



**Australian Government**

**Department of Health**

# **NATIONAL IMMUNISATION PROGRAM (NIP) BUSINESS RULES**

**DIGITAL AUSTRALIAN IMMUNISATION  
HANDBOOK SYSTEM (DAIHS)**

**NATIONAL IMMUNISATION CATCH-UP  
CALCULATOR (NICC)**

**COHORT: CHILDREN UNDER 10 YEARS**

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## 1 Purpose

This document describes the agreed business rules stipulated for the Australian Immunisation Handbook (AIH) National Immunisation Catch-up Calculator for the '**Children Under 10 Years of Age**' cohort.

These rules are the basis for the software code development for the online calculator available on the official Australian Immunisation Handbook (AIH) [website](#).

## 2 References

The NICC Cohort rules for each antigen listed in this document have been developed using the following reference sources:

- Online Australian Immunisation Handbook (AIH)
- National Immunisation Program (NIP) Schedule for each state and territory.
- Compromised Vaccine Guidelines for Jurisdictional Immunisation Coordinators, Australian Technical Advisory Group on Immunisation (ATAGI), November 2012
- The Australian Childhood Immunisation Register (ACIR) National Due and Overdue Rules  
[ACIR Due & Overdue Rules Jan 2016](#)  
[ACIR Rules May 2020](#)
- National Centre for Immunisation Research and Surveillance (NCIRS)

## 3 Document Details

### 3.1 Version Control

Version	Date	Details
1.0	1 March 2020	Initial rules extracted from SA Health document
1.1	30 June 2020	ATAGI July 2020 Updates
6.3	21 June 2022	Max-age for MenACWY for non-Indigenous children over 2 years fixed

### 3.2 Document Location

<b>TRIM Location</b>	D22-1821940
<b>File Name</b>	DAIHS – Business Rules – National Immunisation Catch-up Schedule – Cohort – Children Under 10 Years

### 3.3 Authorisation

This Project Board approved this document, as detailed below.

Version	Board Members	Date	Executive Signature / TRIM
<n.nn>	<Names>	<DD MMM YYYY>	

## 4 General Provisions

- All non-overdue antigens are due at the schedule points of 2,4,6,12 and 18 months and 4 years of age provided minimum intervals from previous doses have been met.
- Overdue antigen calculations are based on an interval of 28 days except when the interval between doses is 6 months then calendar months apply.
- Day of birth is counted as Day 0
- Rules apply to all children living in Australia unless otherwise specified
- The NICC provides catch-up advice for vaccines both recommended as per the Australian Immunisation Handbook as well as those funded under the NIP. Those incurring a cost to the patient (not funded under the NIP) will be indicated with a \$ sign.
- Some vaccines may not be funded under the NIP, but may be funded by an individual state or territory. These details will not be indicated in the NICC.
- This guidance does not take into account situations where post-exposure prophylaxis is needed (e.g. tetanus). For these details please refer to the Australian Immunisation Handbook.
- The NICC does not support the scheduling of vaccines while a person is undergoing cancer therapy. It can provide a catch-up schedule once the person is in remission and/or completed treatment.

### 4.1 NICC Considerations/Exceptions

The NICC:

- will not accept history or provide recommendations for children from their 10th birthday onwards.
- will accept history for children vaccinated overseas but recommends catch up based on the Australian schedule
- requires the user to flag whether a child has received vaccinations overseas to alert the user to be diligent in checking doses given and recommendations provided and provide additional information regarding overseas vaccines.
- requires the user to flag that a child has medical at risk (MAR) factors to prompt the user to consider MAR factors
- will only be as accurate as the data entered by operators/user


### 4.2 Infanrix hexa Rule

When DTPa / IPV / Hib / Hep B are due and recommended within 4 weeks of each other, the antigens may be grouped together and administered on the latest date that any of the 6 antigens are recommended.

The rule is not to be tied to an individual antigen or applied unless at least one dose of all Infanrix hexa antigens has already been given (ie DTPa, IPV, Hib and Hep B).

### 4.1 Medical risk conditions Rule

If a person who has a medical risk condition completes the recommended vaccine schedule and then develops another medical risk condition with the same vaccine recommendations, they do not need to repeat the vaccine schedule. However, if the second medical risk condition has different vaccine recommendations, these should be given.



The only exception to this is for people receiving a haematopoietic stem cell transplant (HSCT). If a person who has a medical risk condition completes the recommended vaccine schedule and then receives a HSCT, they may need to repeat vaccination with vaccines already given for the original medical risk condition. This will be indicated in the individual vaccine guidance below.



## 5 NIP Schedules and vaccines by State/Territory July 2020

NIP SCHEDULES and VACCINES by STATE / TERRITORY July 2020								
	SA	QLD	WA	NT	VIC	NSW	ACT	TAS
<b>Birth</b>	HBVaxII/ Enderix B Paediatric	HBVaxII/ Enderix B Paediatric	HBVaxII/ Enderix B Paediatric	HBVaxII/ Enderix B Paediatric	HBVaxII/ Enderix B Paediatric	HBVaxII/ Enderix B Paediatric	HBVaxII/ Enderix B Paediatric	HBVaxII/ Enderix B Paediatric
<b>2 months</b>	Infanrix hexa Prevenar 13 ® Rotarix	Infanrix hexa Prevenar 13 ® Rotarix	Infanrix hexa Prevenar 13 ® Rotarix	Infanrix hexa Prevenar 13 ® Rotarix	Infanrix hexa Prevenar 13 ® Rotarix	Infanrix hexa Prevenar 13 ® Rotarix	Infanrix hexa Prevenar 13 ® Rotarix	Infanrix hexa Prevenar 13 ® Rotarix
<b>Aboriginal and Torres Strait Islander children at 2 months</b>	Bexsero	Bexsero	Bexsero	Bexsero	Bexsero	Bexsero	Bexsero	Bexsero
<b>4 months</b>	Infanrix hexa Prevenar 13 ® Rotarix	Infanrix hexa Prevenar 13 ® Rotarix	Infanrix hexa Prevenar 13 ® Rotarix	Infanrix hexa Prevenar 13 ® Rotarix	Infanrix hexa Prevenar 13 ® Rotarix	Infanrixhexa Prevenar 13 ® Rotarix	Infanrix hexa Prevenar 13 ® Rotarix	Infanrix hexa Prevenar 13 ® Rotarix
<b>Aboriginal and Torres Strait Islander children at 4 months</b>	Bexsero	Bexsero	Bexsero	Bexsero	Bexsero	Bexsero	Bexsero	Bexsero



NIP SCHEDULES and VACCINES by STATE / TERRITORY								
July 2020								
	SA	QLD	WA	NT	VIC	NSW	ACT	TAS
<b>6 months</b>	Infanrix hexa	Infanrix hexa	Infanrix hexa	Infanrix hexa	Infanrix hexa	Infanrix hexa	Infanrix hexa	Infanrix hexa
<b>Aboriginal and Torres Strait Islander children at 6 months</b>	Prevenar 13 ®	Prevenar 13 ®	Prevenar 13 ®	Prevenar 13 ®	Nil additional vaccines	Nil additional vaccines	Nil additional vaccines	Nil additional vaccines
<b>12 months</b>	M-M-R II/Priorix Nimenrix Prevenar 13 ®	M-M-R II/Priorix Nimenrix Prevenar 13 ®	M-M-R II/Priorix Nimenrix Prevenar 13 ®	M-M-R II/Priorix Nimenrix Prevenar 13 ®	M-M-R II/Priorix Nimenrix Prevenar 13 ®	M-M-R II/Priorix Nimenrix Prevenar 13 ®	M-M-R II/Priorix Nimenrix Prevenar 13 ®	M-M-R II/Priorix Nimenrix Prevenar 13 ®
<b>Aboriginal and Torres Strait Islander children only at 12 months</b>	Bexsero	Bexsero	Bexsero	Bexsero	Bexsero	Bexsero	Bexsero	Bexsero
<b>18 months</b>	Priorix-Tetra / ProQuad Infanrix / Tripacel Act-HIB	Priorix-Tetra / ProQuad Infanrix / Tripacel Act-HIB	Priorix-Tetra / ProQuad Infanrix / Tripacel Act-HIB	Priorix-Tetra / ProQuad Infanrix / Tripacel Act-HIB	Priorix-Tetra / ProQuad Infanrix / Tripacel Act-HIB	Priorix-Tetra / ProQuad Infanrix / Tripacel Act-HIB	Priorix-Tetra / ProQuad Infanrix / Tripacel Act-HIB	Priorix-Tetra / ProQuad Infanrix / Tripacel Act-HIB
<b>Aboriginal and Torres Strait Islander</b>	Vaqta	Vaqta	Vaqta	Vaqta	Nil additional vaccines	Nil additional vaccines	Nil additional vaccines	Nil additional vaccines

NIP SCHEDULES and VACCINES by STATE / TERRITORY								
July 2020								
	SA	QLD	WA	NT	VIC	NSW	ACT	TAS
<b>children only at 18 months</b>								
<b>4 years</b>	Quadracel / Infanrix IPV	Quadracel / Infanrix IPV	Quadracel / Infanrix IPV	Quadracel / Infanrix IPV	Quadracel / Infanrix IPV	Quadracel / Infanrix IPV	Quadracel / Infanrix IPV	Quadracel / Infanrix IPV
<b>Aboriginal and Torres Strait Islander children only at 4 years</b>	Vaqt <span style="color:red">a</span> Pneumovax 23	Vaqt <span style="color:red">a</span> Pneumovax 23	Vaqt <span style="color:red">a</span> Pneumovax 23	Vaqt <span style="color:red">a</span> Pneumovax 23	Nil additional vaccines	Nil additional vaccines	Nil additional vaccines	Nil additional vaccines



## 6 Diphtheria-tetanus-acellular pertussis (DTPa)

### 6.1 Recommended Schedule

#### 6.1.1 All children

- 3 primary doses of DTPa at 2, 4 and 6 months of age.
- Booster dose of DTPa at 18 months and 4 years of age

#### 6.1.2 Aboriginal and Torres Strait Islander children

No additional recommendations

#### 6.1.3 Children with specified medical conditions

##### Children who have completed cancer therapy

- An additional booster dose of DTPa after 6 months in remission or the completion of treatment (whichever is more recent), if previously fully vaccinated before commencing cancer therapy
- If not fully vaccinated prior to cancer therapy, commence catch-up as for healthy children (instead of the booster dose), after 6 months in remission or the completion of treatment (whichever is more recent)

##### Children who have had a haematopoietic stem cell transplant

- 3 doses of DTPa at 6, 8, 12 months post-transplant, and age dependent booster dose/s
- If any doses from the primary schedule were not received prior to transplant, these do not need to be given. However, booster doses should be given, as per the routine schedule and catch-up for all children

### 6.2 Catch up dose parameters

#### 6.2.1 All children

##### *Valid doses*

##### Minimum Age

- Minimum age dose 1 is 29 days
- If dose 4 is administered at  $\geq 3$  years 6 months of age dose 5 is not required.
- If dose 5 is administered prior to 3 years 6 months of age it should not be repeated provided minimum intervals have been met.

##### Maximum Age

- Maximum age is 9 years 11 months 29 days (immediately prior to the 10th birthday)

##### Minimum Intervals

- Minimum interval dose 1 - dose 2 is 4 weeks

- Minimum interval dose 2 - dose 3 is 4 weeks
- Minimum interval dose 3 - dose 4 for future recommendations is 6 calendar months.
- Minimum accepted interval dose 3 - dose 4 for doses already given is 181 days.
- Minimum interval dose 4 - dose 5 for future recommendations is 6 calendar months.
- Minimum accepted interval dose 4 - dose 5 for doses already given is 181 days.

**NB:** Apply the Infanrix hexa rule when appropriate provided that at least one dose of all Infanrix hexa antigens has already been given (i.e. DTPa, IPV, Hib and Hep B).

### ***Invalid doses***

1st dose administered at  $\leq 28$  days of age

Message - Dose given at < minimum age

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

## **6.2.2 Children with specified medical conditions**

### **Children who have completed cancer therapy**

- If the routine childhood schedule has not been completed, refer to the catch-up parameters for all children, commencing vaccination from 6 months after remission/end of treatment

### ***Valid doses***

#### Minimum Intervals

- If the routine childhood schedule has been completed, minimum interval from remission/end of treatment - booster dose is 6 months

### ***Invalid doses***

Booster dose administered at <6 months from remission or end of treatment

Message - Dose given at < minimum interval from remission or end of treatment

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

### **Children who have had a haematopoietic stem cell transplant**

- 

### ***Valid doses***

#### Minimum Intervals

- Minimum interval from transplant - dose 1 is 6 months
- Minimum interval dose 1 - dose 2 is 2 months
- Minimum interval dose 2 - dose 3 is 4 months

- Minimum interval dose 3 - dose 4 is 6 months
- Minimum interval dose 4 - dose 5 is 6 months (

**NB:** Dose 5 not required if dose 4 given at  $\geq 3.5$  year of age

#### ***Invalid doses***

Booster dose administered at <6 months from transplant

Message - Dose given at < minimum interval from transplant

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

### **6.3 NIP funding**

Five childhood doses are funded for all children

## 7 Inactivated poliomyelitis vaccine (IPV)

### 7.1 Recommended Schedule

#### 7.1.1 All children

- 3 primary doses of IPV at 2, 4 and 6 months of age.
- Booster dose of IPV at 4 years of age

#### 7.1.2 Aboriginal and Torres Strait Islander children

No additional recommendations

#### 7.1.3 Children with specified medical conditions

##### Children who have had a haematopoietic stem cell transplant

- 3 doses of IPV at 6, 8, 12 months post-transplant
- If any doses from the primary schedule have not been received prior to transplant, these do not need to be given

### 7.2 Catch up dose parameters

#### 7.2.1 All children

##### ***Valid doses***

##### Minimum Age

- Minimum age dose 1 is 29 days
- Minimum age dose 4 is 3 years 6 months for doses already received
- If dose 3 is administered at  $\geq 4$  years of age dose 4 is not required.

##### Minimum Intervals

- Minimum interval dose 1 - dose 2 is 4 weeks
- Minimum interval dose 2 - dose 3 is 4 weeks
- Minimum interval dose 3 - dose 4 is 4 weeks

**NB:** Apply the Infanrix hexa rule when appropriate provided that at least one dose of all Infanrix hexa antigens has already been given (ie DTPa, IPV, Hib and Hep B).

##### ***Invalid doses***

1st dose administered at  $\leq 28$  days of age

4th dose administered at  $< 3.5$  years of age

Message - Dose given at  $<$  minimum age

Minimum interval between any 2 doses not met

Message - Dose given at  $<$  minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

## 7.2.2 Children with specified medical conditions

### Children who have had a haematopoietic stem cell transplant

#### *Valid doses*

#### Minimum Intervals

- Minimum interval from transplant - dose 1 is 6 months
- Minimum interval dose 1 - dose 2 is 2 months
- Minimum interval dose 2 - dose 3 is 4 months

#### *Invalid doses*

Booster dose administered at <6 months from transplant

Message - Dose given at < minimum interval from transplant

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

## 7.3 NIP funding

Four childhood doses are funded for all children

## 8 Hepatitis B

### 8.1 Recommended Schedule

#### 8.1.1 All children

- Birth dose of paediatric formulation Hep B vaccine between 0 and 7 days
- 3 Primary doses of paediatric formulation Hep B vaccine at 2, 4 and 6 months of age.

#### 8.1.2 Aboriginal and Torres Strait Islander children

No additional recommendations

#### 8.1.3 Children with specified medical conditions

##### Children who have completed cancer therapy

- An additional booster dose of paediatric formulation Hep B vaccine after 6 months in remission or the completion of treatment (whichever is more recent), if previously fully vaccinated before commencing cancer therapy
- If not fully vaccinated prior to cancer therapy, commence catch-up as for healthy children (instead of the booster dose), after 6 months in remission or the completion of treatment (whichever is most recent)

##### Children who have had a haematopoietic stem cell transplant

- 3 doses of adult formulation Hep B vaccine at 6, 8, 12 months post-transplant
- If any doses from the primary schedule have not been received prior to transplant, these do not need to be given

##### Children who have a HIV infection

- Follow the recommended schedule for all children
- Any doses given after diagnosis should be using the adult formulation Hep B vaccine

##### Children who were premature (<32 weeks gestation)/low birth weight infants (<2000g)

- An additional booster dose of paediatric formulation Hep B vaccine at 12 months of age

### 8.2 Catch up dose parameters

#### 8.2.1 All children

##### *Valid doses*

##### Birth Dose

- Catch-up of the birth dose is not required, however this dose (if given) may be assessed as the first dose (often for children vaccinated overseas) and a child can be considered fully vaccinated with doses given at birth, 1-2 months of age and  $\geq 6$  months of age
- Minimum age birth dose is 0 days
- Maximum age birth dose is 7 days



### Minimum Age

- Minimum age dose 1 is 29 days
- Minimum accepted age dose 3 for doses already given is 16 weeks

### Minimum Intervals

- Minimum interval dose 1 - dose 2 is 1 month
- Minimum interval dose 2 - dose 3 is 2 months
- Minimum interval dose 1 - dose 3 is 4 months
- Catch-up of the birth dose is not required

**NB:** Apply the Infanrix hexa rule when appropriate provided that at least one dose of all Infanrix hexa antigens has already been given (ie DTPa, IPV, Hib and Hep B).

### ***Invalid doses***

Birth dose administered at >7 days and ≤28 days of age OR

1st dose administered at ≤28 days of age

Message - Dose given at < minimum age

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

## **8.2.2 Children with specified medical conditions**

### **Children who have completed cancer therapy**

- If the routine childhood schedule has not been completed, refer to the catch-up parameters for all children

### ***Valid doses***

### Minimum Intervals

- If the routine childhood schedule has been completed, minimum interval from remission/end of treatment - booster dose is 6 months

### ***Invalid doses***

Booster dose administered at <6 months from remission or end of treatment

Message - Dose given at < minimum interval from remission or end of treatment

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

## Children who have had a haematopoietic stem cell transplant

### **Valid doses**

#### Minimum Intervals

- Minimum interval from transplant - dose 1 is 6 months
- Minimum interval dose 1 - dose 2 is 2 months
- Minimum interval dose 2 - dose 3 is 4 months

### **Invalid doses**

Booster dose administered at <6 months from transplant

Message - Dose given at < minimum interval from transplant

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

## Children who have a HIV infection

Refer to the catch-up parameters for all children

## Children who were premature (<32 weeks gestation)/low birth weight infants (<2000g)

### **Valid doses**

#### Minimum Intervals

- If the routine childhood schedule has been completed, the minimum interval from dose 3 to the booster dose is 6 months

### **Invalid doses**

Minimal interval between dose 3 and booster dose not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

## 8.3 NIP funding

The birth dose and 3 childhood doses are funded for all children

## 9 Haemophilus Influenzae Type b (Hib) PRP-T

### 9.1 Recommended Schedule

#### 9.1.1 All children

- 3 primary doses of Hib vaccine at 2, 4 and 6 months of age.
- Booster dose of Hib vaccine at 18 months of age

#### 9.1.2 Aboriginal and Torres Strait Islander children

No additional recommendations

#### 9.1.3 Children with specified medical conditions

**Children who have functional or anatomical asplenia (including sickle cell disease or other haemoglobinopathies)**

- 1 dose of Hib vaccine at  $\geq 5$  years of age only if unvaccinated (have not had HIB vaccine before)

**Children who have had a haematopoietic stem cell transplant**

- 3 doses of Hib vaccine at 6, 8, 12 months post-transplant
- If any doses from the primary schedule have not been received prior to transplant, these do not need to be given

### 9.2 Catch up dose parameters

#### 9.2.1 All children

##### *Valid doses*

##### Minimum Age

- Minimum age dose 1 is 29 days
- Minimum accepted age dose 4 for a dose already given is 11 months
- Minimum age dose 4 for future recommendations is 18 months

##### Maximum Age

- Maximum age is 4 years (immediately prior to the 5th birthday)

##### Minimum Intervals

- Minimum interval between primary doses at age <12 months is 4 weeks
- Minimum interval between last primary dose and booster dose is 2 months

**NB:** Apply the Infanrix hexa rule when appropriate provided that at least one dose of all Infanrix hexa antigens has already been given (ie DTPa, IPV, Hib and Hep B).

### Number of doses

The number of doses required depends on current age and previous doses received, see *Catch-up schedule for Haemophilus influenzae type b (Hib) vaccination for children <5 years of age* below

### **Invalid doses**

1st dose administered at  $\leq 28$  days of age OR

4th dose administered at <11 months of age

Message - Dose given at < minimum age

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

## **9.2.2 Children with specified medical conditions**

**Children who have functional or anatomical asplenia (including sickle cell disease or other haemoglobinopathies)**

### **Valid doses**

#### Minimum Age

- Minimum age dose 1 is 5 years if unvaccinated (not had any doses of this antigen)

#### Maximum Age

- No maximum age limit

## **9.2.3 Children who have had a haematopoietic stem cell transplant**

### **Valid doses**

#### Maximum Age

- No maximum age limit

#### Minimum Intervals

- Minimum interval from transplant - dose 1 is 6 months
- Minimum interval dose 1 - dose 2 is 2 months
- Minimum interval dose 2 - dose 3 is 4 months


### **Invalid doses**

Booster dose administered at <6 months from transplant

Message - Dose given at < minimum interval from transplant

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose



**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

### **9.3 NIP funding**

The 4 childhood doses are funded for all children.

The single dose of Hib vaccine for unvaccinated children who have functional or anatomical asplenia (including sickle cell disease or other haemoglobinopathies) aged  $\geq 5$  years of age is funded.

Catch-up schedule for *Haemophilus influenzae type b (Hib)* vaccination for children <5 years of age

Number of Hib doses received previously	Current age	Age at 1st dose of Hib vaccine	Age at 2nd dose of Hib vaccine	Age at 3rd dose of Hib vaccine	Number of further primary dose(s) needed	Number of booster doses needed at age ≥18 months, or 2 months after the last dose (whichever is later)
None	<7 months	N/A	N/A	N/A	3	1
	7–11 months	N/A	N/A	N/A	2	1
	12–17 months	N/A	N/A	N/A	1	1
	18–59 months	N/A	N/A	N/A	1	N/A
1	<12 months	<7 Months	N/A	N/A	2	1
	<12 months	7–11 months	N/A	N/A	1	1
	12–17 months	<12 months	N/A	N/A	1	1
	12–17 months	≥12 months	N/A	N/A	N/A	1
	18–59 months	<12 months	N/A	N/A	N/A	1
	18–59 months	≥12 months–<18 months	N/A	N/A	N/A	1
	18–59 months	≥18 months	N/A	N/A	N/A	N/A
2	<12 months	<7 months	<12 months	N/A	1	1
	<12 months	7-11 months	7–11 months	N/A	N/A	1
	12–17 months	<12 months	Any age	N/A	N/A	1
	12–17 months	≥12 months	≥12 months	N/A	N/A	N/A
	18-59 months	<12 months	<12 months	N/A	N/A	1
	18–59 months	<12 months	≥12 months	N/A	N/A	1
	18–59 months	≥12 months	≥12 months	N/A	N/A	N/A
3	<17 months	<12 months	<12 months	<12 months	Na	1
	12–17 months	At least 1 dose (most likely 3rd dose) at 12–17 months	At least 1 dose (most likely 3rd dose) at 12–17 months	At least 1 dose (most likely 3rd dose) at 12–17 months	N/A	N/A
	18–59 months	<12 months	<12 months	<12 months	N/A	1
	18–59 months	At least 1 dose at ≥12 months	At least 1 dose at ≥12 months	At least 1 dose at ≥12 months	N/A	N/A

N/A = Not Applicable

## 10 Pneumococcal conjugate

### 10.1 Recommended Schedule

#### 10.1.1 Non-Aboriginal and Torres Strait Islander children in all states and Aboriginal and Torres Strait Islander children in ACT, NSW, TAS & VIC

- 2 primary doses of 13vPCV (pneumococcal conjugate vaccine) at 2 and 4 months of age.
- Booster dose of 13vPCV (pneumococcal conjugate vaccine) at 12 months of age

#### 10.1.2 Aboriginal and Torres Strait Islander children in NT, QLD, SA or WA

- 3 primary doses of 13vPCV (pneumococcal conjugate vaccine) at 2, 4 and 6 months of age.
- Booster dose of 13vPCV (pneumococcal conjugate vaccine) at 12 months of age

#### 10.1.3 Children with specified medical conditions

##### Children who have specified medical conditions listed in the table below

- 1 additional dose of 13vPCV (pneumococcal conjugate vaccine) at diagnosis if >6 months OR
- 1 additional dose of 13vPCV (pneumococcal conjugate vaccine) at 6 months of age if diagnosed at <6 months of age
- If a person is diagnosed with a second specified medical condition and they have received all recommended vaccines, they do not repeat these

##### Children who have had a haematopoietic stem cell transplant

- 3 doses of 13vPCV (pneumococcal conjugate vaccine) at 6, 8, 12 months post-transplant
- If any doses from the primary and booster schedule have not been received prior to transplant, these do not need to be given

*Specified medical conditions for which an additional dose of 13vPCV is scheduled.*

<b>Previous episode of invasive pneumococcal disease</b>	
<b>Functional or anatomical asplenia, including sickle cell disease or other haemoglobinopathies</b>	
<b>Immunocompromising conditions</b>	congenital or acquired immune deficiency
	haematological malignancies
	solid organ transplant
	HIV infection
	immunosuppressive therapy (current or anticipated)
	non-haematological malignancies receiving chemotherapy or radiotherapy (currently or anticipated)
	Defects in, or deficiency of, complement components, including factor H, factor D or properdin deficiency
Current or future treatment with eculizumab	

	Other immunocompromising condition
<b>Proven or presumptive cerebrospinal fluid (CSF) leak</b>	cochlear implants
	intracranial shunts
<b>Chronic respiratory disease</b>	suppurative lung disease, bronchiectasis and cystic fibrosis
	chronic lung disease in preterm infants
	chronic obstructive pulmonary disease (COPD) or chronic emphysema
	severe asthma (defined as requiring frequent hospital visits or the use of multiple medications)
	interstitial and fibrotic lung disease
	other chronic respiratory disease
<b>Chronic renal disease</b>	relapsing or persistent nephrotic syndrome
	Stage 4 chronic kidney disease – eGFR <30 mL/min
	Stage 5 chronic kidney disease (kidney failure) – eGFR <15 mL/min
<b>Cardiac disease</b>	congenital heart disease
	coronary artery disease
	heart failure
	long-term aspirin therapy in children aged 6 months to 10 years
	other cardiac disease
<b>Pre-term infant or low-birth weight baby</b>	children born less than 28 weeks gestation
	low-birth weight baby
<b>Trisomy 21</b>	
<b>Chronic liver disease</b>	chronic hepatitis
	cirrhosis
	biliary atresia
	other chronic liver disease
<b>Diabetes</b>	

## 10.2 Catch up dose parameters

### 10.2.1 Non-Aboriginal and Torres Strait Islander children in all states and Aboriginal and Torres Strait Islander children in ACT, NSW, TAS & VIC

#### *Valid doses*

#### Minimum Age

- Minimum age dose 1 is 29 days
- Minimum accepted age for dose 3 already given is 11 months for children born on or after 1/7/2017.



- For children born on or before 30/6/2017, dose 3 already given at any age is accepted provided the minimum age for dose 1 and minimum intervals of at least 4 weeks between any doses given at <12 months and 8 weeks between any doses given at ≥12 months have been met.
- Minimum age dose 3 for future recommendations is 12 months for all children

#### Maximum Age

- Maximum age is 4 years (immediately prior to the 5th birthday)

#### Minimum Intervals

- Minimum interval between primary doses at age <12 months is 1 month (calculated from the age at which the previous dose was given – ie <12 months)
- Minimum interval between any 2 doses given at ≥12 months is 2 months (calculated from the age at which the previous dose was given – ie ≥12 months)
- Minimum interval between last primary dose and booster dose is 2 months

#### Number of doses

The number of doses required depends on current age and previous doses received, see *13vPCV catch-up for non-Aboriginal and Torres Strait Islander children aged < 5 years in all states and Aboriginal and Torres Strait Islander children aged <5 years in ACT, NSW, TAS & VIC*

#### **Invalid doses**

1st dose administered at ≤28 days of age

3rd dose administered at <11 months age for children born 1/7/2017 onwards

Message - Dose given at < minimum age

3rd dose administered at 11 - <12 months age for children born 1/7/2017 onwards

Message – No message to be displayed.

**NB:** This dose is not repeated at ≥12 months of age provided the minimum interval from the last primary dose has been met.

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

*13vPCV catch-up for non-Aboriginal and Torres Strait Islander children aged < 5 years in all states and Aboriginal and Torres Strait Islander children aged <5 years in ACT, NSW, TAS & VIC.*

Number of doses given previously	Age at presentation	Age when previous dose of 13vPCV was given			Recommendation
		1st dose	2nd dose	3rd dose	Number of further dose(s) required
No previous doses	<12 months	–	–	–	3
	12–59 months	–	–	–	1

1 previous dose	<12 months	<12 months	–	–	2
	12–59 months	<12 months	–	–	1
		≥12 months	–	–	None
2 previous doses	<12 months	<12 months	<12 months	–	1
	12–59 months	<12 months	<12 months	–	1
		≥12 months	–	–	None
3 previous doses	<12 months	<12 months	<12 months	<12 months	1
	12–59 months	<12 months	<12 months	<12 months	None
	12–59 months	<12 months	<12 months	12–59 months	None
	12–59 months	<12 months	12–59 months	12–59 months	None
	12–59 months	12–59 months	12–59 months	12–59 months	None

## 10.2.2 Aboriginal and Torres Strait Islander children in NT, QLD, SA or WA

### **Valid doses**

#### Minimum Age

- Minimum age dose 1 is 29 days
- The dose 3 minimum age rule does not apply to this group
- Minimum accepted age dose 4 for a dose already given is 11 months
- Minimum accepted age dose 4 for future recommendations is 12 months

#### Maximum Age

- Maximum age is 4 years (immediately prior to the 5th birthday)

#### Minimum Intervals

- Minimum interval between primary doses at age <12 months is 1 month (calculated from the age at which the previous dose was given – ie <12 months)
- Minimum interval between any 2 doses given at ≥12 months is 2 months (calculated from the age at which the previous dose was given – ie ≥12 months)
- Minimum interval between last primary dose and booster dose is 2 months
- Minimum interval between previous dose of 23vPPV and a dose of 13vPCV is 12 months

#### Number of doses

The number of doses required depends on current age and previous doses received, see *13vPCV catch-up for Aboriginal and Torres Strait Islander children living in NT, QLD, SA or WA aged <5 years and children with specified medical conditions below*

**Invalid doses**

1st dose administered at  $\leq 28$  days age

4th dose administered at  $< 11$  months age

Message - Dose given at  $<$  minimum age

4th dose administered at 11 -  $< 12$  months age

Message – No message to be displayed.

**NB:** This dose is not repeated at  $\geq 12$  months of age provided the minimum interval from the last primary dose has been met.

Minimum interval between any 2 doses not met

Message - Dose given at  $<$  minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

*13vPCV catch-up for Aboriginal and Torres Strait Islander children living in NT, QLD, SA or WA aged  $< 5$  years and children with specified medical conditions*

Number of doses given previously	Age at presentation	Age when previous dose of 13vPCV was given			Recommendation Number of further dose(s) required
		1st dose	2nd dose	3rd dose	
No previous doses	$< 12$ months	–	–	–	4
	12–59 months	–	–	–	2
1 previous dose	$< 12$ months	Any age	–	–	3
	12–59 months	$< 12$ months	–	–	2
		$\geq 12$ months	–	–	1
2 previous doses	$< 12$ months	Any age	Any age	–	2
	12–59 months	$< 12$ months	$< 12$ months	–	2
		$\geq 12$ months	$\geq 12$ months	–	1
		$\geq 12$ months	$\geq 12$ months	–	None
3 previous doses	$< 12$ months	Any age	Any age	Any age	1
	12–59 months	$< 12$ months	$< 12$ months	Any age	1
	12–59 months	$< 12$ months	$< 12$ months	12–59 months	1
	12–59 months	$< 12$ months	12–59 months	12–59 months	None
	12–59 months	12–59 months	12–59 months	12–59 months	None

### 10.2.3 Children with specified medical conditions

#### Children who have specified medical conditions listed above

##### **Valid doses**

##### Minimum Intervals

- Minimum interval is 2 months after any previous doses of 13vPCV
- Minimum interval between previous dose of 23vPPV and a dose of 13vPCV is 12 months

##### Number of doses

The number of doses required depends on current age and previous doses received, see *13vPCV catch-up for Aboriginal and Torres Strait Islander children living in NT, QLD, SA or WA aged <5 years and children with specified medical conditions*

##### **Invalid doses**

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

#### Children who have had a haematopoietic stem cell transplant

##### **Valid doses**

##### Minimum Intervals

- Minimum interval from transplant - dose 1 is 6 months
- Minimum interval dose 1 - dose 2 is 2 months
- Minimum interval dose 2 - dose 3 is 4 months

##### **Invalid doses**

Booster dose administered at <6 months from transplant

Message - Dose given at < minimum interval from transplant

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

## 10.3 NIP funding

All scheduled childhood doses are funded for non-Aboriginal and Torres Strait Islander children and Aboriginal and Torres Strait Islander children. The following children with specified medical conditions are eligible for additional funded doses:

- Previous episode of invasive pneumococcal disease
- Functional or anatomical asplenia, including sickle cell disease or other haemoglobinopathies



- Congenital or acquired immune deficiency
- Haematological malignancies
- Solid organ transplant
- Haematopoietic stem cell transplant
- HIV infection
- Cochlear implants
- Intracranial shunts
- Suppurative lung disease, bronchiectasis and cystic fibrosis
- Chronic lung disease in preterm infants
- Relapsing or persistent nephrotic syndrome
- Stage 5 chronic kidney disease (kidney failure) – eGFR <15 mL/min

The following children <5 years of age with specified medical conditions are eligible for additional funded doses:

- Congenital heart disease
- Coronary artery disease
- Heart failure
- Children born less than 28 weeks gestation
- Trisomy 21

## 11 Pneumococcal polysaccharide

### 11.1 Recommended Schedule

#### 11.1.1 Non-Aboriginal and Torres Strait Islander children in all states and Aboriginal and Torres Strait Islander children in ACT, NSW, TAS & VIC

No additional recommendations

#### 11.1.2 Aboriginal and Torres Strait Islander children in NT, QLD, SA or WA

- 1 dose of 23vPPV (pneumococcal polysaccharide vaccine) 12 months after 13vPCV (2–12 months later is acceptable) or at 4 years of age whichever is later
- a 2nd dose of 23vPPV (pneumococcal polysaccharide vaccine) at least 5 years after the first dose of 23vPPV

#### 11.1.3 Children with specified medical conditions

Children who have specified medical conditions listed in the table below or who have had a haematopoietic stem cell transplant

- 1 dose of 23vPPV (pneumococcal polysaccharide vaccine) 12 months after 13vPCV (2–12 months later is acceptable) or at 4 years of age whichever is later
- a 2nd dose of 23vPPV (pneumococcal polysaccharide vaccine) at least 5 years after the first dose of 23vPPV
- If a person is diagnosed with a second specified medical condition and they have received all recommended vaccines, they do not repeat these

*Specified medical conditions for which doses of 23vPPV are scheduled.*

<b>Previous episode of invasive pneumococcal disease</b>	
<b>Functional or anatomical asplenia, including sickle cell disease or other haemoglobinopathies</b>	
<b>Immunocompromising conditions</b>	congenital or acquired immune deficiency
	haematological malignancies
	solid organ transplant
	HIV infection
	immunosuppressive therapy (current or anticipated)
	non-haematological malignancies receiving chemotherapy or radiotherapy (currently or anticipated)
	Defects in, or deficiency of, complement components, including factor H, factor D or properdin deficiency
	Current or future treatment with eculizumab
	Other immunocompromising condition
	cochlear implants

<b>Proven or presumptive cerebrospinal fluid (CSF) leak</b>	intracranial shunts
<b>Chronic respiratory disease</b>	suppurative lung disease, bronchiectasis and cystic fibrosis
	chronic lung disease in preterm infants
	chronic obstructive pulmonary disease (COPD) or chronic emphysema
	severe asthma (defined as requiring frequent hospital visits or the use of multiple medications)
	interstitial and fibrotic lung disease
	other chronic respiratory disease
<b>Chronic renal disease</b>	relapsing or persistent nephrotic syndrome
	Stage 4 chronic kidney disease – eGFR <30 mL/min
	Stage 5 chronic kidney disease (kidney failure) – eGFR <15 mL/min
<b>Cardiac disease</b>	congenital heart disease
	coronary artery disease
	heart failure
	long-term aspirin therapy in children aged 6 months to 10 years
	other cardiac disease
<b>Pre-term infant</b>	children born less than 28 weeks gestation
<b>Trisomy 21</b>	
<b>Chronic liver disease</b>	chronic hepatitis
	Cirrhosis
	biliary atresia
	other chronic liver disease
<b>Diabetes</b>	

## 11.2 Catch up dose parameters

### 11.2.1 Aboriginal and Torres Strait Islander children in NT, QLD, SA or WA

#### *Valid doses*

#### Minimum Age

- Minimum age dose 1 is 18 months

#### Minimum Intervals

- Minimum interval between dose of 13vPCV and 23vPPV where already given is 2 months
- Minimum interval for future dose 1 of 23vPPV after dose of 13vPCV is 12 months
- Minimum interval between 2 doses of 23vPPV is 5 years

**Invalid doses**

1st dose administered at <18 months of age

Message - Dose given at < minimum age

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

### 11.2.2 Children with specified medical conditions

**Children who have specified medical conditions listed in the table above or who have had a haematopoietic stem cell transplant**

**Valid doses**Minimum Age

- Minimum age dose 1 is 18 months

Minimum Intervals

- Minimum interval between dose of 13vPCV and 23vPPV where already given is 2 months
- Minimum interval for future dose 1 of 23vPPV after dose of 13vPCV is 12 months
- Minimum interval between 2 doses of 23vPPV is 5 years

**Invalid doses**

1st dose administered at <18 months of age

Message - Dose given at < minimum age

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose


**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

### 11.3 NIP funding

All scheduled childhood doses are funded for non-Aboriginal and Torres Strait Islander children and Aboriginal and Torres Strait Islander children. The following children with specified medical conditions are eligible for additional funded doses:

- Previous episode of invasive pneumococcal disease
- Functional or anatomical asplenia, including sickle cell disease or other haemoglobinopathies
- Congenital or acquired immune deficiency
- Haematological malignancies
- Solid organ transplant
- Haematopoietic stem cell transplant



- 
- HIV infection
  - Cochlear implants
  - Intracranial shunts
  - Suppurative lung disease, bronchiectasis and cystic fibrosis
  - Chronic lung disease in preterm infants
  - Relapsing or persistent nephrotic syndrome
  - Stage 5 chronic kidney disease (kidney failure) – eGFR <15 mL/min

The following children <5 years of age with specified medical conditions are eligible for additional funded doses:

- Congenital heart disease
- Coronary artery disease
- Heart failure
- Children born less than 28 weeks gestation
- Trisomy 21

## 12 Rotavirus

### 12.1 Recommended Schedule

#### 12.1.1 All children

- 2 primary doses of rotavirus vaccine at 2 and 4 months of age.

#### 12.1.2 Aboriginal and Torres Strait Islander children

No additional recommendations

#### 12.1.3 Children with specified medical conditions

No additional recommendations

### 12.2 Catch up dose parameters

#### *Valid doses*

##### Minimum Age

- Minimum age dose 1 is 29 days

##### Maximum Age

- Maximum age dose 1 is 14 weeks and 6 days (<15 weeks age)
- Maximum age dose 2 is 24 weeks and 6 days (<25 weeks age)
- If dose 1 is not administered by 14 weeks and 6 days of age, NO doses are to be given.
- If dose 1 has already been given at > the recommended age limit dose 2 is recommended as per the schedule provided the minimum dose intervals and upper age limits for subsequent doses can be met.

##### Minimum Intervals

- Minimum interval between dose 1 and dose 2 is 4 weeks

#### *Invalid doses*

1st dose administered at  $\leq 28$  days of age

Message - Dose given at < minimum age

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous invalid dose if already overdue, as long as maximum age limits are not exceeded

## 13 Meningococcal ACWY Conjugate (MenACWY)

### 13.1 Recommended Schedule

#### 13.1.1 All children

- 3 doses of MenACWY vaccine at 2, 4 and 12 months of age

#### 13.1.2 Aboriginal and Torres Strait Islander children

No additional recommendations

#### 13.1.3 Children with specified medical conditions

Children who have specified medical conditions listed in the table below

- 4 doses of MenACWY vaccine at 2, 4, 6 and 12 months of age, instead of the usual 3 doses for all children
- If  $\leq 6$  years of age, a first booster dose 3 years after completing the primary schedule, and a second booster dose 5 years later
- If  $\geq 7$  years of age, a booster dose 5 years after completing the primary schedule

Children who have completed cancer therapy

- An additional booster dose of MenACWY vaccine after 6 months in remission or the completion of treatment (whichever is more recent), if previously fully vaccinated before commencing cancer therapy
- If not fully vaccinated prior to cancer therapy, commence catch-up as for healthy children (instead of the booster dose), after 6 months in remission or the completion of treatment (whichever is most recent)

Children who have had a haematopoietic stem cell transplant

- If  $< 12$  months of age, 3 primary doses of MenACWY vaccine from 6 months post-transplant, following schedule for children who have specified medical conditions and no previous doses
- If  $\geq 12$  months of age, 2 primary doses of MenACWY vaccine from 6 months post-transplant, following schedule for children who have specified medical conditions and no previous doses
- If  $\leq 6$  years of age, a first booster dose 3 years after completing the initial primary schedule, and a second booster dose 5 years after the first booster dose
- If  $\geq 7$  years of age, a booster dose 5 years after completing the primary schedule

*Specified medical conditions for which additional doses of MenACWY vaccine are scheduled.*

functional or anatomical asplenia, including sickle cell disease or other haemoglobinopathies
defects in, or deficiency of, complement components, including factor H, factor D or properdin deficiency
current or planned future treatment with eculizumab
HIV infection

## 13.2 Catch up dose parameters

### 13.2.1 All children

#### **Valid doses**

##### Minimum Age

- Minimum age dose 1 is 29 days
- Minimum accepted age for dose 3 already given is 11 months
- Minimum age dose 3 for future recommendations is 12 months

##### Maximum Age

- Maximum age 10y-1d years (immediately prior to the 10th birthday)

##### Minimum Intervals

- Minimum interval between primary doses is 8 weeks
- If a valid Meningococcal C-containing vaccine has already been given at  $\geq 11$  months age, MenACWY is not required unless the child is born on or after 1/7/2017.

##### Number of doses

- The number of doses required depends on current age and previous doses received, see *MenACWY vaccine catch-up for healthy children aged <2 years* below

#### **Invalid doses**

1st dose administered at  $\leq 28$  days of age

Message - Dose given at < minimum age

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

*MenACWY vaccine catch-up for healthy children aged <2 years\**

Number of doses given previously	Age at presentation	Age when previous dose of MenACWY was given			Recommendation
		1st dose	2nd dose	3rd dose	Number of further dose(s) required
No previous doses	<6 months	–	–	–	3
	6–<12 months	–	–	–	2
	$\geq 12$ months	–	–	–	1
1 previous dose	<12 months	<6 months	–	–	2
	6–<12 months	6–<12 months	–	–	1

	≥12 months	<12 months	–	–	1
	≥12 months	≥12 months	–	–	None
2 previous doses	<12 months	<12 months	<12 months	–	1
	≥12 months	<12 months	<12 months	–	1
	≥12 months	Any age	≥12 months	–	None
3 previous doses	<12 months	<12 months	<12 months	<12 months	1
	≥12 months	<12 months	<12 months	<12 months	1
	≥12 months	Any age	Any age	≥12 months	None

\*No upper age limit for Aboriginal and Torres Strait Islander children

### 13.2.2 Children with specified medical conditions

Children who have specified medical conditions listed in the table above

#### **Valid doses**

##### Minimum age

- Minimum age dose 1 is 29 days
- Minimum accepted age for dose 4 already given is 11 months
- Minimum age dose 4 for future recommendations is 12 months
- Minimum age for booster dose is 4 years

##### Minimum Intervals

- Minimum interval between primary doses is 8 weeks
- Minimum interval between dose 4 and booster dose is 3 years
- Minimum interval between first booster dose and second booster dose is 5 years
- Minimum interval between any previous dose of MenACWY polysaccharide vaccine and a MenACWY conjugate vaccine is 2 years

##### Number of doses

- The number of doses required depends on current age and previous doses received, see *MenACWY vaccine primary catch-up for children with specified medical conditions* below

#### **Invalid doses**

1st dose administered at ≤28 days of age

Message - Dose given at < minimum age

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

**Children who have completed cancer therapy**

- If the routine childhood schedule has not been completed, refer to the catch-up parameters for all children

**Valid doses**Minimum Intervals

- If the routine childhood schedule has been completed, minimum interval from remission/end of treatment - booster dose is 6 months

**Invalid doses**

Booster dose administered at <6 months from remission or end of treatment

Message - Dose given at < minimum interval from remission or end of treatment

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

**Children who have had a haematopoietic stem cell transplant****Valid doses**Minimum Intervals

- Minimum interval from transplant - dose 1 is 6 months
- Minimum interval dose 1 - dose 2 is 2 months
- Minimum interval dose 2 - dose 3 is 4 months (only required if vaccination commenced at 6–11 months of age)
- Minimum interval between dose 3 and booster dose is 3 years
- Minimum interval between first booster dose and second booster dose is 5 years

**Invalid doses**

Dose administered at <6 months from transplant

Message - Dose given at < minimum interval from transplant

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

*MenACWY vaccine primary catch-up for children with specified medical conditions*

Number of doses given previously	Age at presentation	Age when previous dose of MenACWY was given				Recommendation
		1st dose	2nd dose	3rd dose	4th dose	Number of further dose(s) required
	<6 months	–	–	–	–	4

No previous doses	6–<12 months	–	–	–	–	3
	≥12 months	–	–	–	–	2
1 previous dose	<12 months	<6 months	–	–	–	3
	6–<12 months	6–<12 months	–	–	–	2
	≥12 months	<12 months	–	–	–	2
	≥12 months	≥12 months	–	–	–	1
2 previous doses	<12 months	<6 months	<12 months	–	–	2
	<12 months	6–<12 months	6–<12 months			1
	≥12 months	<6 months	<12 months	–	–	2
	≥12 months	6–<12 months	6–<12 months			1
	≥12 months	Any age	≥12 months	–	–	1
3 previous doses	<12 months	<12 months	<12 months	<12 months	–	1
	≥12 months	<12 months	<12 months	<12 months	–	1
	≥12 months	<6 months	<12 months	≥12 months	–	1
	≥12 months	6–<12 months	<12 months	≥12 months	–	None
	≥12 months	Any age	≥12 months	≥12 months	–	None

### 13.3 NIP funding

One dose of MenACWY vaccine funded for all children at 12 months of age. The following children with specified medical conditions are eligible for additional funded doses:

- Functional or anatomical asplenia, including sickle cell disease or other haemoglobinopathies
- defects in, or deficiency of, complement components, including factor H, factor D or properdin deficiency
- current or future treatment with eculizumab

## 14 Meningococcal B (MenB)

### 14.1 Recommended Schedule

#### 14.1.1 All children

- 3 doses of MenB vaccine at 2, 4 and 12 months of age

#### 14.1.2 Aboriginal and Torres Strait Islander children

No additional recommendations

#### 14.1.3 Children with specified medical conditions

Children who have specified medical conditions listed in the table below

- 4 doses of MenB vaccine at 2, 4, 6 and 12 months of age, instead of the usual 3 doses for all children

Children who have had a haematopoietic stem cell transplant

- If <12 months of age, 3 doses of MenB vaccine from 6 months post-transplant, following schedule for children who have specified medical conditions and no previous doses
- If ≥12 months of age, 2 doses of MenB vaccine from 6 months post-transplant, following schedule for children who have specified medical conditions and no previous doses
- 

*Specified medical conditions for which additional doses of MenB vaccine are scheduled.*

functional or anatomical asplenia, including sickle cell disease or other haemoglobinopathies
defects in, or deficiency of, complement components, including factor H, factor D or properdin deficiency
current or planned future treatment with eculizumab
HIV infection

### 14.2 Catch up dose parameters

#### 14.2.1 All children

**Valid doses**

Minimum Age

- Minimum age dose 1 is 29 days
- Minimum accepted age for dose 3 already given is 11 months
- Minimum age dose 3 for future recommendations is 12 months



Maximum Age

- Maximum age 2 years (immediately prior to the 2nd birthday) unless Aboriginal or Torres Strait Islander

Minimum Intervals

- Minimum interval between doses is 6 weeks if <6 months of age
- Minimum interval between doses is 8–23 weeks if ≥6 months of age
- Minimum interval between doses is 4 weeks if ≥2 years of age

Number of doses

- The number of doses required depends on current age and previous doses received, see *MenB vaccine catch-up for healthy children aged <2 years below*

**Invalid doses**

1st dose administered at ≤28 days of age

Message - Dose given at < minimum age

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

*MenB vaccine catch-up for healthy children aged <2 years\**

Number of doses given previously	Age at presentation	Age when previous dose of MenB was given			Recommendation
		1st dose	2nd dose	3rd dose	Number of further dose(s) required
No previous doses	<12 months	–	–	–	3
	≥12 months	–	–	–	2
1 previous dose	<12 months	<12 months	–	–	2
	≥12 months	<12 months	–	–	2
	≥12 months	≥12 months	–	–	1
2 previous doses	<12 months	<12 months	<12 months	–	1
	≥12 months	<12 months	<12 months	–	1
	≥12 months	<12 months	≥12 months	–	1
	≥12 months	≥12 months	≥12 months	–	None
3 previous doses	<12 months	<12 months	<12 months	<12 months	1
	≥12 months	<12 months	<12 months	<12 months	1

	≥12 months	<12 months	<12 months	≥12 months	None
	≥12 months	<12 months	≥12 months	≥12 months	None

\*No upper age limit for Aboriginal and Torres Strait Islander children

## 14.2.2 Children with specified medical conditions

Children who have specified medical conditions listed in the table above

### **Valid doses**

#### Minimum age

- Minimum age dose 1 is 29 days
- Minimum accepted age for dose 4 already given is 11 months
- Minimum age dose 4 for future recommendations is 12 months

#### Minimum Intervals

- Minimum interval between doses is 6 weeks if <6 months of age
- Minimum interval between doses is 8 weeks if 6–23 months of age
- Minimum interval between doses is 4 weeks if ≥2 years of age

#### Number of doses

- The number of doses required depends on current age and previous doses received, see *MenB vaccine catch-up with specified medical conditions* below

### **Invalid doses**

1st dose administered at ≤28 days of age

Message - Dose given at < minimum age

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

**Children who have had a haematopoietic stem cell transplant**

### **Valid doses**

#### Minimum Intervals

- Minimum interval from transplant - dose 1 is 6 months
- Minimum interval dose 1 - dose 2 is 2 months
- Minimum interval dose 2 - dose 3 is 4 months (only required if vaccination commenced at 6–11 months of age)

Number of doses

- The number of doses required depends on current age, see *MenB vaccine catch-up with specified medical conditions* below

**Invalid doses**

Dose administered at <6 months from transplant

Message - Dose given at < minimum interval from transplant

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

*MenB vaccine catch-up for children with specified medical conditions*

Number of doses given previously	Age at presentation	Age when previous dose of MenB was given				Recommendation
		1st dose	2nd dose	3rd dose	4th dose	Number of further dose(s) required
No previous doses	<6 months	–	–	–	–	4
	6–<12 months	–	–	–	–	3
	≥12 months	–	–	–	–	2
1 previous dose	<12 months	<6 months	–	–	–	3
	6–<12 months	6–<12 months	–	–	–	2
	≥12 months	<12 months	–	–	–	2
	≥12 months	≥12 months	–	–	–	1
2 previous doses	<12 months	<6 months	<12 months	–	–	2
	<12 months	6–<12 months	6–<12 months	–	–	1
	≥12 months	<6 months	<12 months	–	–	2
	≥12 months	6–<12 months	6–<12 months	–	–	1
	≥12 months	Any age	≥12 months	–	–	1
3 previous doses	<12 months	<12 months	<12 months	<12 months	–	1
	≥12 months	<12 months	<12 months	<12 months	–	1
	≥12 months	<6 months	<12 months	≥12 months	–	1
	≥12 months	6–<12 months	<12 months	≥12 months	–	None
	≥12 months	Any age	≥12 months	≥12 months	–	None



### **14.3 NIP funding**

Three doses of MenB vaccine funded for Aboriginal and Torres Strait Islander children born after 1 July 2018. The following children with specified medical conditions are eligible for additional funded doses:

- Functional or anatomical asplenia, including sickle cell disease or other haemoglobinopathies
- defects in, or deficiency of, complement components, including factor H, factor D or properdin deficiency
- current or future treatment with eculizumab

## 15 Hepatitis A

### 15.1 Recommended Schedule

#### 15.1.1 Non-Aboriginal and Torres Strait Islander children in all states and Aboriginal and Torres Strait Islander children in ACT, NSW, TAS & VIC

No recommendations

#### 15.1.2 Aboriginal and Torres Strait Islander children in NT, QLD, SA or WA

- 2 doses of Hep A vaccine at 18 and 4 years of age

#### 15.1.3 Children with specified medical conditions in all states and territories

Children who have a developmental disability, chronic liver disease (including chronic hepatitis, cirrhosis or biliary atresia) or who have had a liver transplant

- 2 doses of Hep A vaccine with a 6-month interval, if not previously vaccinated

### 15.2 Catch up dose parameters

#### 15.2.1 Aboriginal and Torres Strait Islander children in NT, QLD, SA or WA

#### *Valid doses*

##### Minimum Age

- Minimum age dose 1 is 12 months
- Minimum age dose 2 is 4 years

##### Maximum Age

- Maximum age is 9 years (immediately prior to the 10th birthday)

##### Minimum Intervals

- Minimum interval dose 1 - dose 2 for future recommendations is 6 calendar months.
- Minimum accepted interval dose 1 – dose 2 for doses already given is 181 days

#### *Invalid doses*

1st dose administered at < 12 months of age:

Message - Dose given at < minimum age

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose.

## 15.2.2 Children with specified medical conditions in all states and territories

### *Valid doses*

#### Minimum Age

- Minimum age dose 1 is 12 months

#### Minimum Intervals

- Minimum interval dose 1 - dose 2 for future recommendations is 6 calendar months.
- Minimum accepted interval dose 1 – dose 2 for doses already given is 181 days
- The minimum interval for children with specified medical conditions should over-ride the dose 2 minimum age and interval for Aboriginal and Torres Strait Islander children in NT, QLD, SA or WA

### *Invalid doses*

1st dose administered at < 12 months of age:

Message - Dose given at < minimum age

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose.

## 15.3 NIP funding

All scheduled childhood doses are funded for Aboriginal and Torres Strait Islander children.

## 16 Measles-Mumps-Rubella (MMR)

### 16.1 Recommended Schedule

**NB:** Please read MMR rules in conjunction with Varicella rules.

#### 16.1.1 All children

- 2 doses of MMR containing vaccine at 12 and 18 months of age

#### 16.1.2 Aboriginal and Torres Strait Islander children

No additional recommendations

#### 16.1.3 Children with specified medical conditions

##### Children who have completed cancer therapy

- A booster dose of MMR after 6 months in remission or the completion of treatment (whichever is more recent), if previously fully vaccinated before commencing cancer therapy
- Serological immunity reviewed 6 weeks later, administer a second booster dose of MMR at 8 weeks if required
- If 1 dose previously given, 1 dose as per the schedule for healthy children, after 6 months in remission or the completion of treatment (whichever is more recent)
- If previously unvaccinated, 2 doses as per the schedule for healthy children, after 6 months in remission or the completion of treatment (whichever is more recent)

##### Children who have had a haematopoietic stem cell transplant

- 2 doses of MMR at 24 months post-transplant, with a 4 week interval between doses
- Serological immunity reviewed 4 weeks after dose 2, to confirm seroconversion
- If any doses from the schedule have not been received prior to transplant, these do not need to be given

### 16.2 Catch up dose parameters

#### 16.2.1 All children

##### *Valid doses*

##### Minimum Age

- Minimum age dose 1 for future recommendations is 12 months
- Minimum accepted age dose 1 for dose already given is 11 months
- Minimum age dose 2 for future recommendations is 18 months
- Minimum accepted age dose 2 for dose already given is 12 months

##### Minimum Intervals

- Minimum interval between any MMR or MMR-Varicella vaccine and another live vaccine is 4 weeks

MMR

- MMR only **MUST** be recommended as the first dose of MMR containing vaccine in any child  $\geq 12$  months <4 years of age followed by dose 2 as MMRV at 18 months age or 4 weeks after dose 1 if dose is already overdue.

MMRV

- MMRV is recommended as the first dose of MMR containing vaccine in any child  $\geq 4$  years of age who also requires protection against varicella, followed by dose 2 as MMR only vaccine 4 weeks after dose 1.

MMR and Varicella

- If a child has received dose 1 of MMR AND monovalent varicella at  $\geq 12$  months of age observing the 4-week minimum interval, MMR and monovalent varicella will be recommended as dose 2
- If a child has received dose 1 and dose 2 of MMR at  $\geq 12$  months AND dose 1 and dose 2 of monovalent varicella observing 4-week minimum intervals, no further doses will be recommended.

**Invalid doses**

1st dose administered at <11 months of age:

Message - Dose given at < minimum age

1st dose administered at  $\geq 11$  - <12 months age

Message – No message to be displayed.

**NB:** This dose is not repeated at  $\geq 12$  months of age

Minimum interval between any dose MMR and / or Varicella containing vaccine not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous invalid dose if already overdue.

**16.2.2 Children with specified medical conditions****Children who have completed cancer therapy**

- If the routine childhood schedule has not been completed, refer to the catch-up parameters for all children
- Rules outlined above about vaccine type apply to this group

**Valid doses**Minimum Intervals

- If the routine childhood schedule has been completed, minimum interval from remission/end of treatment - booster dose is 6 months

**Invalid doses**

Booster dose administered at <6 months from remission or end of treatment

Message - Dose given at < minimum interval from remission or end of treatment



**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous invalid dose if already overdue.

### **Children who have had a haematopoietic stem cell transplant**

- Rules outlined above about vaccine type apply to this group

#### ***Valid doses***

##### Minimum Intervals

- Minimum interval from transplant - dose 1 is 24 months
- Minimum interval from dose 1 - dose 2 is 4 weeks

#### ***Invalid doses***

Booster dose administered at <24 months from transplant

Message - Dose given at < minimum interval from transplant

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous invalid dose if already overdue.

## **16.3 NIP funding**

Two childhood doses are funded for all children

## 17 Varicella

**NB:** Please read Varicella rules in conjunction with MMR rules.

### 17.1 Recommended Schedule

#### 17.1.1 All children

- Dose 1 of varicella containing vaccine (delivered as MMRV) at 18 months of age
- Dose 2 of varicella vaccine (delivered as varicella only vaccine) at least 4 weeks later

#### 17.1.2 Aboriginal and Torres Strait Islander children

No additional recommendations

#### 17.1.3 Children with specified medical conditions

##### Children who have completed cancer therapy

- 2 booster doses of varicella vaccine, at least 4 weeks apart, after 6 months in remission or the completion of treatment (whichever is most recent), if seronegative
- These doses are given instead of those recommended for all children, not in addition to them.
- The earliest these vaccines can be given is from 18 months of age

##### Children who have had a haematopoietic stem cell transplant

- 2 doses of varicella vaccine, at least 4 weeks apart, at 24 months post-transplant, if seronegative
- These doses are given instead of those recommended for all children, not in addition to them.

### 17.2 Catch up dose parameters

#### 17.2.1 All children

##### ***Valid doses***

##### Minimum Age

- Minimum age dose 1 for future recommendations is 18 months
- Minimum accepted age for dose already given is 12 months

##### Minimum Intervals

- Minimum interval between any MMRV or Varicella only vaccine is 4 weeks
- Minimum interval between any MMRV or Varicella only vaccine and another live vaccine is 4 weeks

##### ***Invalid doses***

1st dose administered at <12 months of age.

Message - Dose given at < minimum age

### Minimum Minimum Age

The dose 3 minimum age rule does not apply to this group

interval between any dose of MMR and / or Varicella containing vaccine not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous invalid dose if already overdue.

## **17.2.2 Children with specified medical conditions**

### **Children who have completed cancer therapy**

- Rules outlined above about vaccine type also apply to this group

#### ***Valid doses***

##### Minimum Intervals

- Minimum interval from remission/end of treatment - booster dose is 6 months
- Minimum interval between any MMRV or Varicella only vaccine is 4 weeks

#### ***Invalid doses***

Booster dose administered at <6 months from remission or end of treatment

Message - Dose given at < minimum interval from remission or end of treatment

Minimum interval between any dose of MMR and / or Varicella containing vaccine not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous invalid dose if already overdue.

### **Children who have had a haematopoietic stem cell transplant**

- Rules outlined above about vaccine type also apply to this group

#### ***Valid doses***

##### Minimum Intervals

- Minimum interval from transplant - dose 1 is 24 months
- Minimum interval from dose 1 - dose 2 is 4 weeks

#### ***Invalid doses***

Booster dose administered at <24 months from transplant

Message - Dose given at < minimum interval from transplant

Minimum interval between any dose of MMR and / or Varicella containing vaccine not met

Message - Dose given at < minimum interval from previous dose



**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous invalid dose if already overdue.

### **17.3 NIP funding**

One childhood dose is funded for all children

## 18 Influenza

### 18.1 Recommended Schedule

#### 18.1.1 All children

- 1 dose of influenza vaccine each year if  $\geq 6$  months of age
- If  $< 9$  years of age and receiving influenza vaccine for the first time, 2 doses of influenza vaccine

#### 18.1.2 Aboriginal and Torres Strait Islander children

No additional recommendations

#### 18.1.3 Children with specified medical conditions

##### Children who have had a solid organ transplant

- 2 doses of influenza vaccine in the first year post-transplant

##### Children who have had a haematopoietic stem cell transplant

- 2 doses of influenza vaccine in the first year post-transplant, commencing at least 6 months post-transplant

### 18.2 Catch up dose parameters

#### 18.2.1 All children

##### *Valid doses*

##### Minimum Age

- Minimum age is 6 months

##### Minimum Intervals

- Minimum interval dose 1 - dose 2 is 4 weeks

##### *Invalid doses*

1st dose administered at  $\leq 6$  months of age

Message - Dose given at  $<$  minimum age

Minimum interval between any 2 doses not met

Message - Dose given at  $<$  minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

## 18.2.2 Children with specified medical conditions

### Children who have had a solid organ transplant

#### *Valid doses*

##### Minimum Intervals

- Minimum interval dose 1 - dose 2 is 4 weeks

#### *Invalid doses*

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

### Children who have had a haematopoietic stem cell transplant

#### *Valid doses*

##### Minimum Intervals

- Minimum interval from transplant - dose 1 is 6 months
- Minimum interval dose 1 - dose 2 is 4 weeks

#### *Invalid doses*

Booster dose administered at <6 months from transplant

Message - Dose given at < minimum interval from transplant

Minimum interval between any 2 doses not met

Message - Dose given at < minimum interval from previous dose

**NB:** An invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue.

## 18.3 NIP funding

Influenza doses are funded for all children <5 years of age and all Aboriginal and Torres Strait Islander children. The following children with specified medical conditions are eligible for funded doses regardless of age:

- Functional or anatomical asplenia, including sickle cell disease or other haemoglobinopathies
- Immunocompromising conditions
- Chronic respiratory disease
- Cardiac disease
- Chronic renal failure
- Long-term aspirin therapy in children aged 6 months to 10 years
- Chronic neurological conditions
- Chronic metabolic disorders

