathies     ✓       – congenital or acquired asplenia (for example, splenectomy) or hyposplenia     ✓       Immunocompromising conditions, including     ✓       – congenital or acquired immune deficiency, including symptomatic IgG     ✓       – nage anatopoietic stem cell transplant     ✓       – haematopoietic stem cell transplant     ✓       – HIV inflection     ✓       – haematopoietic stem cell transplant     ✓       – HIV inflection     ✓       – naematopoietic stem cell transplant     ✓       – HIV inflection     ✓       – non-haematopoietic mailynancies receiving chemotherapy or radiotherapy (currently or anticipated)     ✓       Proven or presumptive cerebrospinal fluid (CSF) leak, including     ✓       – cochiear implants     ✓       – intracennial shunts     ✓       Chronic respiratory disease, including     ✓       – souppurative lung disease, including     ✓       – corbii cobstructive pulmonary disease (COPD) and chronic emphysema     ✓       – chronic obstructive pulmonary disease (COPD) and chronic mentysema     ✓	
Protoco character production of the second	≥5 years of age
- sickle cell disease or other haemoglobinopathies     - congenital or acquired asplenia (for example, splenectomy) or hyposplenia     //      //	×
- congenital or acquired asplenia (for example, splenectomy) or hyposplenia     // Immunocompromising conditions, including     - congenital or acquired immune deficiency, including symptomatic IgG     subclass or isolated IgA deficiency     - haematological malignancies     //     - haematological malignancies     //     - haematopoietic stem cell transplant     //     - intrunosuppressive therapy, where sufficient immune reconstitution for     vaccine response is expected; this includes those with underlying conditions     requiring but not yet receiving immunosuppressive therapy     - non-haematological malignancies receiving chemotherapy or radiotherapy     (currently or articipated)     //     - cochiear implants     //     - intracranial shunts     //     - intracranial shunts     //     - intracranial shunts     //     - suppurative lung disease, includingr     - suppurative lung disease, includingr     - chronic obstructive pulmonary disease (COPD) and chronic emphysema     - severe asthma (defined as requiring frequent hospital visits or the use of     multiple medications)	
Immunocompromising conditions, including       Immunocompromising conditions, including         - congenital or acquired immune deficiency, including symptomatic IgG       Immunocompromising conditions, including symptomatic IgG         - haematological malignancies       Immunocompromising conditions, including symptomatic IgG       Immunocompromising conditions, including symptomatic IgG         - haematological malignancies       Immunocompromising conditions       Immunocompromising conditions         - haematopoietic set cell transplant       Immunosuppressive therapy, where sufficient immune reconstitution for vaccine response is expected; this includes those with undertying conditions requiring but not yet receiving immunosuppressive therapy         - non-haematological malignancies receiving chemotherapy or radiotherapy (currently or anticipated)       Immunosuppressive therapy         Proven or presumptive cerebrospinal fluid (CSF) leak, including       Immunosuppressive therapy         - cochlear implants       Immunosuppressive therapy         - intracranial shunts       Immunosuppressive therapy         - intracranial shunts       Immunosuppressive terapy         - chronic lung disease, includingr       Immunosuppressive terapy         - chronic obstructive pulmonary disease (COPD) and chronic emphysema       Immunosuppressive terapy         - chronic obstructive pulmonary disease (COPD) and chronic emphysema       Immunosuppressive terapy         - chronic obstructive pulmonary disease (COPD) and chronic	1
- congenital or acquired immune deficiency, including symptomatic IgG     subclass or isolated IgA deficiency     - naematological malignancies     - naematological malignancies     - solid organ transplant     - haematopoietic stem cell transplant     - HIV infection     - HIV infection     - multiple expected the support of the	1
subclass or isolated IgA deficiency     Image: Subclass or isolated IgA deficiency       - haematological malignancies     Image: Subclass of	
Solid organ transplant     Solid organ transplant     Intervention     Solid organ transplant	1
Anematopoietic stem cell transplant     HIV infection     HIV infection     HIV infection     HIV infection     HIV infection     HIV infection     Immunosuppressive therapy, where sufficient immune reconstitution for     vaccine response is expected; this includes those with underlying conditions     requiring but not yet receiving immunosuppressive therapy     non-haematological malignancies receiving chemotherapy or radiotherapy     (currently or articipated)     Proven or presumptive cerebrospinal fluid (CSF) leak, including         - cochiear implants         - intracranial shunts         - drive server disease, including         - suppurative lung disease, including         - ethronic respiratory disease, including         - chronic lung disease in preterm infants         - chronic obstructive pulmonary disease (COPD) and chronic emphysema         - severe asthma (defined as requiring frequent hospital visits or the use of         multiple medications)	×
HIV infection     Immunosuppressive therapy, where sufficient immune reconstitution for     vaccine response is expected; this includes those with underlying conditions     requiring but not yet receiving immunosuppressive therapy     non-heamatological malignancies receiving chemotherapy or radiotherapy     (currently or anticipated)     Proven or presumptive cerebrospinal fluid (CSF) leak, including     - cochiear implants     - cochiear implants     - distributed of the set of the s	1
- immunosuppressive therapy, where sufficient immune reconstitution for vaccine response is expected; this includes those with underlying conditions requiring but not yet receiving immunosuppressive therapy     - non-haematological malignancies receiving chemotherapy or radiotherapy     (currently or anticipated)     Proven or presumptive cerebrospinal fluid (CSF) leak, including     - cochiear implants     - intracranial shunts     Chronic respiratory disease, including     - suppurative lung disease, including     - chronic lung disease, bronchiectasis and cystic fibrosis     - chronic lung disease in preterm infants     - chronic obstructive pulmonary disease (COPD) and chronic emphysema     - severe asthma (defined as requiring frequent hospital visits or the use of     multiple medications)	- <b>*</b>
- cochlear implants     - intracranial shunts     Chronic respiratory disease, includingr     - suppurative lung disease, bronchiectasis and cystic fibrosis     - chronic lung disease in preterm infants     - chronic obstructive pulmonary disease (COPD) and chronic emphysema     - severe asthma (defined as requiring frequent hospital visits or the use of     multiple medications)	•
intracranial shunts     Chronic respiratory disease, including     support disease, including     support disease, bronchiectasis and cystic fibrosis     - support lung disease in preterm infants     chronic lung disease in preterm infants     chronic obstructive pulmonary disease (COPD) and chronic emphysema     severe asthma (defined as requiring frequent hospital visits or the use of     multiple medications)	
Chronic respiratory disease, includingr  Supportive lung disease, bronchiectasis and cystic fibrosis Chronic lung disease in preterm infants Chronic obstructive pulmonary disease (COPD) and chronic emphysema severe asthma (defined as requiring frequent hospital visits or the use of multiple medications)	×
suppurative lung disease, bronchiectasis and cystic fibrosis    chronic lung disease in preterm infants    chronic obstructive pulmonary disease (COPD) and chronic emphysema    severe asthma (defined as requiring frequent hospital visits or the use of multiple medications)	1
- chronic lung disease in preterm infants     - chronic obstructive pulmonary disease (COPD) and chronic emphysema     - severe asthma (defined as requiring frequent hospital visits or the use of     multiple medications)	
<ul> <li>chronic obstructive pulmonary disease (COPD) and chronic emphysema</li> <li>severe asthma (defined as requiring frequent hospital visits or the use of multiple medications)</li> </ul>	×
<ul> <li>severe asthma (defined as requiring frequent hospital visits or the use of multiple medications)</li> </ul>	~
- interstitial and fibrotic lung disease Chronic ranal disease	
<ul> <li>relapsing or persistent nephrotic syndrome</li> </ul>	1
_ chronic renal impairment – eGFR <30 mL/min (stage 4 or 5 disease)     ✓* Cardiac disease, including*	1*
- congenital heart disease	
– coronary artery disease 🗸	
– heart failure 🗸	
Children born less than 28 weeks gestation	
Theory 21	
Chronic liver disease, including	
- chronic hepatitis	
- cimbosis	
- billary atresia	
Diabetes	
Smoking (current or in the immediate past)	
Hamful use of alcohol (Defined as consuming on average ≥60 g of alcohol (6 Australian standard drinks) per day for males and ≥40 g of alcohol (4 Australian standard drinks) per day for females) Funded under the NP for eGFR <15 mL/min only (including patients on dialysis)	

Individual conditions listed beneath or those that are similar based on clinical judgment

Note: All children and adults with above conditions are recommended to receive additional pneumococcal vaccine doses but they are funded under the NIP for those with the shaded conditions



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Healthe://www.health.gov.au/sites/default/files/documents/2020/06/national-immunisation-program-pneumococcal-vaccination-schedule-from-1-july-2020-clinical-decision-Hunter New England

### Medical conditions associated with increased risk of pneumococcal disease1.2

#### Prevenar 13 recommended and NIP-funded (at diagnosis)<sup>1,2</sup>



Previous episode of IPD



- Proven or presumptive CSF leak, including:
- Cochlear implants
  - · Intracranial shunts



#### Functional or anatomical asplenia, including:

- Sickle cell disease or other haemoglobinopathies
- Congenital / acquired asplenia (for e.g. splenectomy) or hyposplenia



#### Immunocompromising conditions, including:

- Congenital or acquired immune deficiency (including symptomatic lgG subclass or isolated lgA deficiency)
- Haematological malignancies
- Solid organ transplant
- Haematopoietic stem cell transplant (>1 dose is needed)
- HIV infection



#### Selected chronic respiratory disease, including:

- Suppurative lung disease, bronchiectasis and cystic fibrosis
- Chronic lung disease in preterm infants

#### Other chronic respiratory disease where Prevenar 13 is recommended but only available on private script including:

- COPD and chronic emphysema
- Severe asthma requiring frequent hospital visits or the use of multiple medications
- Interstitial and fibrotic lung disease



#### Chronic renal disease, including:

- Relapsing or persistent nephrotic syndrome
- Chronic renal impairment eGFR <15 mL/min, including patients on dialysis (stage 5 disease)

#### Prevenar 13 recommended and NIP-funded for children <5 years of age only (at diagnosis)<sup>1,2</sup>



#### Cardiac disease, including:

- Congenital heart disease
- · Coronary artery disease
- Heart failure



Children born less than 28 weeks gestation



#### All patients with these medical conditions should receive a 23vPPV dose 2-12 months after Prevenar 13, or at 4 years of age, whichever is later. A second dose of 23vPPV should be given 5-10 years later (two lifetime doses of 23vPPV).<sup>2</sup>

Recommendations and NIP funding status applies to both 13vPCV and 23vPPV.<sup>2</sup>

Full details of the recommendations including a full list of risk conditions where pneumococcal vaccines are recommended but available on private script are shown in the Australian Immunisation Handbook.<sup>3</sup>



### Polysaccharides bacterial virulence

- Streptococcus pneumoniae is an encapsulated bacteria
- Capsular polysaccharides
- Slime polysaccharides,
- Penicillin binding proteins

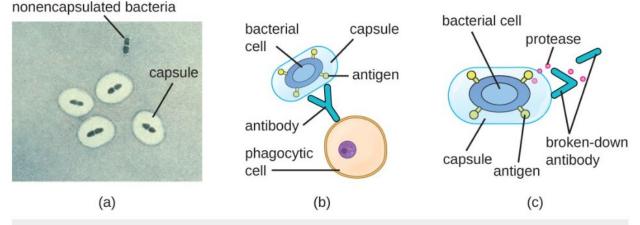
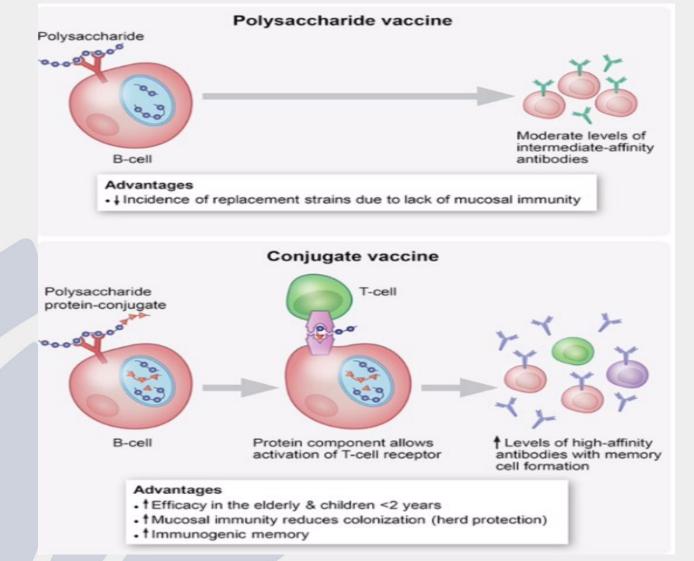


Figure 8. (a) A micrograph of capsules around bacterial cells. (b) Antibodies normally function by binding to antigens, molecules on the surface of pathogenic bacteria. Phagocytes then bind to the antibody, initiating phagocytosis. (c) Some bacteria also produce proteases, virulence factors that break down host antibodies to evade phagocytosis. (credit a: modification of work by Centers for Disease Control and Prevention)



### **Conjugate vaccines**



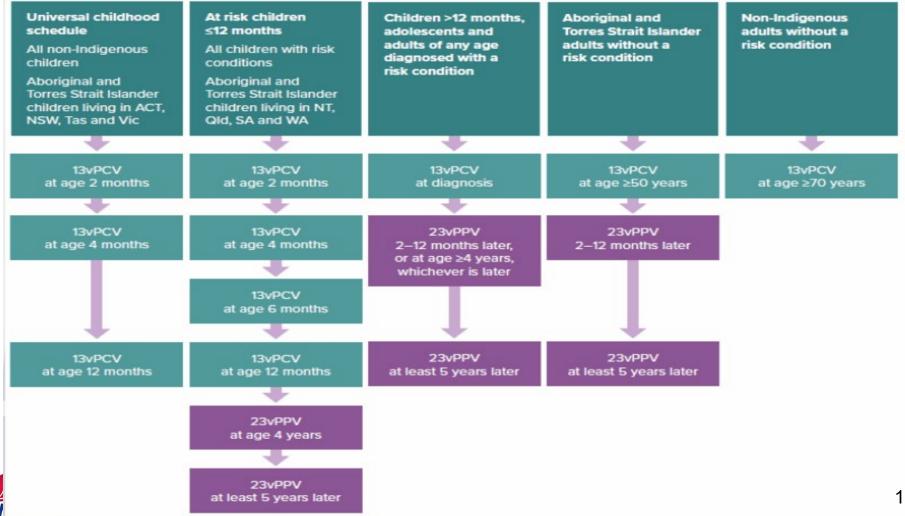


### New chart



### Figure 1. NIP funded pneumococcal vaccine schedule from 1 July 2020

The list of risk conditions is set out in Table 1 over the page. Some of these conditions are eligible for NIP funded doses of pneumococcal vaccine.



## **Changes for older Australians**

The role of PCV13, PPV23 or mixed schedules in older populations

Routine older Australian

Pfizer PCV13 application to replace a dose of PPV23 with PCV13 in older Australians based primarily on data from the CAPiTA trial (PCV13 vs placebo against pneumococcal CAP) PBAC commissioned independent review of the cost effectiveness of PPV23

### **Conclusions of the PBAC**

Replacing one dose of PPV23 with PCV13 was likely to be cost effective in older Australians. PPV23 is unlikely to be cost-effective when provided to the total population ≥65 years.

### Upon further consideration by the PBAC

PCV13 followed by up to two doses of PPV23 is likely to be cost-effective in Indigenous Australians ≥ 50 years given low opportunity cost and overall cost to government. The same schedule is expected to be cost effective in specific at-risk populations.





 The recommended vaccines and number of doses — 1 extra dose of 13vPCV and 2 doses of 23vPPV — are now the same for all people with risk conditions.

• The number of lifetime doses of 23vPPV recommended for people with risk conditions is now limited to 2 doses.



## No Spleen – vaccines now funded!







# d NIP-funded

## Overview of changes in vaccine recommendations and NIP-funded doses from July 2020

		Non-Indigenous	People with so	me medical at ri	sk conditions	Aboriginal and Torres Strait Islander people			
Disease	Specific vaccine	older adults without pneumo- coccal risk conditions	Complement deficiency/ eculizumab treatment	Functional or anatomical asplenia	Pneumococcal at risk medical conditions	Infants (with catch-up for age <2 years)	Young children in NT, Qld, SA, WA	Age ≥50 years	
Pneumococcal -	13vPCV	New recommendation NIP-funded		New recommendation NIP-funded	New single list New		New recommendation NIP-funded	New recommendation NIP-funded	
	23vPPV	No longer recommended			recommendation NIP-funded for some conditions				
Meningococcal	MenB		Newly NIP-funded	Newly NIP-funded		Newly NIP-funded			
	MenACWY								
Hib (if required)	Hib vaccine (if required)			Newly NIP-funded					
Hepatitis A	HepA vaccine						Schedule point change		

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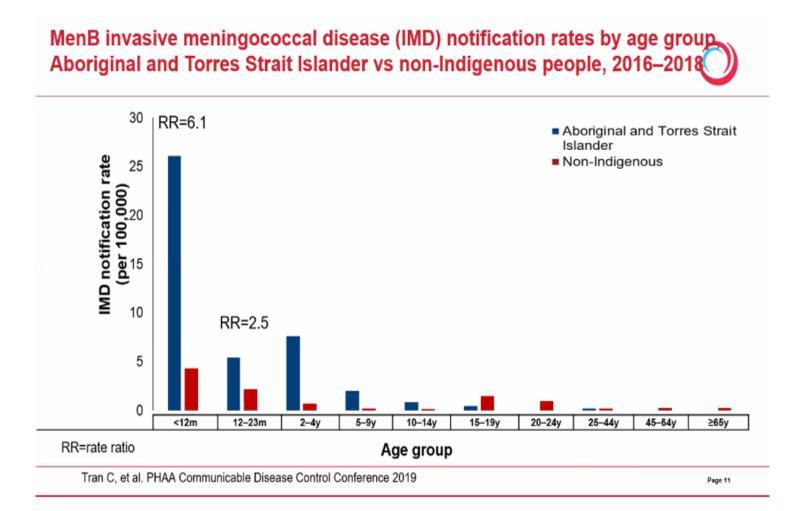
## Meningococcal B – Aboriginal children



- Bexsero will now be included on the routine childhood schedule for Aboriginal children at 6 weeks, 4 months and 12 months
- Catch up funded for children <2 years of age until 30 June 2023, number of doses required is age specific, see online Australian Immunisationhandbook for age appropriate course
- Paracetamol is recommended for children less than 2 years of age prior to and post vaccination
- Not included in "up to date" calculations for purposes of payments i.e. "No Jab, No Pay"



## Men B Increased risk





## Additional doses



## Meningococcal B vaccine for Aboriginal and Torres Strait Islander children

No changes to handbook recommendations, but new NIP funding for MenB vaccine:

- Meningococcal B vaccine (Bexsero®) will be NIP funded for Aboriginal and Torres Strait Islander infants.
  - · 2, 4 and 12 months of age with no medical risk conditions (3 doses)
  - 2, 4, 6 and 12 months of age with risk conditions for IMD (4 doses)

List 1. Risk conditions for invasive meningococcal disease that are eligible for both MenACWY and MenB NIPfunded\* vaccines

- Defects in, or deficiency of, complement components, including factor H, factor D or properdin deficiency
- Current or future treatment with eculizumab (a monoclonal antibody directed against complement component C5)
- Functional or anatomical asplenia, including sickle cell disease or other haemoglobinopathies, and congenital or acquired asplenia

\* Please refer to The Australian Immunisation Handbook available at immunisationhandbook.health.gov.au for advice on persons who are strongly recommended to receive meningococcal vaccination but not eligible for NIP funded MenB and MenACWY vaccines





The number and spacing of doses required depend on:

- the age when vaccination starts and
- the presence of risk conditions

Age at start of vaccination	Presence of at-risk medical conditions	Number of doses required for primary series	Schedule
6 weeks to 5 months	Yes	4	'3+1'
6 weeks to 5 months	No	3	'2+1'
6–11 months	regardless	3	'2+1'
≥12 months	regardless	2	2 doses (8 weeks apart)

Prophylactic paracetamol with each dose of Meningococcal B Vaccination for children aged <2 years

https://immunisationhandbook.health.gov.au/vaccine-preventable-diseases/meningococcal-disease



 People with the following at risk conditions are now funded to receive Meningococcal B (Bexsero) vaccine

- Asplenia / Hyposplenia
- Complement deficiency
- Treatment with Eculizumab





- Date of appointment: 10 July 2020
- Male, Age 35 years, non-Indigenous, NSW
- Emergency surgical splenectomy 3 weeks ago
- Otherwise healthy
- Tetanus-containing vaccine at hospital ED; No history of Hib vaccine or meningococcal vaccines; Had influenza vaccine in 2020

### Vaccination schedule plan:

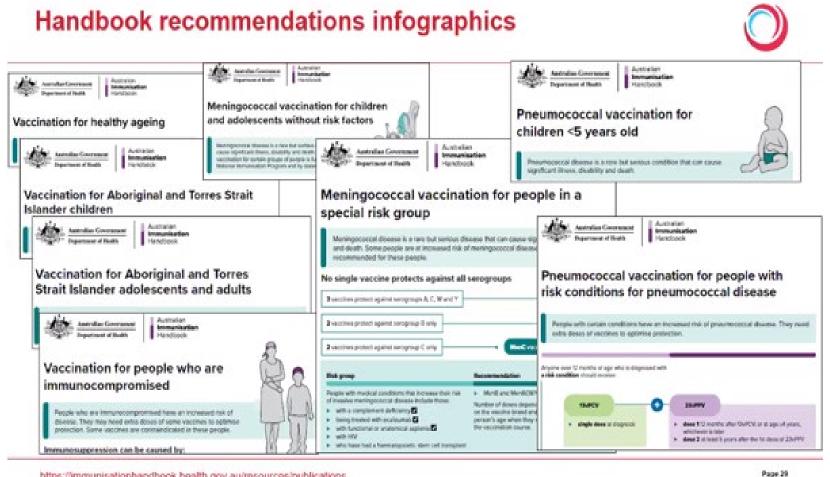
MMR funded by NSW state; All other doses funded by NIP

Vaccine	Brand product	Now 10 Jul 2020	15 Sep 2020	Jul 2021	 17 Sep 2025	Jul 2026	
	Prevenar 13®	~	<b></b>	Π			
Pneumococcal	Pneumovax 23®			1		✓	
Meningococcal ACWY	Nimenrix®	~	1		~		✓
Meningococcal B	Bexsero®	~	1				
Haemophilus influenzae type b	ActHIB®	~					



## Handbook





https://immunisationhandbook health ooy au/resources/publications



**Development of potential COVID-19 vaccines continues to accelerate** 

- UQ Phase 1 trial
- Oxford & AstraZeneca AZD12222 Phase 2/3 trials in UK
- Imperial College London Phase 1/2 trial
- Moderna Phase 2 (announced phase 3 with 30,000)
- Novavax (USA) Phase 1 of 130 Australian volunteers







## More Info on Bastille Day







- SAVE the DATE
- Tuesday 14 July 2020 at 6:30 to 8:00 pm

