Australian Centre for Disease Control

Australian Immunisation Handbook

National Immunisation Catch-up Calculator (NICC) Business Rules

Cohort: Children and Adolescents Under 20 Years (v4.6)

Contents

1 Purpose

This document describes the agreed business rules stipulated for the Australian Immunisation Handbook (AIH) National Immunisation Catch-up Calculator for the '***Children and Adolescents Under 20 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:

- Digital Australian Immunisation Handbook (AIH)
- National Immunisation Program (NIP) Schedule for each state and territory
- The Australian Immunisation Register (AIR) National Due and Overdue Rules

3 Document details

3.1 Version control

Version	Date	Details
4	June 2023	Expanded business rules to include catch-up recommendations for all infants, children, and adolescents under the age of 20.
4.1	April 2024	Minor refinements to the business rules for splenectomy (MenACWY & Men B) and heart transplant (Men B).
4.2	June 2024	Minor refinements to business rules for DTPa, Men ACWY, and MenB to improve clarity.
4.3	July 2024	Minor refinements to General provisions. Minor refinements to business rules for MenACWY, and MenB to further improve clarity for certain age-based cohorts.
4.4.4	April 2025	Minor refinements to business rules for HepA and HepB minimum ages, and for HPV, MMR, MenACWY, MenB and PCV to further improve clarity for certain cohorts. Addition of schedule output statements for influenza.
4.4.5	September 2025	Modifications to layout and formatting of document
4.5	October 2025	Changes to business rules for PCV, PPV and the addition of business rules for zoster
4.6	June 2026	Changes to business rules for PCV and PPV for people over 18 years of age. Minor refinements to schedules for people who were

	vaccinated overseas, no-vaccination periods before and after certain treatments or procedures, and antigen grouping rules.

3.2 Document location

TRIM Location	File Name
D20-1632102	DAIHS – Business Rules – National Immunisation Catch-up Schedule – Cohort – Children and Adolescents Under 20 Years

4 General provisions

- All non-overdue antigens are due at the schedule points of 2, 4, 6, 12 and 18 months and 4, 12–13 and 14–16 years of age provided minimum intervals from previous doses have been met.
- Overdue antigen calculations are based on an interval of 28 days or 4 weeks except when the interval between doses is higher than 6 months then calendar months apply.
- Day of birth is counted as Day 0.
- Rules apply to all children and adolescents living in Australia unless otherwise specified.
- The NICC provides catch-up advice for vaccines recommended as per the Australian Immunisation Handbook, as well as those funded by the NIP. Those incurring a cost to the patient (not funded by the NIP) with be indicated with a $ sign.
- Some vaccines may not be funded by the NIP but may be funded by an individual state or territory. These vaccines will be marked as at-cost (with a $ sign) in the NICC.
- This guidance does not consider situations where post-exposure prophylaxis is needed (e.g. tetanus, rabies). For these details, please refer to the Australian Immunisation Handbook.
- Tables have only been provided for younger age groups because at that age, how many doses a child needs are very dependent on what age the child received previous doses. For older children, adolescents and young adults, the number of doses becomes simpler, and this is covered in the text.
- Unless otherwise specified elsewhere in the document, a person is considered **unvaccinated** if they have not received any vaccines prior to the date of calculation. A person is considered unvaccinated for a particular antigen only if they have not received any vaccines targeting that specific antigen prior to the date of calculation.
- Unless otherwise specified elsewhere in the document, a person is considered **fully vaccinated** (for any antigen) if they have received all age-appropriate recommended vaccine doses, including primary, booster and where applicable adolescent doses, some of which may be at-cost.
- Unless otherwise specified elsewhere in the document, the following age-based definitions apply:
  - Infant: 0–<12m (Anyone under 12 months/1 year of age)
  - Child: ≥12m–<13y (Anyone over the age of 12 months/1 year and under 13 years of age)
  - Adolescent: ≥13-<18 years (Anyone over the age of 13 years and under 18 years of age)
  - Adult: ≥18y (Anyone over the age of 18 years of age)
- Unless otherwise specified elsewhere in the document, multiple live vaccines can be given on the same day. When they are not, a minimum 4-week interval must be maintained between appointments where live vaccines (MMR, Varicella) that are injected. This rule does not apply to Rotavirus vaccines which are administered orally. This rule should be enforced when checking validity of doses administered in the past.

- Unless otherwise specified elsewhere in the document, an invalid dose is to be repeated at the correct schedule point or minimum interval from the previous valid dose if already overdue. Doses are considered invalid if they are given at an age less than the recommended age, or if the recommended minimum interval was not followed between two doses. N.B This condition does not apply if a person received a dose at an age greater than the maximum age for any dose.
- A person may have received more than the maximum number of doses recommended. These doses will be treated as 'unexpected' and will be excluded from the catch-up calculations.
- For the purposes of the NICC, the term 'antigen formulation' refers to the diseases a vaccine protects against and the strength of each component. E.g. DTPa, dTpa, dT etc.
- For the purposes of the NICC, the term 'vaccine formulation' refers to the concentration or amount of the active ingredient designed for different age groups or special risk groups. E.g. Paediatric, Adult, Dialysis.
- To generate an accurate schedule, the NICC must recognise overseas immunisation schedules for supported antigens (see 4.6 Overseas doses). Compared to the NIP schedule, an individual's history may differ in:
- The date or age at which a dose was administered
- The vaccine used (including antigen combination and valency/strength)

4.1 NICC considerations and exceptions

This version of the NICC:

- will not accept history or provide recommendations for adults from their 20th birthday onwards
- will accept history for people vaccinated overseas but recommends catch-up based on the Australian schedule. Vaccines given overseas which are additional or different to the NIP schedule will be 'excluded' from the catch-up calculations
- requires the user to flag whether a person 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 person has medical conditions to allow relevant vaccines to be recommended and to flag any contraindications
- will only be as accurate as the data entered by operators/user.

4.1.1 Antigen grouping

When several antigens are due within 4 weeks of one another, and a combination vaccine exists containing those antigens, they can be grouped together to minimise the number of injections being received. These situations are outlined below.

4.1.2 Hexavalent vaccine (DTPa-IPV-Hib-HepB) rule

When DTPa-IPV(Polio)-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. (Note: DTP is always administered as a combination, and this rule only applies to DTPa formulation).

Regardless of the historical doses given, if all 6 antigens are due, relevant hexavalent DTPa-IPV-Hib-HepB vaccines (e.g. Infanrix hexa and Vaxelis) will be presented as the only choices. No other combinations will be presented.

If one or more of the 6 antigens are NOT due together then other vaccine brand names will be provided (e.g. DTPa only, IPV only, Hep B only, Hib only, DTP-IPV).

N.B the hexavalent rule should NOT be applied for any other DTP antigen formulations other than those listed (e.g. dTpa).

N.B To support maximum protection with the fewest visits and injections, hexavalent vaccines (e.g. Infanrix Hexa or Vaxelis) may be used for catch-up of the primary schedule or as a booster in children <10 years of age, particularly when more than four of the following antigens are due in close proximity: DTP, Polio, HepB, and Hib.

The following caveats apply:

- Antigen grouping rule must be applied when a paediatric dose of DTP (DTPa) is recommended.
- Antigen grouping rule must NOT be applied when an 'Adult' dose of DTP (dTpa) or dT-only dose is recommended.
- Antigen grouping rule must NOT be applied when an Adult (or Dialysis) dose of HepB is recommended.

4.1.3 Quadrivalent (DTPa-IPV) rule

When DTPa-IPV(Polio) 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 4 antigens are recommended. (Note: DTP is always administered as a combination).

Regardless of the historical doses given, if all 4 antigens are due, relevant quadrivalent DTPa-IPV (e.g. Infanrix IPV and Quadracel) will be presented as the only choices. No other combinations will be presented.

If one or more of the 4 antigens are NOT due together then other vaccine brand names will be provided (e.g. DTPa only, IPV only).

N.B the quadrivalent DTPa-IPV rule should NOT be applied for any other DTP antigen formulations other than those listed (e.g. dTpa, DT etc.)

4.1.4 MMRV rule

When MMR and Varicella are due and recommended within 4 weeks of each other and not being administered as the first dose of MMR in a child aged <4 years, the antigens may be grouped together and administered on the latest date that any of the 4 antigens are recommended. (Note: MMR is always administered as a combination).

Regardless of the historical doses given, if all 4 antigens are due, relevant MMRV vaccines (e.g. ProQuad and Priorix Tetra) will be presented as the only choices. No other combinations will be presented.

If one or more of the 4 antigens are NOT due together then other vaccine brand names will be provided (e.g. MMR only, Varicella only).

4.2 Medical risk conditions

The NICC provides catch-up recommendations for people with some medical conditions (see 4.3.3), considering additional vaccines and doses that are required, and contraindications (see 4.3.2). For a person with more than one medical condition, the NICC will recommend vaccines for only one of the

conditions, however the provider can select to see a schedule for any alternative condition (see medical conditions rule).

The NICC will not modify a catch-up schedule for a person who is undergoing cancer therapy. However, for a person who is in remission and/or completed treatment, the catch-up schedule will include any additional dose of vaccine recommended at this time. For any procedure or treatment that has a no vaccination period for receiving vaccines before or after, these will be applied in the catch-up schedule.

N.B NICC only captures the date of remission/completion of cancer treatment, and as such this date will be used to determine whether the person is fully or partially vaccinated or unvaccinated before commencing cancer therapy or treatment.

4.2.1 Medical 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 warrants additional 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.

4.2.2 Live vaccine indicator

For some immunocompromising conditions, live vaccines are contraindicated. If a person flags as having an immunocompromising condition, a live vaccine indicator will appear on the catch-up schedule warning of this contraindication and advising that specialist advice be sought prior to administering a live vaccine. All live vaccines listed in the schedule will have an exclamation warning beside them.

4.2.3 Medical risk conditions supported by the NICC

The following medical at-risk conditions are supported by this release of the NICC:

Condition	Sub-condition(s) which can be selected
Alcohol use: Harmful use of alcohol, consuming on average: • ≥60 g of alcohol (6 Australian standard drinks) per day for males • ≥40 g of alcohol (4 Australian standard drinks) per day for females	N/A
Asplenia:	• Anatomical asplenia or splenectomy • Functional asplenia
Cancer treatment completed or cancer in remission	N/A
Cardiac disease:	N/A

Condition	Sub-condition(s) which can be selected
• Congenital heart disease • Coronary artery disease • Heart failure • Other cardiac disease	
Chronic liver disease (Conditions with progressive deterioration of liver function for more than 6 months including cirrhosis and other advanced liver diseases)	N/A
Chronic metabolic condition e.g. amino acid disorder, mitochondrial defects	N/A
Chronic neurological condition e.g. degenerative CNS disease, seizure disorder	N/A
Chronic renal disease:	• Relapsing or persistent nephrotic syndrome • Stage 4 kidney disease – eGFR <30 mL/min • Stage 5 kidney disease (kidney failure) – eGFR <15 mL/min
Chronic respiratory disease	• Chronic lung disease in preterm infants • Chronic obstructive pulmonary disease (COPD) or chronic emphysema • Interstitial and fibrotic lung disease • Severe asthma (defined as requiring frequent hospital visits or the use of multiple medications) • Suppurative lung disease, bronchiectasis and cystic fibrosis • Other chronic respiratory disease
Developmental disability (including those attending a care facility)	N/A
Diabetes (Type 1 or 2)	N/A
Haematological disorder e.g. sickle cell disease or other haemoglobinopathy	N/A
Haematopoietic stem cell transplant (HSCT) (HSCT)	N/A
Immunocompromising conditions:	• Congenital or acquired immune deficiency • Current or future treatment with complement inhibitor therapy (e.g. eculizumab, ravulizumab or pegcetacoplan)

Condition	Sub-condition(s) which can be selected

	• Defects in, or deficiency of, complement components, including factor H, factor D or properdin deficiency
	• Haematological malignancies
	• HIV infection
	  ○ <12 months CD4 <750 cells/μL
	  ○ <12 months CD4 750-1499 cells/μL
	  ○ <12 months CD4 ≥1500 cells/μL
	  ○ 1-5 years CD4 <500 cells/μL
	  ○ 1-5 years CD4 500-999 cells/μL
	  ○ 1-5 years CD4 ≥1000 cells/μL
	  ○ ≥6 years CD4 <200 cells/μL
	  ○ ≥6 years CD4 200-499 cells/μL
	  ○ ≥6 years CD4 ≥500 cells/μL
	• Immunosuppressive therapy (current or anticipated)
	• Inborn errors of immunity, including primary immunodeficiency disorders
	• Non–haematological malignancies receiving chemotherapy or radiotherapy (currently or anticipated)
	• Other immunocompromising condition

Infants born to mothers who received anti-CD20 therapies (such as rituximab) during pregnancy	N/A
Long-term aspirin therapy in children aged 6 months to 10 years	N/A
Low birth weight baby (<2000g)	N/A
Obesity (body mass index ≥30 kg per m^2)	N/A
Preterm infant	• <28 weeks gestation • <32 weeks gestation • <37 weeks gestation
Previous episode of invasive pneumococcal disease (IPD)	N/A
Proven or presumptive CSF leak • Cochlear implants • Intracranial shunts	N/A
Smoking (current or in the immediate past)	

Condition	Sub-condition(s) which can be selected
Solid organ transplant (SOT):	• Heart transplant • Intestinal transplant • Kidney transplant • Liver transplant • Lung transplant • Pancreas transplant
Trisomy 21 or another chromosomal abnormality that increases the risk of severe disease	N/A

The NICC **does not** support immunocompromise due to medical therapy, due to the variation in level of immunosuppression by drug class and dose. If a person is flagged for 'immunosuppressive therapy (current or anticipated)', no additional vaccines will be recommended, however the NICC will provide the live vaccine indicator on the catch-up schedule page.

4.3 No vaccination periods

Unless otherwise specified in the document, the following no-vaccination periods before and after a surgery or procedure apply:

Procedure	No vaccination periods before and after surgery or procedure	
	Before	**After**
Anatomical asplenia or splenectomy	2 weeks	2 weeks
Cancer treatment completed/ in remission	N/A	3 months
HSCT	4w	Antigen-specific.
Immunocompromising conditions		
Immunosuppressive therapy (current or anticipated)	N/A	No pre- or post- treatment no vaccination periods apply for antigens with non-live vaccines. These can be given while the person is on treatment. Live vaccines may be contraindicated (see MMR, Varicella, Rotavirus).
Non–haematological malignancies receiving chemotherapy or radiotherapy (currently or anticipated)	N/A	No pre- or post- treatment no vaccination periods apply for antigens with non-live vaccines. These can be given while the person is on treatment. Live vaccines may be contraindicated (see MMR, Varicella, Rotavirus).

Solid organ transplant (SOT)		
Heart transplant	2 weeks – non-live vaccines 4 weeks – live vaccines	3 months – non-live vaccines Live vaccines may be contraindicated (see MMR and Varicella).
Intestinal transplant	2 weeks – non-live vaccines 4 weeks – live vaccines	3 months – non-live vaccines Live vaccines may be contraindicated (see MMR and Varicella).
Kidney transplant	2 weeks – non-live vaccines 4 weeks – live vaccines	3 months – non-live vaccines Live vaccines may be contraindicated (see MMR and Varicella).
Liver transplant	2 weeks – non-live vaccines 4 weeks – live vaccines	3 months – non-live vaccines Live vaccines may be contraindicated (see MMR and Varicella).
Lung transplant	2 weeks – non-live vaccines 4 weeks – live vaccines	3 months – non-live vaccines Live vaccines may be contraindicated (see MMR and Varicella).
Pancreas transplant	2 weeks – non-live vaccines 4 weeks – live vaccines	3 months – non-live vaccines Live vaccines may be contraindicated (see MMR and Varicella).

4.4 Permissible future dates

The following treatments, surgeries or procedures should allow future dates (up to 2 months in advance), as health professionals may plan catch-up in advance with an intent to accelerate the schedule.

- All SOTs
- Splenectomy
- Complement inhibitor
- Immunosuppressive therapy (current or anticipated)
- Non–haematological malignancies receiving chemotherapy or radiotherapy (currently or anticipated)
- Current or future treatment with complement inhibitor therapy (e.g. eculizumab, ravulizumab or pegcetacoplan)

4.5 Entering historical doses

Vaccination history can be provided in two ways.

- ‘Antigens’ pathway, where antigens are sorted by the NIP schedule order.
- ‘Vaccines’ pathway, where the vaccines are sorted in alphabetical order.

Each vaccination history record must include the date of vaccination and one or more vaccines/antigens given on that date.

Duplicate antigen/vaccine entries on any given date will be automatically removed.

The default setting displays age-appropriate Australian NIP vaccines/antigens.

To enter non-NIP doses, the ‘Only show vaccines applicable for this person’ toggle switch (which is ‘on’ by default) must be switched off.

Antigens are ordered by the NIP schedule order. (In the future an alphabetical list will also be provided).

Vaccines are ordered by the NIP schedule order. (In the future an alphabetical list will also be provided).

4.6 Overseas doses

The default setting for both the ‘Antigens’ or ‘Vaccines’ pathways display age-appropriate Australian NIP vaccines/antigens.

To enter non-NIP doses, the ‘Only show vaccines applicable for this person’ toggle switch (which is ‘on’ by default) must be switched off.

To enter overseas doses (added as ‘Generic/Other’ variants), the ‘Only show Australian NIP vaccines’ toggle switch (which is ‘on’ by default) must be switched off.

All historical doses received on any given date can either be on **or** offshore, never both. An additional flag (“Administered overseas?”) was introduced to distinguish between vaccines administered onshore and offshore, and to better assess alignment with the NIP schedule. Additional or modified rules may apply to a person who has received all historical doses overseas.

The following scenarios may apply:

- All vaccines administered in Australia: No additional rules apply.
- All vaccines administered overseas, following the Australian NIP schedule using recognised/Australian vaccine brands: No additional rules apply, despite overseas administration.
- All vaccines administered overseas using ‘Generic/Other’ variants: The person likely followed a schedule that differs from the NIP. Additional or modified rules apply.
- Some vaccines administered overseas at NIP schedule points using recognised/Australian vaccine brands: No additional rules apply under this change, as the individual likely followed the NIP schedule despite overseas administration.
- Mixed history – Some vaccines administered overseas using ‘Generic/Other’ variants and some administered in Australia: The individual may or may not have followed the NIP schedule. Additional or modified rules may apply. Determination will be based on compliance with defined business rules.

Rules for overseas doses are based on a healthy child. Any additional rules for a child with a medical condition (e.g. additional doses) must be considered when planning a catch-up schedule.

5 Diphtheria-tetanus-acellular pertussis (DTPa)

5.1 All children and adolescents

The following rules apply for all healthy children and adolescents.

5.1.1 Recommended schedule

- 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
- Booster dose of dTpa from 11–14 years of age.

Note: To avoid confusion, the doses for DTPa should be labelled as Dose 1 of 5, Dose 2 of 5, Dose 3 of 5, Dose 4 of 5, and Dose 5 of 5.

5.1.2 Catch-up recommendations

Valid doses

For people aged ≥10 years, the following rules apply:

- If completely unvaccinated, 3 doses of dTpa are required
- If 1 DTPa dose was previously given, 2 dTpa doses are required
- If 2 or more DTPa doses were previously given, 1 dTpa dose is required

Minimum age

<10 years of age

- The minimum acceptable age for dose 1 (already given) is 29 days
- If dose 4 was administered at ≥3 years and 6 months of age, dose 5 is not required
- The minimum acceptable age for dose 5 (already given) is 3 years 6 months of age

≥10 years of age

- The minimum age for dTpa dose (future dose) is 11 years
- The minimum acceptable age for a dTpa dose (already given) is 10 years

Maximum age

- Maximum age for any dose is 19 years (immediately prior to 20th birthday)

Minimum intervals

<10 years of age

- Minimum interval between dose 1 and dose 2 is 4 weeks
- Minimum interval between dose 2 and dose 3 is 4 weeks
- Minimum interval between dose 3 and dose 4 (future dose) is at least 6 calendar months
- Minimum acceptable interval between dose 3 and dose 4 (already given) is 181 days
- Minimum interval between dose 4 and dose 5 (future dose) is 6 calendar months
- Minimum acceptable interval between dose 4 and dose 5 (already given) is 181 days

NB: Apply the hexavalent DTP-IPV-HepB-Hib rule or quadrivalent DTPa-IPV rule where appropriate.

≥10 years of age

- Minimum interval between each dTpa dose is 4 weeks

Invalid doses

Condition	Message
Dose 1 administered at ≤28 days of age	Dose given at less than the minimum age
Dose 5 administered at <3 years and 6 months of age	Dose given at less than the minimum age
Minimum interval between any 2 doses not met	Dose given at less than the 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.

5.1.3 NIP funding

The following doses are funded for all children and adolescents <20 years of age, where required:

- 5 DTPa doses
- 3 dTpa doses

5.2 Aboriginal and Torres Strait Islander children and adolescents

No additional recommendations; see recommendations for all healthy children and adolescents.

5.3 Cancer

The following recommendations apply for people who have completed cancer therapy.

5.3.1 Recommended schedule

After cancer therapy (or 3 months in remission, whichever is later):

- If fully vaccinated before therapy: give 1 booster – DTPa if <10 years, dTpa if ≥10 years.
- If not fully vaccinated before therapy: start catch-up schedule as for healthy children/adolescents (instead of a booster).

5.3.2 Catch-up recommendations

If the routine childhood schedule has not been completed, refer to the catch-up recommendations for all children and adolescents, commencing vaccination from 3 months after cancer therapy (or 3 months in remission, whichever is later).

Valid doses

Minimum intervals

- If the routine childhood schedule is complete, the booster dose should be given at least 3 months after remission or completion of treatment.

Invalid doses

Condition	Message
Booster dose administered at <3 months from treatment completion or remission (whichever is later)	Dose given at less than the 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.

5.3.3 NIP funding

For people who were fully vaccinated before completing cancer therapy, the post-cancer booster dose is not funded under the NIP.

For people who weren't fully vaccinated before completing cancer therapy, refer the funding rules for all children.

5.4 Haematopoietic stem cell transplant (HSCT)

The following rules apply for people who have had a haematopoietic stem cell transplant.

5.4.1 Recommended schedule

Where possible, children and adolescents should receive all routine scheduled doses at least 4 weeks before receiving the HSCT. Post-transplant vaccination schedule is as follows:

Children <10 years

- If any doses from the primary schedule were not received prior to transplant, these do not need to be given.
- Give 3 doses of DTPa, starting 6 months post-transplant, with at least 4 weeks between doses.
- Provide age-appropriate booster dose(s) as per the routine schedule.

≥10 years of age

- If any doses from the primary schedule were not received prior to transplant, these do not need to be given.
- Give 3 doses of dTpa, starting 6 months post-transplant, with at least 4 weeks between doses.

5.4.2 Catch-up recommendations

Valid doses

Minimum intervals

<10 years of age

- The minimum interval between transplant and dose 1 is 6 months.
- Minimum interval between dose 1 and dose 2 is 4 weeks.
- Minimum interval between dose 2 and dose 3 is 4 weeks.
- Minimum interval between dose 3 and dose 4 is 6 months.
- Minimum interval between dose 4 and dose 5 is 6 months.

NB: Dose 5 not required if dose 4 given at ≥3 years 6 months of age.

≥10 years of age

- The minimum interval between transplant and dose 1 is 6 months.
- Minimum interval between dose 1 and dose 2 is 4 weeks.
- Minimum interval between dose 2 and dose 3 is 4 weeks.

Invalid doses

Condition	Message
Booster dose administered at <6 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any 2 doses not met	Dose given at less than the 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.

5.4.3 NIP funding

Additional doses given post-HSCT are not funded.

5.5 Solid organ transplant (SOT)

Following rules apply for all people who are having or have had a solid organ transplant.

5.5.1 Recommended schedule

- Where possible, children and adolescents should receive all routine scheduled doses at least 2 weeks before transplant.
- If any scheduled doses were missed prior to transplant, vaccination should be restarted at least 3 months post-transplant, following the routine schedule and catch-up recommendations for children and adolescents.

5.5.2 Catch-up recommendations

- Before transplant, follow the catch-up schedule for all children and adolescents.

- Do not administer any vaccines within 2 weeks of surgery.
- After transplant, follow the guidance below.

Valid doses

Minimum intervals

- The minimum interval between transplant and next scheduled dose is 3 months.
- At 3 months follow the catch-up schedule for all children and adolescents.

Invalid doses

Condition	Message
Dose administered at <3 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any 2 doses not met	Dose given at less than the 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.

5.5.3 NIP funding

See funding rules for all children and adolescents.

6 Haemophilus influenzae type b (Hib)

6.1 All children and adolescents

The following rules apply for all healthy children.

6.1.1 Recommended schedule

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

6.1.2 Catch-up recommendations

Valid doses

Minimum age

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

Maximum age

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

Minimum intervals

- The minimum interval between primary doses is 4 weeks
- The minimum interval between the last primary dose and the booster dose is 8 weeks

NB: Apply the hexavalent DTP-IPV-HepB-Hib rule where appropriate

Number of doses

The number of doses required depends on current age and previous doses received, see Table 1. Catch-up schedule for Haemophilus influenzae type b (Hib) vaccination for children <5 years of age below.

Invalid doses

Condition	Message
1st dose administered at ≤28 days of age	Dose given at less than the minimum age
4th dose administered at <11 months of age	Dose given at less than the minimum age
4th dose administered at ≥11 months age but <18 months age	No message to be displayed **NB**: This dose is not repeated at ≥18 months of age provided the minimum interval from the last primary dose has been met.

Minimum interval between any 2 doses not met	Dose given at less than the minimum interval from previous dose

Table 1. 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	12–17 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	12-17 months	N/A	N/A	1
	18–59 months	<12 months	12-17 months	N/A	N/A	N/A
	18–59 months	Any age	18-59 months	N/A	N/A	N/A
3	<17 months	<12 months	<12 months	<12 months	N/A	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

6.1.3 NIP funding

The 4 childhood doses (3x primary, 1x booster) are funded for all children <5 years of age.

6.2 Aboriginal and Torres Strait Islander children and adolescents

No additional recommendations; see recommendations for all children and adolescents.

6.3 Cancer

The following recommendations apply to people who have completed cancer therapy.

6.3.1 Recommended schedule

- If fully vaccinated before cancer therapy and aged< 5 years; give 1 booster dose of Hib vaccine ≥3 months after remission or completion of treatment (whichever is later).
- If not fully vaccinated before therapy and aged< 5 years; start catch-up schedule for healthy children, beginning ≥3 months after remission or completion of treatment (whichever is later).

6.3.2 Catch-up recommendations

- If the routine childhood schedule has not been completed prior to remission or completion of treatment (whichever is later), follow the catch-up parameters for all children and adolescents.

Valid doses

Minimum intervals

- If the routine childhood schedule is complete, give the booster dose at least 3 months after remission or completion of treatment.

Invalid doses

Condition	Message
Booster dose administered at <3 months from remission or end of treatment	Dose given at less than the 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.

6.3.3 NIP funding

For people who were fully vaccinated before completing cancer therapy, the post-cancer booster dose is not funded under the NIP.

For people who weren't fully vaccinated before completing cancer therapy, refer the funding rules for all children.

6.4 Anatomical asplenia or splenectomy

The following rules apply to all people with anatomical asplenia or those who have had a splenectomy.

6.4.1 Recommended schedule

- For people having an elective splenectomy, where possible, they should receive all scheduled doses at least 2 weeks before surgery.

- 1 dose of Hib vaccine at ≥5 years of age only if previously unvaccinated.

6.4.2 Catch-up recommendations

- Before splenectomy, follow the catch-up schedule for all children.
- No vaccine doses should be given within 2 weeks before or after surgery.
- After surgery, for children <5 years, follow the catch-up schedule for all children.
- After surgery for unvaccinated children and adolescents ≥5 years, follow the guidance below.

Valid doses

Minimum age

- Minimum age for dose 1 is 5 years (if previously unvaccinated).

Maximum age

- No maximum age limit.

6.4.3 NIP funding

- All 4 childhood doses are funded for all children <5 years.
- The single dose of Hib vaccine for previously unvaccinated children who have anatomical asplenia aged ≥5 years of age is funded.

6.5 Functional asplenia

The following rules apply to all people with functional asplenia including sickle cell disease or other haemoglobinopathies.

6.5.1 Recommended schedule

- 1 dose of Hib vaccine at ≥5 years of age only if previously unvaccinated.

6.5.2 Catch-up recommendations

- For children <5 years, follow the catch-up schedule for all children
- For unvaccinated children and adolescents ≥5 years, follow the guidance below

Valid doses

Minimum age

- Minimum age for dose 1 is 5 years if previously unvaccinated

Maximum age

- No maximum age limit

6.5.3 NIP funding

- The 4 childhood doses are funded for all children <5 years
- The single dose of Hib vaccine for previously unvaccinated children who have functional asplenia (including sickle cell disease or other haemoglobinopathies) aged ≥5 years of age is funded

6.6 Haematopoietic stem cell transplant (HSCT)

The following rules apply for all people who have had a haematopoietic stem cell transplant.

6.6.1 Recommended schedule

- 3 doses of Hib vaccine starting 6 months post-transplant, with at least 4 weeks between doses
- If any primary schedule doses were given before transplant, they must be repeated
- If any primary schedule doses were missed before transplant, they do not need to be given/repeated

6.6.2 Catch-up recommendations

Valid doses

Maximum age

- No maximum age limit

Minimum intervals

- The minimum interval between transplant and the next scheduled dose is 6 months
- Minimum interval between dose 1 and dose 2 is 4 weeks
- Minimum interval between dose 2 and dose 3 is 4 weeks

Invalid doses

Condition	Message
Booster dose administered at <6 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any 2 doses not met	Dose given at less than the 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.

6.6.3 NIP funding

- **Additional** doses given post-HSCT are not funded.
- Doses **repeated** after HSCT are not funded under the NIP.

Caveats

- A previously unvaccinated person <20 years of age who has undergone HSCT remains eligible for up to 3 HIB doses for free under the NIP; additional post-HSCT and repeat doses are not NIP-funded.

6.7 Solid organ transplant (SOT)

Following rules apply for all people who are having or have had a solid organ transplant.

6.7.1 Recommended schedule

- Where possible, children and adolescents should receive all routine scheduled doses at least 2 weeks before transplant.
- If any scheduled doses were not received prior to transplant, vaccination should recommence at least 3 months after transplant, as per the routine schedule and catch-up for all children and adolescents.

6.7.2 Catch-up recommendations

- Before transplant, follow the catch-up schedule for all children aged <5 years.
- Do not administer any vaccines within 2 weeks of surgery.
- After transplant, follow the guidance below.

Valid doses

Minimum intervals

- The minimum interval between transplant and the next scheduled dose is 3 months.
- At 3 months follow the catch-up schedule for all children aged <5 years.

Invalid doses

Condition	Message
Dose administered at <3 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any 2 doses not met	Dose given at less than the 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.

6.7.3 NIP funding

- See funding rules for all children and adolescents.

7 Hepatitis A

7.1 Children and adolescents

The following groups **are not** required to receive Hepatitis A vaccine/s:

- Healthy non-Aboriginal and Torres Strait Islander children in all states/territories
- Healthy Aboriginal and Torres Strait Islander children in ACT, NSW, TAS & VIC only

7.2 Aboriginal and Torres Strait Islander children in NT, QLD, SA or WA only

The following recommendations apply to Aboriginal and Torres Strait Islander children in NT, QLD, SA or WA only.

7.2.1 Recommended schedule

- 2 doses of HepA vaccine at 18 months and 4 years of age.

7.2.2 Catch-up recommendations

Valid doses

Minimum age

- Minimum age for dose 1 is 12 months.
- Minimum age for dose 2 (future dose) is 4 years.
- Minimum age dose 2 (already given) is 18 months.

Maximum age

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

Minimum intervals

- Minimum interval between doses (dose 1 and dose 2) is 6 months.
- Minimum acceptable interval between dose 1 and dose 2 (already given) is 181 days.

Invalid doses

Condition	Message
1st dose administered at <12 months of age	Dose given at less than the minimum age
Minimum interval between any 2 doses not met	Dose given at less than the 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.

7.2.3 NIP funding

All scheduled childhood doses are funded by the NIP for Aboriginal and Torres Strait Islander children in NT, QLD, SA or WA.

7.3 Developmental disability

The following recommendations apply to people who have a developmental disability.

7.3.1 Recommended schedule

- If previously unvaccinated, 2 doses of HepA vaccine at least 6-months apart.
- If previously partially vaccinated (1 dose, ≥12months), person is required to receive 2nd dose at least 6-months from dose 1.
- If previously fully vaccinated (2 doses, 6 months apart), no further doses are required.

7.3.2 Catch-up recommendations

Valid doses

Minimum age

- Minimum age for dose 1 is 12 months.

Maximum age

- No maximum age limit.

Minimum intervals

- Minimum interval between dose 1 and dose 2 (future dose) is 6 months.
- The minimum acceptable interval between dose 1 and dose 2 (already given) is 181 days. This interval overrides the standard minimum age/interval for Aboriginal and Torres Strait Islander children in NT, QLD, SA, and WA.

Invalid doses

Condition	Message
1st dose administered at <12 months of age	Dose given at less than the minimum age
Minimum interval between any 2 doses not met	Dose given at less than the 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.

7.3.3 NIP funding

Doses recommended for people with developmental disability **are not** funded by the NIP.

7.4 Chronic liver disease

The following recommendations apply to people with chronic liver disease, including chronic hepatitis, cirrhosis or biliary atresia.

7.4.1 Recommended schedule

- If previously unvaccinated, 2 doses of Hep A vaccine at least 6-months apart.

7.4.2 Catch-up recommendations

Valid doses

Minimum age

- Minimum age for dose 1 is 12 months.

Maximum age

- No maximum age limit.

Minimum intervals

- The minimum accepted interval between dose 1 and dose 2 (future dose) is 6 months.
- The minimum accepted interval between dose 1 and dose 2 (already given) is 181 days.
- This interval overrides the standard minimum age/interval for Aboriginal and Torres Strait Islander children in NT, QLD, SA, and WA.

Invalid doses

Condition	Message
1st dose administered at <12 months of age	Dose given at less than the minimum age
Minimum interval between any 2 doses not met	Dose given at less than the 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.

7.4.3 NIP funding

Doses recommended for people with chronic liver disease **are not** funded by the NIP.

7.5 Liver transplant

The following recommendations apply for people who are having or have had a liver transplant.

7.5.1 Recommended schedule

- If previously unvaccinated, 2 doses of Hepatitis A vaccine, at least 6 months apart.
- Where possible, complete all routine scheduled doses at least 2 weeks before transplant.
- If any scheduled doses were missed before transplant, vaccination should restart at least 3 months post-transplant, maintaining a 6-month minimum interval between doses.

7.5.2 Catch-up recommendations

- Before transplant, follow the catch-up schedule for Aboriginal and Torres Strait Islander children in NT, QLD, SA or WA.
- Do not administer any vaccines within 2 weeks of surgery.
- After transplant, follow the guidance below.

Valid doses

Minimum age

- Minimum age for dose 1 is 12 months.

Maximum age

- No maximum age limit

Minimum intervals

- The minimum interval between transplant and the next scheduled dose is 3 months.
- The minimum accepted interval between dose 1 and dose 2 (future dose) is 6 months.
- The minimum accepted interval between dose 1 and dose 2 (already given) is 181 days.
- This interval overrides the standard minimum age/interval for Aboriginal and Torres Strait Islander children in NT, QLD, SA, and WA.

Invalid doses

Condition	Message
1st dose administered at <12 months of age	Dose given at less than the minimum age
Dose administered at <3 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any 2 doses not met	Dose given at less than the 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.

7.5.3 NIP funding

Doses recommended for people who are having or have had a liver transplant **are not** funded by the NIP.

8 Hepatitis B

8.1 All children and adolescents

The following recommendations apply to all children and adolescents including Aboriginal and Torres Strait Islander people.

See also Children and adolescents who have been vaccinated overseas

8.1.1 Recommended schedule

- 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 Catch-up recommendations

Valid doses

Birth dose

- Minimum age birth dose is 0 days
- Maximum age birth dose is 7 days
- Catch-up of the birth dose is not required
- Minimum age for primary doses
- Minimum age for dose 1 is 29 days
- The minimum acceptable age for dose 3 (already given) is 16 weeks

Number of doses

Healthy adolescents aged 11–15 years who need catch-up may receive either:

- 2 doses of adult Hep B vaccine **or**
- 3 doses of paediatric Hep B vaccine

Minimum intervals

3-dose schedule

- Catch-up of the birth dose is not required
- Minimum interval between dose 1 and dose 2 is 4 weeks
- Minimum interval between dose 2 and dose 3 (already given) is 8 weeks
- Minimum interval between dose 1 and dose 3 (future dose) is 16 weeks

2-dose schedule

- Catch-up of the birth dose is not required
- Minimum interval between dose 1 and dose 2 is 16 weeks

NB: Apply the hexavalent DTP-IPV-HepB-Hib rule where appropriate

Invalid doses

Condition	Message
Dose administered between 7 – ≤28 days of age	Dose given at less than the minimum age
Minimum interval between any 2 doses not met	Dose given at less than the 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.

8.1.3 NIP funding

The birth dose and 3 further doses are funded by the NIP for all people <20 years of age.

8.2 Children and adolescents who have been vaccinated overseas

The following recommendations only apply to all children and adolescents including Aboriginal and Torres Strait Islander people, who have received historical HepB vaccines overseas, using 'Generic/Other' variants at schedule points which may be different to the NIP.

If a person has received doses overseas, then different scheduling rules could apply, unless the person has followed the NIP schedule (birth dose and 3 primary doses at the accepted age and minimum intervals as detailed in 8.1.1 and 8.1.2 above).

8.2.1 Recommended schedule

- Birth dose of paediatric formulation Hep B vaccine between 0 and 7 days
- 2 further primary doses of paediatric formulation Hep B vaccine at 1-2, and ≥6 months of age

8.2.2 Catch-up recommendations

Valid doses

Minimum age

- Minimum age for dose 1 is 29 days
- The minimum acceptable age for dose 3 (already given) is 16 weeks

Minimum intervals

- Minimum interval between birth dose and dose 1 is 4 weeks
- Minimum interval between dose 1 and dose 2 (already given) is 8 weeks
- Minimum interval between birth dose and dose 2 (future dose) is 16 weeks

Invalid doses

Condition	Message
Dose administered between 7 – ≤28 days of age	Dose given at less than the minimum age
Minimum interval between any 2 doses not met	Dose given at less than the 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.

8.2.3 NIP funding

- See funding rules for all children and adolescents
- Only the vaccinations administered in Australia (birth dose and 3 further doses) are funded by the NIP for all people <20 years of age

8.3 Cancer

The following recommendations apply to people who have completed cancer therapy.

8.3.1 Recommended schedule

- If fully vaccinated before cancer therapy; give 1 booster dose of paediatric Hep B vaccine ≥3 months after remission or completion of treatment (whichever is later)
- If not fully vaccinated before therapy; start catch-up schedule for healthy children, beginning ≥3 months after remission or completion of treatment (whichever is later)

8.3.2 Catch-up recommendations

- If the routine childhood schedule has not been completed prior to remission or completion of treatment (whichever is later), follow the catch-up parameters for all children and adolescents

Valid doses

Minimum intervals

- If the routine childhood schedule is complete, give the booster dose at least 3 months after remission or completion of treatment

Invalid doses

Condition	Message
Booster dose administered at <3 months from remission or end of treatment	Dose given at less than the 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.

8.3.3 NIP funding

For people who were fully vaccinated before completing cancer therapy, the post-cancer booster dose is not funded under the NIP.

For people who weren't fully vaccinated before completing cancer therapy, refer the funding rules for all children.

8.4 HIV infection

The following recommendations apply to people who have a HIV infection regardless of their CD4+ count.

8.4.1 Recommended schedule

- Follow the recommended schedule for all children and adolescents
- All Hep B doses given **after** diagnosis should use the **adult** formulation

8.4.2 Catch-up recommendations

Follow the catch-up recommendations for all children and adolescents, using the **adult formulation** Hep B vaccine.

8.4.3 NIP funding

The birth dose and 3 further doses are funded by the NIP for all people <20 years of age.

Adult formulation doses recommended for people who have a HIV infection **are not** funded by the NIP.

8.5 Chronic liver disease

The following recommendations apply to people who have chronic liver disease.

8.5.1 Recommended schedule

- Follow the recommended schedule for all children and adolescents.
- All Hep B doses given after diagnosis should use the adult formulation.

8.5.2 Catch-up recommendations

Follow the catch-up parameters for all children and adolescents, using the **adult formulation** Hep B vaccine.

8.5.3 NIP funding

The birth dose and 3 further doses are funded by the NIP for all people <20 years of age. Adult formulation doses recommended for people with chronic liver disease **are not** funded by the NIP.

8.6 Preterm infants and low birthweight babies

The following recommendations apply to:

- Preterm infants (<28 weeks and <32 weeks gestation), and
- Low birth weight infants (<2000g)

8.6.1 Recommended schedule

- 3 primary doses of paediatric formulation Hep B vaccine at 2, 4 and 6 months of age; and an additional booster dose of paediatric formulation Hep B vaccine at 12 months of age

8.6.2 Catch-up recommendations

Valid doses

Minimum intervals

- If the routine childhood schedule is complete, the minimum interval between dose 3 and the booster dose is 6 months

Invalid doses

Condition	Message
Minimal interval between dose 3 and booster dose not met	Dose given at less than the 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.

8.6.3 NIP funding

The birth dose and 3 further doses are funded by the NIP for all people <20 years of age.

Additional dose recommended for preterm infants (<28 or <32-weeks gestation) and low birthweight babies **is not** funded by the NIP.

8.7 Haematopoietic stem cell transplant (HSCT)

The following recommendations apply to people who have had a haematopoietic stem cell transplant.

8.7.1 Recommended schedule

- 3 doses of adult formulation Hep B vaccine at 6, 8, 10 months post-transplant.
- If any doses from the primary schedule have not been received prior to transplant, these do not need to be given.

8.7.2 Catch-up recommendations

Valid doses

Minimum intervals

- The minimum interval between transplant and the next scheduled dose is 6 months
- Minimum interval between dose 1 and dose 2 is 8 weeks
- Minimum interval between dose 2 and dose 3 is 8 weeks

Invalid doses

Condition	Message
Booster dose administered at <6 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any 2 doses not met	Dose given at less than the 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.

8.7.3 NIP funding

- **Additional** doses given post-HSCT are **not** funded.
- Doses **repeated** after HSCT are **not** funder under the NIP.

Caveats

- A previously unvaccinated person <20 years of age who has undergone HSCT may receive up to 3 HepB doses for free under the NIP; additional post-HSCT and repeat doses are not NIP-funded.

8.8 Solid organ transplant (SOT)

The following recommendations apply to people who are having or have had a solid organ transplant.

8.8.1 Recommended schedule

- Where possible, children and adolescents should receive all routine scheduled doses at least 2 weeks before transplant.
- If any scheduled doses were not received prior to transplant, vaccination should recommence at least 3 months after transplant, as per the routine schedule and catch-up for all children and adolescents.

8.8.2 Catch-up recommendations

- Before transplant, follow the catch-up schedule for all children and adolescents.
- No vaccine doses should be given within 2 weeks of surgery.
- After transplant, follow the guidance below.

Valid doses

Minimum intervals

- The minimum interval between transplant and the next scheduled dose is 3 months.
- At 3 months follow the catch-up schedule for all children and adolescents.

Invalid doses

Condition	Message

Dose administered at <3 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any 2 doses not met	Dose given at less than the 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.

8.8.3 NIP funding

- See funding rules for all children and adolescents.

9 Human papillomavirus (HPV)

9.1 All adolescents

The following recommendations apply to all healthy adolescents.

9.1.1 Recommended schedule

- 1 dose of HPV between 12–13 years of age.

9.1.2 Catch-up recommendations

Valid doses

Minimum age

- Minimum age for dose 1 (future dose) is 12 years.
- Minimum age for dose 1 (already given) is 9 years.

Maximum age

- Maximum age for any dose is 19 years (immediately prior to the 20th birthday).

Invalid doses

Condition	Message
Dose administered at <9 years of age	Dose given at less than the minimum age

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

9.1.3 NIP funding

One dose is funded by the NIP for all healthy adolescents aged <20 years.

9.2 Aboriginal and Torres Strait Islander people

No additional recommendations; see recommendations for all adolescents.

9.3 Adolescents with specified conditions

The following recommendations apply to adolescents who have significant immunocompromising conditions. Two additional doses of HPV vaccine are recommended for all people with the following immunocompromising conditions.

Specified medical conditions for HPV	

Immunocompromising conditions:	• Haematological malignancies
	• HIV infection
	  ○ <12 months CD4 <750 cells/μL
	  ○ <12 months CD4 750-1499 cells/μL

- <12 months CD4 ≥1500 cells/μL
- 1-5 years CD4 <500 cells/μL
- 1-5 years CD4 500-999 cells/μL
- 1-5 years CD4 ≥1000 cells/μL
- ≥6 years CD4 <200 cells/μL
- ≥6 years CD4 200-499 cells/μL
- ≥6 years CD4 ≥500 cells/μL

- Immunosuppressive therapy (current or anticipated)
- Inborn errors of immunity, including primary immunodeficiency disorders
- Non–haematological malignancies receiving chemotherapy or radiotherapy (currently or anticipated.

9.3.1 Recommended schedule

3 doses of HPV vaccine:

- Minimum interval between doses 1 and 2 is 2 months
- Minimum interval between doses 2 and 3 is 4 months

9.3.2 Catch-up recommendations

Valid doses

Minimum age

- Minimum age for dose 1 is 9 years

Maximum age

- Maximum age for any dose is 19 years (immediately prior to the 20th birthday)

Number of doses

- If an adolescent has received 1 or 2 doses of HPV vaccine prior to onset of their immunocompromising condition (before date of diagnosis), no further doses are necessary.
- If a person has received any HPV vaccine/s prior to onset of their immunocompromising condition (before date of diagnosis), then these do not need to be repeated.

Minimum intervals

- Minimum interval between dose 1 and dose 2 (future dose) is 4 weeks
- Minimum interval between dose 1 and dose 2 (already given) is 28 days
- Minimum interval between dose 2 and dose 3 (future dose) is 12 weeks
- Minimum interval between dose 2 and dose 3 (already given) is 84 days
- Minimum interval between dose 1 and dose 3 (future dose) is 5 calendar months
- Minimum interval between dose 1 and dose 3 (already given) is 151 days

Invalid doses

Condition	Message
1st dose administered at <9 years of age	Dose given at less than the minimum age
Minimum interval between any 2 doses not met	Dose given at less than the 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.

9.3.3 NIP funding

Three doses are funded by the NIP for adolescents who have the specified immunocompromising conditions.

9.4 Haematopoietic stem cell transplant (HSCT)

The following recommendations apply to people who are having or had a haematopoietic stem cell transplant.

9.4.1 Recommended schedule

3 doses of HPV vaccine starting 6 months post-transplant.

- Minimum interval between dose 1 and dose 2 is 4 weeks
- Minimum interval between dose 2 and dose 3 is 16 weeks
- If any doses from the primary schedule were not received prior to transplant, these do not need to be given

9.4.2 Catch-up recommendations

Valid doses

Minimum age

- Minimum age for dose 1 is 9 years.

Maximum age

- Maximum age is 19 years (immediately prior to the 20th birthday).

Minimum intervals

- The minimum interval between transplant and the next scheduled dose is 6 months.
- Minimum interval between dose 1 and dose 2 is 4 weeks.
- Minimum interval between dose 2 and dose 3 is 16 weeks.

Invalid doses

Condition	Message
Booster dose administered at <6 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any 2 doses not met	Dose given at less than the 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.

9.4.3 NIP funding

Doses repeated after HSCT are not funder under the NIP.

Additional doses given post-HSCT are not funded.

9.5 Solid organ transplant (SOT)

The following recommendations apply to adolescents who are having or have had a solid organ transplant.

9.5.1 Recommended schedule

Where possible, adolescents should receive their scheduled doses at least 2 weeks before transplant.

If the scheduled dose was not received prior to transplant, vaccination should recommence at least 3 months after transplant. 3 doses should be given as follows:

- Minimum interval between doses 1 and 2 is 2 months
- Minimum interval between doses 2 and 3 is 4 months

9.5.2 Catch-up recommendations

Valid doses

Minimum age

- Minimum age for dose 1 is 9 years.

Maximum age

- Maximum age is 19 years (immediately prior to the 20th birthday).

Number of doses

- If the adolescent received 1 or 2 doses of HPV vaccine prior to their transplant (noting that transplant date can be in the future), no further doses are necessary.

Minimum intervals

- The minimum interval between a solid organ transplant and the next scheduled dose is 3 months
- Minimum interval between dose 1 and dose 2 (future dose) is 2 months
- Minimum interval between dose 1 and dose 2 (already given) is 56 days

- Minimum interval between dose 2 and dose 3 (future dose) is 4 months
- Minimum interval between dose 2 and dose 3 (already given) is 112 days
- Minimum interval between dose 1 and dose 3 (future dose) is 5 calendar months
- Minimum interval between dose 1 and dose 3 (already given) is 151 days

Invalid doses

Condition	Message
1st dose administered at <9 years of age	Dose given at less than the minimum age
Minimum interval between any 2 doses not met	Dose given at less than the minimum interval from previous dose
Dose administered at <3 months from transplant	Dose given at less than the minimum interval from transplant

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

9.5.3 NIP funding

- Three doses are funded by the NIP for adolescents who have had a solid organ transplant.
- Three additional doses, given after solid organ transplant, are funded by the NIP.

10 Inactivated poliomyelitis vaccine (IPV)

10.1 All children and adolescents

The following recommendations apply to all children and adolescents.

10.1.1 Recommended schedule

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

10.1.2 Catch-up recommendations

Valid doses

Minimum age

- Minimum age for dose 1 is 29 days.
- Minimum age dose 4 is 3 years 6 months.
- If dose 3 is administered at ≥4 years of age, dose 4 is not required.

Minimum intervals

- Minimum interval between dose 1 and dose 2 is 4 weeks.
- Minimum interval between dose 2 and dose 3 is 4 weeks.
- Minimum interval dose 3 and dose 4 is 4 weeks.

NB: Apply the hexavalent DTP-IPV-HepB-Hib rule where appropriate.

Invalid doses

Condition	Message
1st dose administered at ≤28 days of age	Dose given at less than the minimum age
4th dose administered at <3.5 years of age	Dose given at less than the minimum age
Minimum interval between any 2 doses not met	Dose given at less than the 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.

10.1.3 NIP funding

All doses are funded by the NIP for people <20 years of age.

10.2 Aboriginal and Torres Strait Islander children and adolescents

No additional recommendations; see guidance for all children and adolescents.

10.3 Cancer

The following recommendations apply to people who have completed cancer therapy or treatment.

10.3.1 Recommended schedule

- People who were fully vaccinated before commencing cancer therapy are required to receive an additional booster dose of IPV 3 months after remission or completion of treatment (whichever is later).
- People who were partially vaccinated before commencing cancer therapy are recommended to commence catch-up as for healthy children (instead of the booster dose), 3 months after remission or completion of treatment (whichever is later).

10.3.2 Catch-up recommendations

- If the routine childhood schedule has not been completed prior to remission or completion of treatment (whichever is later), follow the catch-up parameters for all children and adolescents.

Valid doses

Minimum intervals

- If the routine childhood schedule is complete, give the booster dose at least 3 months after remission or completion of treatment.

Invalid doses

Condition	Message
Dose administered at <3 months remission/treatment completion	Dose given at less than the minimum interval from remission or treatment completion.

10.3.3 NIP funding

For people who were fully vaccinated before completing cancer therapy, the post-cancer booster dose is not funded under the NIP.

For people who weren't fully vaccinated before completing cancer therapy, refer the funding rules for all children.

10.4 Haematopoietic stem cell transplant (HSCT)

The following recommendations apply to people who are having or have had a haematopoietic stem cell transplant.

10.4.1 Recommended schedule

- Where possible, children and adolescents should receive all routine scheduled doses at least 4 weeks before the transplant
- 3 doses of IPV commencing 6 months post-transplant
- Minimum interval between dose 1 and dose 2 is 4 weeks
- Minimum interval between dose 2 and dose 3 is 4 weeks

- If any doses from the primary schedule were not received prior to transplant, these do not need to be given

10.4.2 Catch-up recommendations

Valid doses

Minimum intervals

- The minimum interval between the transplant and the next scheduled dose is 6 months
- Minimum interval between dose 1 and dose 2 is 4 weeks
- Minimum interval between dose 2 and dose 3 is 4 weeks

Invalid doses

Condition	Message
Booster dose administered at <6 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any 2 doses not met	Dose given at less than the 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.

10.4.3 NIP funding

Additional doses given post-HSCT are not funded.

10.5 Solid organ transplant (SOT)

The following recommendations apply to people who are having or have had a solid organ transplant.

10.5.1 Recommended schedule

- Where possible, children and adolescents should receive all routine scheduled doses at least 2 weeks before the transplant
- If any scheduled doses were not received prior to transplant, vaccination should recommence at least 3 months after transplant, as per the routine schedule and catch-up for all children and adolescents

10.5.2 Catch-up recommendations

- Before transplant, follow the catch-up schedule for all children and adolescents
- No vaccine doses should be given within 2 weeks of surgery
- After transplant, follow the guidance below

Valid doses

Minimum intervals

- The minimum interval between the transplant and the next scheduled dose is 3 months
- At 3 months follow the catch-up schedule for all children and adolescents

Invalid doses

Condition	Message
Dose administered at <3 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any 2 doses not met	Dose given at less than the 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.

10.5.3 NIP funding

See funding rules for all children and adolescents.

11 Influenza

11.1 All people

The following recommendations apply to all people.

11.1.1 Recommended schedule

- 1 annual dose of influenza vaccine if ≥6 months of age
- 2 doses of influenza vaccine if <9 years of age and receiving influenza vaccine for the first time

See also 11.6 Catch-up schedule output statements.

11.1.2 NIP funding

Influenza doses are funded for all children <5 years of age.

11.2 Aboriginal and Torres Strait Islander people

The following recommendations apply to all Aboriginal and Torres Strait Islander people.

11.2.1 Recommended schedule

- 1 annual dose of influenza vaccine if ≥6 months of age
- 2 doses of influenza vaccine if <9 years of age and receiving influenza vaccine for the first time

See also Catch-up schedule output statements.

11.2.2 NIP funding

Influenza doses are funded for all Aboriginal and Torres Strait Islander children.

11.3 Specified medical conditions

The following recommendations apply to people with specified medical conditions (outlined below) associated with an increased risk of influenza disease.

Specified medical conditions associated with increased risk of severe influenza disease	
Alcohol use: Harmful use of alcohol, consuming on average: • ≥60 g of alcohol (6 Australian standard drinks) per day for males • ≥40 g of alcohol (4 Australian standard drinks) per day for females	N/A
Asplenia	• Anatomical asplenia or splenectomy • Functional asplenia
Cardiac disease: • Congenital heart disease • Coronary artery disease	N/A

• Heart failure • Other cardiac disease	
Chronic liver disease (Conditions with progressive deterioration of liver function for more than 6 months including cirrhosis and other advanced liver diseases)	N/A
Chronic metabolic condition e.g. amino acid disorder, mitochondrial defects	N/A
Chronic neurological condition e.g. degenerative CNS disease, seizure disorder	N/A
Chronic renal disease	• Relapsing or persistent nephrotic syndrome • Stage 4 kidney disease – eGFR <30 mL/min • Stage 5 kidney disease (kidney failure) – eGFR <15 mL/min
Chronic respiratory disease: • Chronic lung disease in preterm infants • Chronic obstructive pulmonary disease (COPD) or chronic emphysema • Interstitial and fibrotic lung disease • Severe asthma (defined as requiring frequent hospital visits or the use of multiple medications) • Suppurative lung disease, bronchiectasis and cystic fibrosis • Other chronic respiratory disease	N/A
Diabetes (Type 1 or 2)	N/A
Haematological disorder e.g. sickle cell disease or other haemoglobinopathy	N/A

Immunocompromising conditions:	• Congenital or acquired immune deficiency
	• Current or future treatment with complement inhibitor therapy (e.g. eculizumab, ravuli zumab or pegcetacoplan)
	• Defects in, or deficiency of, complement components, including factor H, factor D or properdin deficiency
	• Haematological malignancies
	• HIV infection
	  ○ CD4 <15% (500 cells/μL for 1-5y, 200 cells/μL for ≥5y)
	  ○ CD4 ≥15% (500 cells/μL for 1-5y, 200 cells/μL for ≥5y)

	• Immunosuppressive therapy (current or anticipated) • Inborn errors of immunity, including primary immunodeficiency disorders • Non–haematological malignancies receiving chemotherapy or radiotherapy (currently or anticipated) • Other immunocompromising condition
Long-term aspirin therapy in children aged 6 months to 10 years	N/A
Obesity (body mass index ≥30 kg per m^2)	N/A
Trisomy 21 or another chromosomal abnormality that increases the risk of severe disease	N/A

11.3.1 Recommended schedule

- No additional recommendations.
- See also catch-up schedule output statements.

11.3.2 NIP funding

Influenza doses are funded for people with any of the specified medical conditions (outlined in the table above) regardless of age, except for chronic liver disease, obesity, chromosomal abnormality and harmful use of alcohol.

11.4 Haematopoietic stem cell transplant (HSCT)

The following recommendations apply to people who have had a haematopoietic stem cell transplant.

11.4.1 Recommended schedule

- 2 doses of influenza vaccine in the first-year post-transplant, commencing at least 3 months post-transplant.
- Annual dose of influenza each year after the transplant.

See also Catch-up schedule output statements.

11.4.2 NIP funding

Influenza doses are funded for people who have had a HSCT.

11.5 Solid organ transplant (SOT)

The following recommendations apply to people who are having or have had a solid organ transplant.

11.5.1 Recommended schedule

- 2 doses of influenza vaccine in the first-year post-transplant.
- Annual dose of influenza each year after the transplant.

See also Catch-up schedule output statements.

11.5.2 NIP funding

Influenza doses are funded for people who are having or have had a solid organ transplant.

11.6 Catch-up schedule output statements

The following text is to be displayed on every catch-up schedule:

Annual influenza vaccination is recommended for people over 6 months of age, before the influenza season starts, between 1st April and 31st May. Although influenza can occur year-round, influenza infections peak between 1 June to 30 September in most parts of Australia.

Additional information boxes

The hierarchy for choosing which information box to use, where someone meets the criteria for more than one is as follows:

1. People who have had a haematopoietic stem cell transplant
2. People who have had a solid organ transplant
3. Age based (<9 year or ≥9 years)

Cohort or condition	Message
Generic statement for all people	Annual influenza vaccination is recommended for people over 6 months of age, before the influenza season starts, between 1st April and 31st May. Although influenza can occur year-round, influenza infections peak between 1 June to 30 September in most parts of Australia.
Children aged <9 years	[Generic statement for all people] For optimal protection, a person receiving the flu vaccine for the first time in their life is recommended to get two doses, 4 weeks apart. Children can receive either standard influenza vaccine or cell-based influenza vaccine. The annual Influenza vaccine is free under the National Immunisation Program for children aged up to 5 years and with certain at-risk conditions and may be funded for others through state or territory-based programs. People who are not eligible for a free vaccine can purchase the vaccine from their vaccination provider.
People aged ≥9 years	[Generic statement for all people] A single annual dose of influenza vaccine is recommended for most people. Children can receive either standard influenza vaccine or cell-based influenza vaccine. The annual Influenza vaccine is free under the National Immunisation Program for people with certain at-risk conditions and may be funded for others through state or territory-based programs. People who are not eligible for a free vaccine can purchase the vaccine from their vaccination provider. See the Australian Immunisation Handbook for more details.

People who having or have had a solid organ transplant	[Generic statement for all people] Two doses of influenza vaccine are recommended for people who have had a solid organ transplant in the first year post-transplant. Either the standard influenza vaccine or cell-based influenza vaccine can be given. The annual Influenza vaccine is free under the National Immunisation Program for people who have had a solid organ transplant.
People who have had a haematopoietic stem cell transplant	[Generic statement for all people] Two doses of influenza vaccine are recommended for people who have had a haematopoietic stem cell transplant in the first year post-transplant, commencing at least 3 months post-transplant. Either the standard influenza vaccine or cell-based influenza vaccine can be given. The annual Influenza vaccine is free under the National Immunisation Program for people who have had a haematopoietic stem cell transplant.

12 Measles-Mumps-Rubella (MMR)

NB: MMR rules must be read in conjunction with Varicella rules. See also Varicella.

Some children may receive a dose of MMR between 6 and 12 months of age if travelling to an area of high measles prevalence. This dose does not count toward the recommended doses below.

12.1 All children and adolescents

The following recommendations apply to all children and adolescents.

12.1.1 Recommended schedule

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

12.1.2 Catch-up recommendations

Valid doses

Minimum age

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

Minimum intervals

- Multiple live vaccines can be given on the same day. If they are not administered on the same day, a minimum interval of 4 weeks must be observed between doses of any injected live vaccines (e.g. MMR or MMR-Varicella vaccine).

MMR

- Children between 12 months and 4 years of age (≥12 months and <4 years) are required to receive MMR-only vaccine as the first dose, followed by MMR-Varicella as dose 2 at 18 months of age or 4 weeks after dose 1 if the dose is already overdue.

MMR-Varicella

- Children between 4 to 13 years of age inclusive (≥4 and ≤13 years), who are previously unvaccinated, are required to receive MMR-Varicella as the first dose of MMR containing vaccine following by an MMR-only and a Varicella-only dose 4 weeks after dose 1.
- Adolescents ≥14 years of age must not receive MMR-Varicella. They can receive MMR-only and Varicella-only vaccines on the same day if due or at least 4 weeks apart.

MMR and Varicella

- People ≥12 months who received MMR and monovalent varicella together (or ≥4 weeks apart), are required to receive MMR and monovalent varicella as dose 2.
- People who have receive two valid doses of MMR at ≥12 months of age **and** two valid doses of monovalent varicella, in any order, observing 4-week minimum intervals do not need any further doses. E.g.

- MMR, MMR, Varicella, Varicella;
- MMR, Varicella, MMR, Varicella;
- Varicella, MMR, Varicella, MMR
- MMRV, MMR, Varicella
- MMRV, Varicella, MMR
- MMR, Varicella, MMRV
- Varicella, MMR, MMRV

Invalid doses

Condition	Message
1st dose administered at <11 months of age	Dose given at less than the minimum age
1st dose administered at ≥11 – <12 months age	No message to be displayed.
Minimum interval between any dose MMR and / or Varicella containing vaccine not met	Dose given at less than the 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.

12.1.3 NIP funding

Two doses of MMR are funded by the NIP for all people <20 years of age which can be given as MMR or MMR-Varicella.

12.2 Aboriginal and Torres Strait Islander children and adolescents

No additional recommendations; see all children and adolescents.

12.3 Cancer

The following recommendations apply to people have completed cancer therapy.

12.3.1 Recommended schedule

People who were fully vaccinated before cancer therapy are required to receive:

- A booster dose of MMR 3 months after remission or the completion of treatment (whichever is more recent).
- Another booster dose of MMR 8 months after booster 1 if seronegative (Serological immunity should be reviewed ≥6 weeks from dose 1).

People who were unvaccinated or partially vaccinated (1 dose) before cancer therapy are required to receive:

- 1 dose as per the schedule for healthy children 3 months after remission or the completion of treatment (whichever is more recent).

12.3.2 Catch-up recommendations

- If the routine schedule **has not** been completed, follow the catch-up recommendations for all children.

Valid doses

Minimum intervals

- If the routine childhood schedule has been completed, minimum interval between remission/end of treatment and the next scheduled booster dose is 3 months.

Invalid doses

Condition	Message
Booster dose administered at <3 months from remission or end of treatment	Dose given at less than the 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.

12.3.3 NIP funding

For people who were fully vaccinated before completing cancer therapy, the post-cancer booster dose is not funded under the NIP.

For people who weren't fully vaccinated before completing cancer therapy, refer the funding rules for all children.

12.4 Haematopoietic stem cell transplant (HSCT)

The following recommendations apply to people who are having or have had a haematopoietic stem cell transplant.

12.4.1 Recommended schedule

- Where possible, children and adolescents should receive all routine scheduled doses at least 4 weeks before the HSCT.
- 2 doses of MMR starting 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.

12.4.2 Catch-up recommendations

Valid doses

Minimum intervals

- The minimum interval between a HSCT and the next scheduled dose is 24 months.
- Minimum interval between dose 1 and dose 2 is 4 weeks.

Invalid doses

Condition	Message
Booster dose administered at <24 months from transplant	Dose given at less than the 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.

12.4.3 NIP funding

Additional doses given post-HSCT are not funded.

12.5 Solid organ transplant (SOT)

The following recommendations apply to people who are having or have had a solid organ transplant.

12.5.1 Recommended schedule

- Where possible, children and adolescents should receive all routine scheduled doses at least 4 weeks before the solid organ transplant.
- If any scheduled doses were not received prior to transplant, vaccination should recommence at least 12 months after transplant. Follow the routine schedule and catch-up for all children and adolescents.

12.5.2 Catch-up recommendations

Prior to surgery, follow the catch-up schedule for all children and adolescents.

After transplant, follow the guidance below.

Valid doses

Minimum intervals

- The minimum interval between the transplant and the next scheduled dose is 12 months.
- At 12 months follow the catch-up schedule for all children and adolescents.

Invalid doses

Condition	Message
Dose administered at <12 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any 2 doses not met	Dose given at less than the 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.

12.5.3 NIP funding

Two doses are funded by the NIP for all people <20 years of age.

12.6 Specified medical conditions

The following recommendations apply to people who have any of the specified medical conditions in the table below.

Specified medical conditions where Measles-Mumps-Rubella (MMR) vaccine is contraindicated	

Immunocompromising conditions:	• Congenital or acquired immune deficiency
	• Haematological malignancies
	• HIV infection
	  ○ <12 months CD4 <750 cells/μL
	  ○ 1-5 years CD4 <500 cells/μL
	  ○ ≥6 years CD4 <200 cells/μL
	• Non–haematological malignancies receiving chemotherapy or radiotherapy (currently or anticipated)
	• Immunosuppressive therapy (current or anticipated)

12.6.1 Recommended schedule

Vaccination is contraindicated for children and adolescents with the specified medical conditions outlined above.

12.6.2 Catch-up recommendations

Not applicable.

13 Meningococcal ACWY conjugate (MenACWY)

13.1 All children and adolescents

The following recommendations apply to all children and adolescents.

13.1.1 Recommended schedule

- 3 doses of MenACWY vaccine at 2, 4 and 12 months of age.
- 1 dose of MenACWY vaccine between 15–19 years of age.

13.1.2 Catch-up recommendations

Valid doses

Minimum age

Children <15 years of age

- Minimum age for dose 1 is 29 days.
- Minimum age dose 3 (future dose) is 12 months.
- Minimum acceptable age for dose 3 (already given) is 11 months.
- If dose 3 was given between the ages of 11m and 12m no further primary doses are required.

Adolescents aged 15–19 years

- Minimum age for an adolescent dose (future dose) is 15 years.
- Minimum acceptable age for an adolescent dose (already given) is 14 years.

MenC only or MenC-Hib

Children who have received a valid Men-C only or MenC-Hib vaccine dose ≧11 months of age do not need MenACWY vaccine **except** in two special situations:

- Child is born on or after 1/7/2017.
- Child is older than 15 years.

MenC-only or MenC-Hib vaccine rule is ONLY meant for past vaccination. Not for future doses. MenC-only or MenC-Hib vaccines are no longer available in Australia. Instead, children and adolescents are required to receive MenACWY vaccines.

Minimum acceptable age for a dose (already given) is 11 months.

Minimum intervals

Childhood or primary doses

- Minimum interval between dose 1 and dose 2 of MenACWY is 8 weeks
- Minimum interval between dose 2 and dose 3 of MenACWY is 8 weeks
- Minimum interval between a dose of MenC-only or MenC-Hib vaccine and the next MenACWY dose is 8 weeks
- Minimum interval between a primary and adolescent dose MenACWY is 8 weeks

Number of doses

Children <15 years of age

- MenACWY vaccine should be used for catch-up
- The number of doses required depends on current age and previous doses received, see Table 2. MenACWY vaccine catch-up for healthy children aged <15 years
- 1 dose of MenACWY is recommended if 0 dose of MenC or MenC-Hib vaccine was received at age ≥11 months

Adolescents aged 15–19 years

- MenACWY vaccine should be used for catch-up
- Regardless of the childhood doses received, 1 dose of MenACWY is recommended for all adolescents between 15-19 years of age
- Minimum age for an adolescent dose of MenACWY (future dose) is 15 years
- Minimum acceptable age for an adolescent dose of MenACWY (already given) is 14 years

Table 2. MenACWY vaccine catch-up for healthy children aged <15 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 primary dose(s) required
No previous doses	<6 months	–	–	–	3
	6–<12 months	–	–	–	2
	≥12 months – <15y	–	–	–	1
1 previous dose	<12 months	<6 months	–	–	2
	6–<12 months	6–<12 months	–	–	1
	≥12 months – <15y	<12 months	–	–	1
	≥12 months – <15y	≥12 months	–	–	None
2 previous doses	<12 months	<12 months	<12 months	–	1
	≥12 months – <15y	<12 months	<12 months	–	1
	≥12 months – <15y	Any age	≥12 months	–	None
3 previous doses	<12 months	<12 months	<12 months	<12 months	1
	≥12 months – <15y	<12 months	<12 months	<12 months	1
	≥12 months – <15y	Any age	Any age	≥12 months	None

N.B If the 3rd dose was received between the ages of 11 and 12m, then no further primary doses are required.

In addition to the primary doses outlined in the table above, the person is **required to receive the adolescent dose/s between 15-19 years of age**.

Invalid doses

Condition	Message
1st dose administered at ≤28 days of age	Dose given at less than the minimum age
Minimum interval between any 2 doses not met	Dose given at less than the 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.

13.1.3 NIP funding

- 1 dose of MenACWY is funded for all children at 12 months of age.
- 1 dose of MenACWY is funded for all adolescents between 15-19 years of age. (Minimum accepted age of an adolescent dose of MenACWY already given in 14 years).

13.2 Aboriginal and Torres Strait Islander children

No additional recommendations for healthy Aboriginal and Torres Strait Islander children; see recommendations for all children and adolescents.

13.3 Anatomical asplenia or splenectomy

The following recommendations only apply to people **who have anatomical asplenia/had a splenectomy**.

13.3.1 Recommended schedule

- For people having an elective splenectomy, where possible, they should receive all scheduled doses at least 2 weeks before surgery.
- 4 doses of MenACWY vaccine at 2, 4, 6 and 12 months of age instead of the usual 3 doses for all children and adolescents.
- 2 doses of MenACWY vaccine, 8 weeks apart, instead of the usual 1 dose for all adolescents.
- If <7 years of age, a first booster dose 3 years after completing the primary schedule, and a second booster dose 5 years later.
- If ≥7 years of age, a booster dose 5 years after completing the primary schedule.

13.3.2 Catch-up recommendations

- Before splenectomy, follow the catch-up schedule for all children and adolescents.
- No vaccine doses should be given within 2 weeks before and after surgery.
- After surgery, follow the guidance below.

Valid doses

Minimum age

- Minimum age for dose 1 is 29 days.
- Minimum age dose 4 (future dose) is 12 months.

- Minimum age dose 4 (already given) is 11 months.
- Minimum age for booster dose is 4 years.

Minimum interval

- Minimum interval between splenectomy and the next scheduled dose is 2 weeks
- Minimum interval between all primary doses (doses 1-4) is 8 weeks
- If <7 years of age, minimum interval between last primary dose and first booster dose is 3 years
- If ≥7 years of age, minimum interval between last primary dose and first booster dose is 5 years
- Minimum interval between ongoing booster doses is 5 years. Boosters should continue to 20 years of age. There is no upper limit to the number of vaccine doses.
- Minimum interval between any previous dose of MenACWY **polysaccharide** vaccine and MenACWY **conjugate** vaccine is 2 years
- Minimum interval between a primary and adolescent dose MenACWY is 8 weeks

Number of doses

- The number of doses required depends on current age and previous doses received, see MenACWY vaccine primary catch-up for people with specified medical conditions below
- Booster doses in people with specified medical conditions should continue at 5-yearly intervals. Boosters should continue to 20 years of age. There is no upper limit to the number of vaccine doses.
- Any MenACWY polysaccharide doses do not count toward the total number of MenACWY doses

Invalid doses

Condition	Message
1st dose administered at ≤28 days of age	Dose given at less than the minimum age
Minimum interval between any 2 doses not met	Dose given at less than the 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. Does not apply to booster doses.

See also MenACWY vaccine primary catch-up for people with specified medical conditions.

13.3.3 NIP funding

- 1 dose of MenACWY is funded for all children at 12 months of age
- 1 dose of MenACWY is funded for all adolescents between 15-19 years of age. (Minimum accepted age of an adolescent dose of MenACWY already given in 14 years)
- Additional primary doses of MenACWY for people who have anatomical asplenia/had a splenectomy are funded by the NIP
- Booster doses of MenACWY for people who have anatomical asplenia/had a splenectomy are funded by the NIP

13.4 Specified medical conditions

The following recommendations apply to people who have any of the specified medical at-risk conditions listed in the table below.

Specified medical conditions for which additional doses of MenACWY vaccine are recommended.	
Asplenia	• Functional asplenia (only)

Immunocompromising conditions:	• Current or future treatment with complement inhibitor therapy (e.g. eculizumab, ravuli zumab or pegcetacoplan)
	• Defects in, or deficiency of, complement components, including factor H, factor D or properdin deficiency
	• HIV infection
	  ○ <12 months CD4 <750 cells/μL
	  ○ <12 months CD4 750-1499 cells/μL
	  ○ <12 months CD4 ≥1500 cells/μL
	  ○ 1-5 years CD4 <500 cells/μL
	  ○ 1-5 years CD4 500-999 cells/μL
	  ○ 1-5 years CD4 ≥1000 cells/μL
	  ○ ≥6 years CD4 <200 cells/μL
	  ○ ≥6 years CD4 200-499 cells/μL
	  ○ ≥6 years CD4 ≥500 cells/μL

13.4.1 Recommended schedule

- 4 doses of MenACWY vaccine at 2, 4, 6 and 12 months of age instead of the usual 3 doses for all children and adolescents.
- 2 doses of MenACWY vaccine, 8 weeks apart, instead of the usual 1 dose for all adolescents.
- If <7 years of age, a first booster dose 3 years after completing the primary schedule, and a second booster dose 5 years later.
- If ≥7 years of age, a booster dose 5 years after completing the primary schedule.

13.4.2 Catch-up recommendations

Valid doses

Minimum age

- Minimum age for dose 1 is 29 days.
- Minimum age dose 4 (future dose) is 12 months.
- Minimum age dose 4 (already given) is 11 months.
- Minimum age for booster dose is 4 years.

Minimum interval

- Minimum interval between all primary doses (doses 1-4) is 8 weeks.
- If <7 years of age, minimum interval between last primary dose and first booster dose is 3 years.

- If ≥7 years of age, minimum interval between last primary dose and first booster dose is 5 years.
- Minimum interval between ongoing booster doses is 5 years. Boosters should continue to 20 years of age. There is no upper limit to the number of vaccine doses.
- Minimum interval between any previous dose of MenACWY **polysaccharide** vaccine and MenACWY **conjugate** vaccine is 2 years.

Number of doses

- The number of doses required depends on current age and previous doses received, see Table 3. MenACWY vaccine primary catch-up for people with specified medical conditions.
- Booster doses in people with specified medical conditions should continue at 5-yearly intervals. Boosters should continue to 20 years of age. There is no upper limit to the number of vaccine doses.
- Any MenACWY polysaccharide doses do not count toward the total number of MenACWY doses

Table 3. MenACWY vaccine primary catch-up for people with specified medical conditions

Number of primary 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 primary 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

N.B If the 4th dose was received between the ages of 11 and 12m, then no further primary doses are required. In addition to the primary doses outlined in the table above, the person is required to receive the adolescent dose/s between 15-19 years of age.

Invalid doses

Condition	Message
1st dose administered at ≤28 days of age	Dose given at less than the minimum age
Minimum interval between any 2 doses not met	Dose given at less than the 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. Does not apply to booster doses.

13.4.3 NIP funding

- 1 dose of MenACWY is funded for all children at 12 months of age.
- 1 dose of MenACWY is funded for all adolescents between 15-19 years of age. (Minimum accepted age of an adolescent dose of MenACWY already given in 14 years).
- Additional doses of MenACWY for people with specified medical conditions (except HIV infection) are funded by the NIP.
- Booster doses of MenACWY for people who have anatomical asplenia/had a splenectomy are funded by the NIP.

13.5 Cancer

The following recommendations apply to people who have completed cancer therapy.

13.5.1 Recommended schedule

- **People who are fully vaccinated** before cancer therapy are required to receive an additional booster dose of MenACWY vaccine after 3 months after remission or the completion of treatment (whichever is more recent).
- **People who are unvaccinated or partially vaccinated** before cancer therapy are recommended to commence catch-up as for healthy children and adolescents (instead of the booster dose), after 3 months after remission or the completion of treatment (whichever is more recent).

13.5.2 Catch-up recommendations

- If the routine schedule **has not** been completed, follow the catch-up recommendations for all children.

Valid doses

Minimum intervals

- If the routine childhood schedule **has been completed**, minimum interval between remission/end of treatment and the next scheduled booster dose is 3 months.

Invalid doses

Condition	Message
Booster dose administered at <3 months from remission or end of treatment	Dose given at less than the 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.

13.5.3 NIP funding

For people who were fully vaccinated before completing cancer therapy, the post-cancer booster dose is not funded under the NIP.

For people who weren't fully vaccinated before completing cancer therapy, refer the funding rules for all children.

13.6 Haematopoietic stem cell transplant (HSCT)

The following recommendations apply to people who are having or have had a haematopoietic stem cell transplant.

13.6.1 Recommended schedule

Primary doses

- If <12 months of age: 3 primary doses of MenACWY vaccine starting 6 months post-transplant, following the schedule for people with specified medical conditions regardless of the vaccination history.
- If ≥12 months of age: 2 primary doses of MenACWY vaccine starting 6 months post-transplant, following the schedule for children with specified medical conditions regardless of the vaccination history.

Booster doses

- If <7 years of age: 2 booster doses of MenACWY vaccine. First given 3 years after the final primary dose, and the second given 5 years after the first booster.
- If ≥7 years of age: 1 booster dose of MenACWY vaccine 5 years after the final primary dose.

13.6.2 Catch-up recommendations

Valid doses

Minimum intervals

- The minimum interval between the transplant and the next scheduled dose is 6 months.

Primary doses

<12 months

- Minimum interval between dose 1 and dose 2 is 8 weeks.
- Minimum interval between dose 2 and dose 3 is 8 weeks.

≥12 months

- Minimum interval between dose 1 and dose 2 is 8 weeks.

Booster doses

- If <7 years of age the minimum interval between the final primary dose and the next scheduled booster dose is 3 years.
- If ≥7 years of age the minimum interval between final primary dose and the next scheduled booster dose is 5 years.

Booster doses should continue at 5-yearly intervals. Boosters should continue to 20 years of age. There is no upper limit to the number of vaccine doses.

Invalid doses

Condition	Message
Dose administered at <6 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any 2 doses not met	Dose given at less than the 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. Does not apply to booster doses.

13.6.3 NIP funding

Additional doses given post-HSCT are not funded.

13.7 Solid organ transplant (SOT)

The following recommendations apply to people who are having or have had a solid organ transplant.

13.7.1 Recommended schedule

- Where possible, children and adolescents should receive all routine scheduled doses at least 2 weeks before transplant.
- If any scheduled doses were not received prior to transplant, vaccination should recommence at least 3 months after transplant, as per the routine schedule and catch-up for all children and adolescents.

13.7.2 Catch-up recommendations

- Before transplant, follow the catch-up schedule for all children and adolescents.
- No vaccine doses should be given within 2 weeks of surgery.
- After transplant, follow the guidance below.

Valid doses

Minimum intervals

- The minimum interval between the transplant and the next scheduled dose is 3 months.
- At 3 months follow the catch-up schedule for all children and adolescents.

Invalid doses

Condition	Message
Dose administered at <3 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any 2 doses not met	Dose given at less than the 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. Does not apply to booster doses.

13.7.3 NIP funding

- Standard funding rules apply. Additional doses of MenACWY recommended for people who are having or have had a SOT **are not funded by the NIP**.

14 Meningococcal B (MenB)

14.1 All children and adolescents

The following recommendations apply to all healthy children and adolescents.

14.1.1 Recommended schedule

- All healthy children are required to receive *up to* 3 childhood doses of MenB at 2, 4 and 12 months of age. The exact number of required doses varies based on when doses have been received in the past.
- In addition, all healthy adolescents are required to receive *up to* 3 adolescent doses of MenB between 15–19 years of age. The exact number of required doses varies based on when, which, and how many doses have been received in the past.

Caveats

- If the first primary dose of Bexsero was given ≥12 months of age, only 2 childhood doses are required. Also, in this case, the second adolescent is not required (i.e. person receives a total of three doses, 2 primary/childhood and only one adolescent dose).
- If a valid adolescent dose was already given using Trumenba vaccine, the person needs 2 more MenB (Bexsero) doses 8 weeks apart.
- If two valid adolescent doses were already given using Trumenba vaccine, the person does not need any further doses.
- Trumenba and Bexsero are interchangeable for booster doses.

14.1.2 Catch-up recommendations

- Previously unvaccinated children between 2–14 years of age (at presentation) are not required to catch-up the childhood doses. They are only required to have the adolescent doses (after 15 years of age).

Valid doses

Minimum age

Children <2 years of age

- Minimum age for dose 1 is 29 days.
- Minimum acceptable age for dose 3 (future dose) is 12 months.
- Minimum acceptable age for dose 3 (already given) is 11 months.

Adolescents 15–19 years

- Minimum acceptable age for adolescent dose 1 (future dose) is 15 years.
- Minimum acceptable age for adolescent dose 1 (already given) is 14 years.

Minimum intervals

- If <6 months of age, minimum interval between primary doses is 6 weeks.
- If ≥6 months of age, minimum interval between primary doses is 8 weeks.

Number of doses

Children <2 years of age

- The number of doses required depends on current age and previous doses received, see 'Table 4. MenB vaccine catch-up for healthy children aged <2y' table below.

Children between 2–14 years of age

- Previously unvaccinated children between 2–14 years of age (at presentation) are not required to catch-up the childhood doses. They are only required to have the adolescent doses (after 15 years of age).

Adolescents 15–19 years

- Previously unvaccinated adolescents (0 doses) are required to receive 2 adolescent doses of MenB vaccine between 15–19 years of age.
- Adolescents who have received 1 dose of MenB vaccine ≤14 years of age are not required to catch-up the childhood doses. They are only required to have the adolescent doses (after 15 years of age).
- See also caveats related to Trumenba vaccine in the recommended schedule.

Table 4. 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 – 2y	<12 months	–	–	2
	≥12 months – 2y	≥12 months	–	–	1
2 previous doses	<12 months	<12 months	<12 months	–	1
	≥12 months – 2y	<12 months	<12 months	–	1
	≥12 months – 2y	<12 months	≥12 months	–	1
	≥12 months – 2y	≥12 months	≥12 months	–	None
3 previous doses	<12 months	<12 months	<12 months	<12 months	1
	≥12 months – 2y	<12 months	<12 months	<12 months	1
	≥12 months – 2y	<12 months	<12 months	≥12 months	None
	≥12 months – 2y	<12 months	≥12 months	≥12 months	None

N.B If the 3rd dose was received between the ages of 11 and 12m, then no further primary doses are required.

In addition to the primary doses outlined in the table above, the person is required to receive the adolescent dose/s between 15-19 years of age.

Invalid doses

Condition	Message
1st dose administered at ≤28 days of age	Dose given at less than the minimum age

Minimum interval between any 2 doses not met	Dose given at less than the 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.

14.1.3 NIP funding

MenB doses are not funded by the NIP for healthy children and adolescents. All recommended doses are at-cost.

14.2 Aboriginal and Torres Strait Islander children

The following recommendations apply to all heathy Aboriginal and Torres Strait Islander children.

14.2.1 Recommended schedule

No additional recommendations, follow the recommendations for all healthy children and adolescents.

Previously unvaccinated Aboriginal and Torres Strait Islander children aged 2–14 years should receive age-appropriate MenB catch-up vaccination according to Table 5. Funding eligibility may vary by jurisdiction and age.

14.2.2 Catch-up recommendations

Valid doses

No additional recommendations, follow the recommendations for all healthy children and adolescents.

Table 5. MenB vaccine catch-up for healthy Aboriginal and Torres Strait Islander children

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

N.B If the 3rd dose was received between the ages of 11 and 12m, then no further primary doses are required.

Invalid doses

No additional recommendations, follow the recommendations for all healthy children and adolescents.

14.2.3 NIP funding

- For a previously unvaccinated healthy Aboriginal and Torres Strait Islander children born after 1 July 2018, all Men B doses received <2y are NIP funded.
- A healthy Aboriginal and Torres Strait Islander children born after 1 July 2018 who has received at least 1 dose of MenB at <2 years of age, is eligible to receive a dose at ≥2 years of age funded under the NIP.

14.3 Anatomical asplenia or splenectomy

The following recommendations only apply to people who have anatomical asplenia or having/have had splenectomy.

14.3.1 Recommended schedule

- 4 doses of MenB vaccine at 2, 4, 6 and 12 months of age, instead of the usual 3 doses for all children and adolescents.
- If <7 years of age, a booster dose 3 years after completing the primary schedule.
- If ≥7 years of age, a booster dose 5 years after completing the primary schedule.
- For people having an elective splenectomy, where possible, they should receive scheduled doses at least 2 weeks before surgery.
- Up to 3 doses of MenB vaccine in adolescence, following the same rules as for health children
- The order for the booster dose and adolescent doses will be determined by the timing of the booster dose relevant to when the adolescent doses are recommended, with the adolescent doses taking precedent.

14.3.2 Catch-up recommendations

- Before splenectomy, follow the catch-up schedule for all children and adolescents.
- No doses should be given before or after 2 weeks of surgery.
- After surgery, and for all other conditions, follow the guidance below.

Valid doses

Minimum age

- Minimum age for dose 1 is 29 days.
- Minimum age dose 4 (future dose) is 12 months.
- Minimum acceptable age for dose 4 (already given) is 11 months.
- Minimum age for booster dose is 4 years.

Minimum interval

- If <6 months of age, minimum interval between primary doses is 6 weeks.
- If ≥6 months of age, minimum interval between primary doses is 8 weeks.
- If <7 years of age, minimum interval between the final primary dose and booster dose is 3 years.

- If ≥7 years of age, minimum interval between final primary dose and booster dose is 5 years.
- Minimal interval between booster dose and adolescent dose is 5 years
- Minimal interval between last adolescent dose and booster dose is 5 years

Number of doses

- The number of doses required depends on the current age and vaccination history (when, how many and which brand), see Table 6. MenB vaccine (Bexsero) catch-up for people with specified medical conditions below.
- For people ≥10 years of age who had received Trumenba, if <3 primary doses of Trumenba have already been received, give 2 doses of Bexsero, 8 weeks apart
- Trumenba and Bexsero are interchangeable for booster doses.

Invalid doses

Condition	Message
1st dose administered at ≤28 days of age	Dose given at less than the minimum age
Minimum interval between any 2 doses not met	Dose given at less than the 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.

Table 6. MenB vaccine (Bexsero) primary catch-up for people for people with specified medical conditions below.

Number of primary 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 primary 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
	<12 months	<12 months	<12 months	<12 months	–	1

3 previous doses	≥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

N.B If the 4th dose was received between the ages of 11 and 12m, then no further primary doses are required.

14.3.3 NIP funding

All required **primary** Men B doses are funded under the NIP for people who have anatomical asplenia/are having/have had a splenectomy.

Booster dose/s of MenB are not funded under the NIP.

14.4 Specified medical conditions

The following recommendations apply to people who have any of the specified medical conditions listed in the table below.

Specified medical conditions for which additional doses of MenACWY vaccine are recommended.	
Asplenia	• Functional asplenia (only)

Immunocompromising conditions:	• Current or future treatment with complement inhibitor therapy (e.g. eculizumab, ravulizumab or pegcetacoplan)
	• Defects in, or deficiency of, complement components, including factor H, factor D or properdin deficiency
	• HIV infection
	  ○ <12 months CD4 <750 cells/μL
	  ○ <12 months CD4 750-1499 cells/μL
	  ○ <12 months CD4 ≥1500 cells/μL
	  ○ 1-5 years CD4 <500 cells/μL
	  ○ 1-5 years CD4 500-999 cells/μL
	  ○ 1-5 years CD4 ≥1000 cells/μL
	  ○ ≥6 years CD4 <200 cells/μL
	  ○ ≥6 years CD4 200-499 cells/μL
	  ○ ≥6 years CD4 ≥500 cells/μL

14.4.1 Recommended schedule

- 4 doses of MenB vaccine at 2, 4, 6 and 12 months of age, instead of the usual 3 doses for all children and adolescents.
- If <7 years of age, a booster dose 3 years after the final primary dose.
- If ≥7 years of age, a booster dose 5 years after the final primary dose.
- Up to 3 doses of MenB vaccine in adolescence, following the same rules as for health children
- The order for the booster dose and adolescent doses will be determined by the timing of the booster dose relevant to when the adolescent doses are recommended, with the adolescent doses taking precedent.

14.4.2 Catch-up recommendations

Valid doses

Minimum age

- Minimum age for dose 1 is 29 days.
- Minimum age dose 4 (future dose) is 12 months.
- Minimum acceptable age for dose 4 (already given) is 11 months.
- Minimum age for booster dose is 4 years.

Minimum interval

- If <6 months of age, minimum interval between primary doses is 6 weeks.
- If ≥6 months of age, minimum interval between primary doses is 8 weeks.
- If <7 years of age, minimum interval between the final primary dose and booster dose is 3 years.
- If ≥7 years of age, minimum interval between final primary dose and booster dose is 5 years.
- Minimal interval between booster dose and adolescent dose is 5 years
- Minimal interval between last adolescent dose and booster dose is 5 years

Number of doses

- The number of doses required depends on the current age and vaccination history (when, how many and which brand), see Table 7. MenB vaccine (Bexsero) catch-up for people with specified medical conditions.
- For people ≥10 years of age who had received Trumenba, if <3 primary doses of Trumenba have already been received, give 2 doses of Bexsero, 8 weeks apart
- Trumenba and Bexsero are interchangeable for booster doses.

Invalid doses

Condition	Message
1st dose administered at ≤28 days of age	Dose given at less than the minimum age
Minimum interval between any 2 doses not met	Dose given at less than the 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.

Table 7. MenB vaccine (Bexsero) primary catch-up for people with specified medical conditions

Number of primary 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 primary 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

N.B If the 4th dose was received between the ages of 11 and 12m, then no further primary doses are required.

14.4.3 NIP funding

All required **primary** Men B doses are funded under the NIP for people with specified medical conditions (except HIV infection).

The booster doses of MenB are not funded under the NIP.

In addition, Aboriginal and Torres Strait Islander people with HIV infection are eligible for all required primary doses to be funded by the NIP

14.5 Cancer

The following recommendations apply to people who have completed cancer therapy.

14.5.1 Recommended schedule

- **People who are fully vaccinated** before cancer therapy are required to receive an additional booster dose of MenACWY vaccine after 3 months after remission or the completion of treatment (whichever is more recent).
- **People who are unvaccinated or partially vaccinated** before cancer therapy are recommended to commence catch-up as for all children and adolescents (instead of the booster dose), after 3 months after remission or the completion of treatment (whichever is more recent).

14.5.2 Catch-up recommendations

- If the routine schedule **has not** been completed, follow the catch-up parameters for all children and adolescents.

Valid doses

Minimum intervals

- If the routine childhood schedule **has been completed**, minimum interval between remission/end of treatment and the next scheduled booster dose is 3 months.

Invalid doses

Condition	Message
Booster dose administered at <3 months from remission or end of treatment	Dose given at less than the 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.

14.5.3 NIP funding

For people who were fully vaccinated before completing cancer therapy, the post-cancer booster dose is not funded under the NIP.

For people who weren't fully vaccinated before completing cancer therapy, refer the funding rules for all children.

14.6 Haematopoietic stem cell transplant (HSCT)

The following recommendations apply to people who have had a haematopoietic stem cell transplant.

14.6.1 Recommended schedule

Primary doses

- If <12 months of age: 3 primary doses of MenB vaccine starting 6 months post-transplant, following the schedule for people with specified medical conditions regardless of the vaccination history.
- If ≥12 months of age: 2 primary doses of MenB vaccine starting 6 months post-transplant, following the schedule for children with specified medical conditions regardless of the vaccination history.

Booster doses

- If <7 years of age: 1 booster doses of MenB vaccine 3 years after the final primary dose.
- If ≥7 years of age: 1 booster dose of MenB vaccine 5 years after the final primary dose.

14.6.2 Catch-up recommendations

Valid doses

Minimum intervals

- The minimum interval between the transplant and the next scheduled dose is 6 months.

Primary doses

<12 months

- Minimum interval between dose 1 and dose 2 is 8 weeks.

- Minimum interval between dose 2 and dose 3 is 8 weeks.

≥12 months

- Minimum interval between dose 1 and dose 2 is 8 weeks.

Booster doses

- If <7 years of age the minimum interval between the final primary dose and the booster dose is 3 years.
- If ≥7 years of age the minimum interval between final primary dose and the booster dose is 5 years.

Number of doses

- For people 6–<12 months of age, a 3-dose primary schedule is required.
- For people ≥12 months of age, a 2-dose primary schedule is required.
- Invalid doses

Condition	Message
Dose administered at <6 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any 2 doses not met	Dose given at less than the 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.

14.6.3 NIP funding

- MenB primary and booster doses are not funded by the NIP for Non-Indigenous people who have had a HSCT.
- However, Aboriginal and Torres Strait Islander people who have had a HSCT are eligible for all required primary doses to be funded by the NIP

14.7 Solid organ transplant (SOT)

The following recommendations apply to people who are having or have had a solid organ transplant.

14.7.1 Recommended schedule

- Where possible, children and adolescents should receive all routine scheduled doses at least 2 weeks before transplant.
- If any scheduled doses were not received prior to transplant, vaccination should recommence at least 3 months after transplant, as per the routine schedule and catch-up for all children and adolescents.

14.7.2 Catch-up recommendations

- Before transplant, follow the catch-up schedule for all children and adolescents.
- No vaccine doses should be given within 2 weeks of surgery.
- After transplant, follow the guidance below.

Valid doses

Minimum intervals

- The minimum interval between the transplant and the next scheduled dose is 3 months
- At 3 months follow the catch-up schedule for all children and adolescents.

Invalid doses

Condition	Message
Dose administered at <3 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any 2 doses not met	Dose given at less than the 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.

14.7.3 NIP funding

- See funding rules for all children and adolescents and Aboriginal and Torres Strait Islander children.

15 Pneumococcal conjugate

N.B. 23vPPV is no longer used.

15.1 Children and adolescents

The following recommendations apply to:

- Non-Aboriginal and Torres Strait Islander children in all states/territories

15.1.1 Recommended schedule

Children <5 years of age

- 2 primary doses of Pneumococcal conjugate (PCV) at 2 and 4 months of age.
- Booster dose of Pneumococcal conjugate (PCV) at 12 months of age.

Note: To avoid confusion, Pneumococcal conjugate doses should be labelled as Dose 1 of 2, Dose 2 of 2, and Booster 1 of 1.

Children ≥5 years of age

- N/A. Maximum age for any dose is 4 years (immediately prior to the 5th birthday).

15.1.2 Catch-up recommendations

Valid doses

Minimum age

- Minimum age for dose 1 is 29 days
- Minimum age dose 3 (future doses) is 12 months
- Minimum acceptable age for dose 3 (already given) is 11 months

Maximum age

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

Minimum intervals

- For children <12 months of age: minimum interval between primary doses 1 and 2 is 4 weeks
- For children ≥12 months of age: minimum interval between primary doses 1 and 2 is 8 weeks
- Minimum interval between the final primary dose and booster dose is 8 weeks

Number of doses

The number of doses required depends on current age and previous doses received, see *Table 8.PCV catch-up for non-Aboriginal and Torres Strait Islander children aged <5 years in all states*

Invalid doses

Condition	Message
1st dose administered at ≤28 days of age	Dose given at less than the minimum age
Minimum interval between any 2 doses not met	Dose given at less than the minimum interval from previous dose
3rd dose administered at <11 months age	Dose given at less than the minimum age

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

Table 8. PCV catch-up for non-Aboriginal and Torres Strait Islander children aged <5 years in all states

Number of doses given previously	Age at presentation	Age when previous dose of PCV was given			Recommendation	
		1st dose	2nd dose	3rd dose	Number of further primary dose(s) required	Number of further booster dose(s) required at age ≥12 months
No previous doses	<12 months	–	–	–	2	1
	12–<60 months	–	–	–	1	None
1 previous dose	<12 months	<12 months	–	–	1	1
	12–<60 months	<12 months	–	–	None	1
		≥12 months	–	–	None	None
2 previous doses	<12 months	<12 months	<12 months	–	None	1
	12–<60 months	<12 months	<12 months	–	None	1
			≥12 months	–	None	None
3 previous doses	<12 months	<12 months	<12 months	<12 months	None	1
	12–<60 months	<12 months	<12 months	<12 months	None	1
	12–<60 months	<12 months	<12 months	12–<60 months	None	None
	12–<60 months	<12 months	12–<60 months	12–<60 months	None	None
	12–<60 months	12–<60 months	12–<60 months	12–<60 months	None	None

N.B If the 3rd dose was received between the ages of 11 and 12m, then no further primary doses are required.

15.1.3 NIP funding

- All routine scheduled childhood doses (using 20vPCV) are funded by the NIP for non-Aboriginal and Torres Strait Islander children.
- 15vPCV is not funded by the NIP.
- Any historical doses of 13vPCV were funded by the NIP.

15.2 Aboriginal and Torres Strait Islander children and adolescents

15.2.1 Recommended schedule

Children <5 years of age

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

N.B. Aboriginal or Torres Strait Islander children who may have any of the specified medical conditions, do not require any further doses.

> **Note:** To avoid confusion, Pneumococcal conjugate doses should be labelled as Dose 1 of 3, Dose 2 of 3, Dose 3 of 3, and Booster 1 of 1.

Children ≥5 years of age

- N/A. Maximum age for any dose is 4 years (immediately prior to the 5th birthday).

15.2.2 Catch-up recommendations

Valid doses

Minimum age

Aboriginal and Torres Strait Islander children living in NT, Qld, SA and WA, born before 1 March 2025

- Minimum age for dose 1 is 29 days.
- The dose 3 minimum age rule **does not apply** to this group.
- Minimum age for booster dose (future dose) is 12 months.
- Minimum acceptable age for booster dose (already given) is 11 months.
- Minimum acceptable age for additional 20vPCV dose (future dose) is 4 years

Aboriginal and Torres Strait Islander children living in ACT, NSW, Tas or Vic, born before 1 March 2025

- Minimum age for dose 1 is 29 days.
- Minimum age for booster dose (future dose) is 12 months.
- Minimum acceptable age for booster dose (already given) is 11 months.

Aboriginal and Torres Strait Islander children living in NT, Qld, SA and WA, born from 1 March 2025

- Minimum age for dose 1 is 29 days.
- The dose 3 minimum age rule **does not apply** to this group.
- Minimum age for booster dose (future dose) is 12 months.
- Minimum acceptable age for booster dose (already given) is 11 months.
- Minimum acceptable age for additional 20vPCV dose (future dose) is 4 years

Aboriginal and Torres Strait Islander children living in ACT, NSW, Tas or Vic, born from 1 March 2025

- Minimum age for dose 1 is 29 days.
- The dose 3 minimum age rule **does not apply** to this group.
- Minimum age for booster dose (future dose) is 12 months.
- Minimum acceptable age for booster dose (already given) is 11 months.

Maximum age

- Maximum age for any dose is 4 years (immediately prior to the 5th birthday).
- An exception to this rule is Aboriginal and Torres Strait Islander children living in NT, Qld, SA and WA, who have **not** completed a full schedule of 13vPCV and 2 doses of PPV, these children are eligible for a 20vPCV between the ages of ≥5 years and <18 years.

Minimum intervals

- For children <12 months of age: minimum interval between primary doses 1 and 2 is 4 weeks.
- For children ≥12 months of age: minimum interval between primary doses 1 and 2 is 8 weeks.
- Minimum interval between the final primary dose and booster dose is 8 weeks.

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

- Minimum interval between booster dose of 13vPCV and booster dose of 20vPCV (future dose) is 12 months
- Minimum interval between booster dose of 13vPCV and booster dose of 20vPCV (already given) is 2 months
- Minimum interval between dose of 23vPPV and PCV (future dose) is 5 years
- Minimum interval between dose of 23vPPV and PCV (already given) is 2 months

Number of doses

The number of doses required depends on current age and previous doses received.

Aboriginal and Torres Strait Islander children living in NT, Qld, SA and WA, born before 1 March 2025

See *Table 9. PCV catch-up for Aboriginal and Torres Strait Islander children (including those living in ACT, NSW, Tas or Vic, born from 1 March 2025) aged <5 years and children with specified medical conditions* below

Aboriginal and Torres Strait Islander children living in ACT, NSW, Tas or Vic, born before 1 March 2025

See *Table 8. PCV catch-up for non-Aboriginal and Torres Strait Islander children aged <5 years in all states*

Aboriginal and Torres Strait Islander children living in NT, Qld, SA and WA, born from 1 March 2025

See *Table 9. PCV catch-up for Aboriginal and Torres Strait Islander children (including those living in ACT, NSW, Tas or Vic, born from 1 March 2025) aged <5 years and children with specified medical conditions* below

Aboriginal and Torres Strait Islander children (including those living in ACT, NSW, Tas or Vic, born from 1 March 2025)

See *Table 9. PCV catch-up for Aboriginal and Torres Strait Islander children (including those living in ACT, NSW, Tas or Vic, born from 1 March 2025) aged <5 years and children with specified medical conditions* below

For Aboriginal and Torres Strait Islander children in NT, QLD, WA and SA, provide an additional 20vPCV dose as follows

:Number of previous doses	Extra dose of 20vPCV
PCV schedule incomplete	Finish schedule with 20vPCV
PCV schedule complete (including booster) with 13vPCV or 15vPCV	1 extra dose of 20vPCV
PCV schedule complete (including booster) + 1 dose of PPV	1 extra dose of 20vPCV
PCV schedule complete (including booster) + 2 doses of PPV	No extra doses of 20vPCV

Invalid doses

Condition	Message
1st dose administered at ≤28 days age	Dose given at less than the minimum age
Minimum interval between any 2 doses not met	Dose given at less than the minimum interval from previous dose
Booster dose administered at <11 months age	Dose given at less than the minimum age

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

Table 9. PCV catch-up for Aboriginal and Torres Strait Islander children (including those living in ACT, NSW, Tas or Vic, born from 1 March 2025) aged <5 years and children with specified medical conditions

Number of doses given previously	Age at presentation	Age when previous dose of PCV was given			Recommendation	
		1st dose	2nd dose	3rd dose	Number of further primary dose(s) required	Number of further booster dose(s) required at age ≥12 months
No previous doses	<12 months	–	–	–	3	1
	12–<60 months	–	–	–	1	1
1 previous dose	<12 months	Any age	–	–	2	1
	12–<60 months	<12 months	–	–	1	1
		≥12 months	–	–	None	1
2 previous doses	<12 months	Any age	Any age	–	1	1
	12–<60 months	<12 months	<12 months	–	1	1
		<12 months	≥12 months	–	None	1
	12–<60 months	≥12 months	≥12 months	–	None	None
3 previous doses	<12 months	Any age	Any age	Any age	None	1
	12–<60 months	<12 months	<12 months	Any age	None	1
	12–<60 months	<12 months	<12 months	12–<60 months	None	1
	12–<60 months	<12 months	12–<60 months	12–<60 months	None	None

N.B If the 4th dose was received between the ages of 11 and 12m, then no further primary doses are required.

15.2.3 NIP funding

- All routine scheduled childhood doses (using 20vPCV) are funded by the NIP for Aboriginal and Torres Strait Islander children in NT, QLD, SA or WA.
- 15vPCV is not funded by the NIP.
- Any historical doses of 13vPCV were funded by the NIP.

15.3 Specified medical conditions

The following recommendations apply to people who have one of the specified medical conditions listed in the table below.

Please note, unlike other antigens, the table also includes Anatomical asplenia/Splenectomy, and SOT. Rules specific for these conditions have been split out for convenience.

Specified medical conditions for which an additional dose of PCV is required.	
Alcohol use: Harmful use of alcohol, consuming on average: • ≥60 g of alcohol (6 Australian standard drinks) per day for males • ≥40 g of alcohol (4 Australian standard drinks) per day for females	N/A
Asplenia:	• Anatomical asplenia or splenectomy • Functional asplenia
Cardiac disease: • Congenital heart disease • Coronary artery disease • Heart failure • Long-term aspirin therapy in children aged 6 months to 10 years • Other cardiac disease	N/A
Chronic liver disease (Conditions with progressive deterioration of liver function for more than 6 months including cirrhosis and other advanced liver diseases)	N/A
Chronic renal disease:	• Relapsing or persistent nephrotic syndrome • Stage 4 kidney disease – eGFR <30 mL/min • Stage 5 kidney disease (kidney failure) – eGFR <15 mL/min
Chronic respiratory disease: • Chronic lung disease in preterm infants • Chronic obstructive pulmonary disease (COPD) or chronic emphysema • Interstitial and fibrotic lung disease • Severe asthma (defined as requiring frequent hospital visits or the use of multiple medications) • Suppurative lung disease, bronchiectasis and cystic fibrosis • Other chronic respiratory disease	N/A
Diabetes (Type 1 or 2)	

Immunocompromising conditions:	• Congenital or acquired immune deficiency
	• Current or future treatment with complement inhibitor therapy (e.g. eculizumab, ravulizumab or pegcetacoplan)
	• Defects in, or deficiency of, complement components, including factor H, factor D or properdin deficiency
	• Haematological malignancies
	• HIV infection
	  ○ <12 months CD4 <750 cells/μL
	  ○ <12 months CD4 750-1499 cells/μL
	  ○ <12 months CD4 ≥1500 cells/μL
	  ○ 1-5 years CD4 <500 cells/μL
	  ○ 1-5 years CD4 500-999 cells/μL
	  ○ 1-5 years CD4 ≥1000 cells/μL
	  ○ ≥6 years CD4 <200 cells/μL
	  ○ ≥6 years CD4 200-499 cells/μL
	  ○ ≥6 years CD4 ≥500 cells/μL
	• Immunosuppressive therapy (current or anticipated)
	• Inborn errors of immunity, including primary immunodeficiency disorders
	• Non–haematological malignancies receiving chemotherapy or radiotherapy (currently or anticipated)
	• Other immunocompromising condition

Infants born to mothers who received anti-CD20 therapies (such as rituximab) during pregnancy	N/A
Low birth weight baby (<2000g)	N/A
Preterm infant	• <28 weeks gestation
Previous episode of invasive pneumococcal disease (IPD)	N/A
Proven or presumptive CSF leak • Cochlear implants • Intracranial shunts	N/A
Smoking (current or in the immediate past)	
Solid organ transplant (SOT):	• Heart transplant • Intestinal transplant • Kidney transplant

	• Liver transplant • Lung transplant • Pancreas transplant
Trisomy 21 or another chromosomal abnormality that increases the risk of severe disease	N/A

15.3.1 Recommended schedule

Person is diagnosed with another specified medical condition

- If the person received all required doses before the onset or diagnosis of another specified medical condition, they do not need any further doses.
- If the person did not receive all required doses, before the onset or diagnosis of another specified medical condition, they should complete the recommended course.

Additional conditions

- 20vPCV is used for children <18 years of age and 21vPCV is used for people ≥18 years of age
- Aboriginal or Torres Strait Islander children who are required to receive 4 primary doses as part of their schedule, do not require any further doses.
- See also anatomical asplenia or splenectomy.
- See also solid organ transplant.

Children <5 years of age

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

Children ≥5 years of age

- People ≥5 years of age who completed an infant schedule for healthy children (maximum of 3 PCV doses) require a single dose of PCV
- People ≥5 years of age who has an incomplete infant schedule or who were unvaccinated require a single dose of PCV
- People ≥5 years of age who completed an infant schedule for Aboriginal and Torres Strait Islander children and children with specified medical conditions (maximum of 4 PCV doses) do not require an additional dose of PCV

15.3.2 Catch-up recommendations

See also guidance for people who have anatomical asplenia/have had splenectomy and SOT recipients.

For catch-up doses in children aged <18 years, 20vPCV should be recommended, and for catch-up doses in people aged ≥18 years, 21vPCV should be recommended.

Valid doses

Minimum age

- Minimum age for dose 1 is 29 days.
- The dose 3 minimum age rule **does not apply** to this group.

- Minimum age for booster dose (future dose) is 12 months.
- Minimum acceptable age for booster dose (already given) is 11 months.
- For children <18 years of age, minimum acceptable age for additional 20vPCV dose (future dose) is 4 years
- For people ≥18 years of age, minimum acceptable age for additional 21vPCV dose (future dose) is 18 years

Maximum age

- Maximum age for any dose is 19 years (immediately prior to the 20th birthday).

Minimum intervals

- For children <12 months of age: minimum interval between primary doses 1 and 2 is 4 weeks.
- For children ≥12 months of age: minimum interval between primary doses 1 and 2 is 8 weeks.
- Minimum interval between the final primary dose and booster dose is 8 weeks.

Children aged <18 years

- Minimum interval between booster dose of 13vPCV and booster dose of 20vPCV (future dose) is 12 months
- Minimum interval between booster dose of 13vPCV and booster dose of 20vPCV (already given) is 2 months
- Minimum interval between dose of 23vPPV and 20vPCV future dose) is 5 years
- Minimum interval between dose of 23vPPV and 20PCV (already given) is 2 months

Children aged ≥18 years

- Minimum interval between dose of 13vPCV and additional dose of 21vPCV (future dose) is 12 months
- Minimum interval between booster dose of 13vPCV and booster dose of 21vPCV (already given) is 2 months
- Minimum interval between dose of 23vPPV and 21vPCV future dose) is 12 months
- Minimum interval between dose of 23vPPV and 21PCV (already given) is 2 months

Number of doses

- The number of doses required depends on current age and previous doses received, see *Table 9. PCV catch-up for Aboriginal and Torres Strait Islander children (including those living in ACT, NSW, Tas or Vic, born from 1 March 2025) aged <5 years and children with specified medical conditions*
- For children <5 years of age who have completed their PCV schedule with 13vPCV or 15vPCV (shown as asterix in the table), an additional single dose of 20vPCV is required
- For people ≥5–<18 years of age, provide an additional 20vPCV dose as follows:

Number of previous doses	Extra dose of 20vPCV
PCV schedule complete (including booster) with 13vPCV or 15vPCV	1 extra dose of 20vPCV
PCV schedule complete (including booster)	1 extra dose of 20vPCV

+ 1 dose of PPV	
PCV schedule complete (including booster) + 2 doses of PPV	No extra doses of 20vPCV

For people ≥18 years of age, provide an additional 21vPCV if 0 doses of 21vPCV have been received. This is irrespective of what PCV vaccines (13vPCV< 15vPCV or 20vPCV) were already received

Invalid doses

Condition	Message
1st dose administered at ≤28 days age	Dose given at less than the minimum age
Minimum interval between any 2 doses not met	Dose given at less than the minimum interval from previous dose
3rd dose administered at <11 months age	Dose given at less than the minimum age

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

15.3.3 NIP funding

- All scheduled childhood doses are funded by the NIP for people with the following specified medical conditions:
  - Previous episode of invasive pneumococcal disease
  - Functional or anatomical asplenia, including sickle cell disease or other haemoglobinopathies
  - Congenital or acquired immune deficiency
- Haematological malignancies
- HIV infection
  - <12 months CD4 <750 cells/μL
  - <12 months CD4 750-1499 cells/μL
  - <12 months CD4 ≥1500 cells/μL
  - 1-5 years CD4 <500 cells/μL
  - 1-5 years CD4 500-999 cells/μL
  - 1-5 years CD4 ≥1000 cells/μL
  - ≥6 years CD4 <200 cells/μL
  - ≥6 years CD4 200-499 cells/μL
  - ≥6 years CD4 ≥500 cells/μL
- 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

- Children <5 years, with the following specified medical conditions are eligible for all scheduled childhood doses using 20vPCV (previously 13vPCV which is no longer NIP-funded).
    - Congenital heart disease
    - Coronary artery disease
    - Heart failure
    - Children born less than 28 weeks gestation
    - Trisomy 21
- For children aged <18 years, 20vPCV is funded by the NIP and 15vPCV is not funded by the NIP. Any historical doses of 13vPCV were funded by the NIP for the groups above.
- For those aged ≥18 years, 21vPCV is funded by the NIP and 15vPCV and 20vPCV are not funded by the NIP

15.4 Cancer

The following recommendations apply to people who have completed cancer therapy. These people need to follow the recommended schedule for specified medical conditions (see 15.3) as follows.

15.4.1 Recommended schedule

Children <5 years of age

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

Children ≥5 years of age

- People ≥5 years of age who completed an infant schedule for healthy children (maximum of 3 PCV doses) require a single dose of PCV
- People ≥5 years of age who has an incomplete infant schedule or who were unvaccinated require a single dose of PCV
- People ≥5 years of age who completed an infant schedule for Aboriginal and Torres Strait Islander children and children with specified medical conditions (maximum of 4 PCV doses) do not require an additional dose of PCV

15.4.2 Catch-up recommendations

For catch-up doses in children aged <18 years, 20vPCV should be recommended, and for catch-up doses in people aged ≥18 years, 21vPCV should be recommended.

Valid doses

Minimum age

- Minimum age for dose 1 is 29 days.
- The dose 3 minimum age rule **does not apply** to this group.
- Minimum age for booster dose (future dose) is 12 months.
- Minimum acceptable age for booster dose (already given) is 11 months.
- For children <18 years of age, minimum acceptable age for additional 20vPCV dose (future dose) is 4 years

- For people ≥18 years of age, minimum acceptable age for additional 21vPCV dose (future dose) is 18 years

Maximum age

- Maximum age for any dose is 19 years (immediately prior to the 20th birthday).

Minimum intervals

- Minimum interval from remission/end of treatment and the next scheduled dose is 3 months.
- For children <12 months of age: minimum interval between primary doses 1 and 2 is 4 weeks.
- For children ≥12 months of age: minimum interval between primary doses 1 and 2 is 8 weeks.
- Minimum interval between the final primary dose and booster dose is 8 weeks.

Children aged <18 years

- Minimum interval between booster dose of 13vPCV and booster dose of 20vPCV (future dose) is 12 months
- Minimum interval between booster dose of 13vPCV and booster dose of 20vPCV (already given) is 2 months
- Minimum interval between dose of 23vPPV and 20vPCV future dose) is 5 years
- Minimum interval between dose of 23vPPV and 20PCV (already given) is 2 months

Children aged ≥18 years

- Minimum interval between dose of 13vPCV and additional dose of 21vPCV (future dose) is 12 months
- Minimum interval between booster dose of 13vPCV and booster dose of 21vPCV (already given) is 2 months
- Minimum interval between dose of 23vPPV and 21vPCV future dose) is 12 months
- Minimum interval between dose of 23vPPV and 21PCV (already given) is 2 months

Number of doses

- The number of doses required depends on current age and previous doses received, see *Table 9. PCV catch-up for Aboriginal and Torres Strait Islander children (including those living in ACT, NSW, Tas or Vic, born from 1 March 2025) aged <5 years and children with specified medical conditions*
- For children <5 years of age who have completed their PCV schedule with 13vPCV or 15vPCV (shown as asterix in the table), an additional single dose of 20vPCV is required
- For people ≥5–<18 years of age, provide an additional 20vPCV dose as follows:

Number of previous doses	Extra dose of 20vPCV
PCV schedule complete (including booster) with 13vPCV or 15vPCV	1 extra dose of 20vPCV
PCV schedule complete (including booster) + 1 dose of PPV	1 extra dose of 20vPCV
PCV schedule complete (including booster)	No extra doses of 20vPCV

+ 2 doses of PPV

For people ≥18 years of age, provide an additional 21vPCV if 0 doses of 21vPCV have been received. This is irrespective of what PCV vaccines (13vPCV< 15vPCV or 20vPCV) were already received

Invalid doses

Condition	Message
1st dose administered at ≤28 days age	Dose given at less than the minimum age
Booster dose administered at <3 months from remission or end of treatment	Dose given at less than the minimum interval from remission or end of treatment
Minimum interval between any 2 doses not met	Dose given at less than the minimum interval from previous dose
3rd dose administered at <11 months age	Dose given at less than the minimum age

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

15.4.3 NIP funding

All doses of 20vPCV or 21vPCV are funded under the NIP.

15.5 Haematopoietic stem cell transplant (HSCT)

The following recommendations are for people who have had a haematopoietic stem cell transplant.

15.5.1 Recommended schedule

- 3 doses of Pneumococcal conjugate vaccine (PCV) starting 3 months post-transplant.
- If aged <12 months, minimum interval between PCV doses is 4 weeks.
- If aged ≥12 months, minimum interval between PCV doses is 8 weeks.
- If any doses from the primary and booster schedule **have not** been received prior to transplant, these do not need to be given.

15.5.2 Catch-up recommendations

Valid doses

Minimum intervals

<12 months of age

- The minimum interval between transplant and the next scheduled dose is 3 months.
- Minimum interval between dose 1 and dose 2 is 4 weeks.
- Minimum interval between dose 2 and dose 3 is 4 weeks.

≥12 months of age

- The minimum interval between transplant and the next scheduled dose is 3 months.

- Minimum interval between dose 1 and dose 2 is 8 weeks.
- Minimum interval between dose 2 and dose 3 is 8 weeks.

Maximum age

- Maximum age for any dose is 19 years (immediately prior to the 20th birthday).

Invalid doses

Condition	Message
Booster dose administered at <3 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any 2 doses not met	Dose given at less than the 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.

15.5.3 NIP funding

- For children aged <18 years who have had an HSCT, 20vPCV is funded by the NIP and 15vPCV is not funded by the NIP. Any historical doses of 13vPCV were funded by the NIP for the groups above.
- For those aged ≥18 years who have had an HSCT, 21vPCV is funded by the NIP and 15vPCV and 20vPCV are not funded by the NIP

15.6 Solid organ transplant (SOT)

See recommendations for people with specified medical conditions.

15.6.1 Recommended schedule

- Where possible, children and adolescents should receive all routine scheduled doses at least 2 weeks before transplant.
- If any scheduled doses were not received prior to transplant, vaccination should recommence at least 3 months after transplant, as per the schedule and catch-up for people with specified medical conditions.

15.6.2 Catch-up recommendations

- Before solid organ transplant, follow the relevant catch-up schedule for children and adolescents.
- No vaccine doses should be given within 2 weeks of surgery.
- After transplant, follow the guidance below.

Valid doses

Minimum intervals

- The minimum interval between the transplant and the next scheduled dose is 3 months
- At 3 months follow the catch-up schedule for people with specified medical conditions.

Invalid doses

Condition	Message
Dose administered at <3 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any 2 doses not met	Dose given at less than the 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. NIP funding

- For children aged <18 years who have had an SOT, 20vPCV is funded by the NIP and 15vPCV is not funded by the NIP. Any historical doses of 13vPCV were funded by the NIP for the groups above.
- For those aged ≥18 years who have had an SOT, 21vPCV is funded by the NIP and 15vPCV and 20vPCV are not funded by the NIP

15.7 Anatomical asplenia or splenectomy

See recommendations for people with specified medical conditions.

15.7.1 Recommended schedule

- For people having an elective splenectomy, where possible, they should receive scheduled doses at least 2 weeks before surgery.

15.7.2 Catch-up recommendations

- Before splenectomy, follow the relevant catch-up schedule for children and adolescents.
- No vaccine doses should be given within 2 weeks before or after surgery.
- After surgery, follow the guidance for people with specified medical conditions.

15.7.3 NIP funding

- For children aged <18 years with asplenia or a splenectomy, 20vPCV is funded by the NIP and 15vPCV is not funded by the NIP. Any historical doses of 13vPCV were funded by the NIP for the groups above.
- For those aged ≥18 years with asplenia or a splenectomy, 21vPCV is funded by the NIP and 15vPCV and 20vPCV are not funded by the NIP

16 Rotavirus

16.1 All children

The following recommendations apply to all children.

16.1.1 Recommended schedule

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

16.1.2 Catch-up recommendations

Valid doses

Minimum age

- Minimum age for dose 1 is 29 days.

Maximum age

- Maximum age for dose 1 is 14 weeks and 6 days (<15 weeks age).
- Maximum age for dose 2 is 24 weeks and 6 days (<25 weeks age).
- If dose 1 is not given by 14 weeks and 6 days of age, no further doses are required.
- If dose 1 was given after the recommended age (15 weeks of age), dose 2 may still be given if minimum intervals and upper age limits are met (on or before 25 weeks of age).

Minimum intervals

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

Invalid doses

Condition	Message
1st dose administered at ≤28 days of age	Dose given at less than the minimum age
Minimum interval between any 2 doses not met	Dose given at less than the 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

16.1.3 NIP funding

Two doses of rotavirus vaccine are funded by the NIP for all children.

16.2 Aboriginal and Torres Strait Islander children

No additional recommendations; see recommendations for all children.

16.3 Specified medical conditions

The following recommendations apply to people with any of the specified medical conditions listed in the table below.

Specified medical conditions for Rotavirus vaccine is contraindicated.	
Immunocompromising conditions:	• Congenital or acquired immune deficiency • Haematological malignancies • Non–haematological malignancies receiving chemotherapy or radiotherapy (currently or anticipated) • HIV infection (CD4 <750 cells/μL) • Immunosuppressive therapy (current or anticipated) • Infants born to mothers who received anti-CD20 therapies (such as rituximab) during pregnancy • Solid Organ Transplant • Haematopoietic stem cell transplant (HSCT)

16.3.1 Recommended schedule

- Not applicable. Vaccination is contraindicated for children with any of the specified medical conditions listed in the table above.

16.3.2 Catch-up recommendations

- Not applicable. Vaccination is contraindicated for children with any of the specified medical conditions listed in the table above.

17 Varicella

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

17.1 All children and adolescents

The following recommendations apply to all children and adolescents

17.1.1 Recommended schedule

- Dose 1: Varicella containing vaccine at 18 months (delivered as MMRV if a valid MMR dose was previously given, else as Varicella-only).
- Dose 2: Varicella-only vaccine, at least 4 weeks after dose 1.

17.1.2 Catch-up recommendations

Valid doses

Minimum age

- Minimum age dose 1 (future doses) is 18 months.
- Minimum acceptable age for dose 1 (already given) is 12 months.

Minimum intervals

- Minimum interval between any MMRV and Varicella-only vaccine is 4 weeks.
- Minimum interval between any MMRV or Varicella-only vaccine and another live vaccine (e.g. MMR, MMRV, Varicella-only vaccine) is 4 weeks.

MMRV

- Children 4–13 years of age who are due for Varicella vaccine, should receive MMRV as the first Varicella-containing dose.
- People ≥14 years of age should not receive any doses of MMRV vaccine. Instead, they can be given MMR and Varicella-only vaccines.

Invalid doses

Condition	Message
1st dose administered at <12 months of age	Dose given at less than the minimum age
Minimum interval between any dose of MMR and / or Varicella containing vaccine not met	Dose given at less than the 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.

17.1.3 NIP funding

- Previously unvaccinated children <14 years of age are eligible for 1 funded dose of Varicella by the NIP

- Previously unvaccinated 14–20-year-olds are eligible for 2 funded doses of Varicella by the NIP

17.2 Aboriginal and Torres Strait Islander children

No additional recommendations; see recommendations for all children.

17.3 Cancer

The following recommendations apply to people who have completed cancer therapy.

17.3.1 Recommended schedule

- 2 booster doses of varicella vaccine, at least 4 weeks apart, starting ≥3 months after remission or completion of treatment (whichever is later), if seronegative
- These replace the routine childhood doses, not add to them

17.3.2 Catch-up recommendations

Valid doses

Minimum intervals

- Minimum interval from remission/end of treatment and the next scheduled booster dose is 3 months
- Minimum interval between any MMRV or Varicella only vaccine and another live vaccine (e.g. MMR, MMRV, Varicella-only vaccine) is 4 weeks

Invalid doses

Condition	Message
Booster dose administered at <3 months from remission or end of treatment	Dose given at less than the minimum interval from remission or end of treatment
Minimum interval between any dose of MMR and / or Varicella containing vaccine not met	Dose given at less than the 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.

17.3.3 NIP funding

For people who were fully vaccinated before completing cancer therapy, the post-cancer booster dose is not funded under the NIP.

For people who weren't fully vaccinated before completing cancer therapy, refer the funding rules for all children.

17.4 Haematopoietic stem cell transplant (HSCT)

The following recommendations apply to people who are having or have had a haematopoietic stem cell transplant.

17.4.1 Recommended schedule

- 2 doses of varicella vaccine, at least 4 weeks apart, starting ≥24 months post-transplant
- These doses replace the routine childhood vaccinations—they are not given in addition to them

17.4.2 Catch-up recommendations

Valid doses

Minimum intervals

- The minimum interval between transplant and the next scheduled dose is 24 months
- Minimum interval between (post-transplant) dose 1 and dose 2 is 4 weeks

Invalid doses

Condition	Message
Booster dose administered at <24 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any dose of MMR and / or Varicella containing vaccine not met	Dose given at less than the 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.

17.4.3 NIP funding

Additional doses given post-HSCT are not funded.

17.5 Solid organ transplant (SOT)

The following recommendations apply to people who are having or have had a solid organ transplant.

17.5.1 Recommended schedule

- Where possible, children and adolescents should receive all routine scheduled doses at least 4 weeks before the solid organ transplant
- If any scheduled doses were not received prior to transplant, vaccination should recommence at least 12 months after transplant. Follow the routine schedule and catch-up for all children and adolescents

17.5.2 Catch-up recommendations

Before transplant, follow the catch-up schedule for all children and adolescents.

After transplant follow the guidance below.

Valid doses

Minimum intervals

- Minimum interval between SOT and the next scheduled dose is 12 months

- At 12 months follow the catch-up schedule for all children and adolescents

Invalid doses

Condition	Message
Booster dose administered at <12 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any dose of MMR and / or Varicella containing vaccine not met	Dose given at less than the 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.

17.5.3 NIP funding

- Previously unvaccinated children <14 years of age, including those who are having or have had a SOT, are eligible for 1 funded dose of Varicella by the NIP
- Previously unvaccinated 14–20-year-olds, including those who are having or have had a SOT, are eligible for 2 funded doses of Varicella by the NIP

17.6 Specified medical conditions

The following recommendations apply to people who have any of the specified medical conditions listed in the table below.

Specified medical conditions for Varicella	

Immunocompromising conditions:	• Congenital or acquired immune deficiency
	• Haematological malignancies
	• HIV infection
	  ○ <12 months CD4 <750 cells/µL
	  ○ 1-5 years CD4 <500 cells/µL
	  ○ ≥6 years CD4 <200 cells/µL
	• Immunosuppressive therapy (current or anticipated)
	• Non–haematological malignancies receiving chemotherapy or radiotherapy (currently or anticipated)

17.6.1 Recommended schedule

Not applicable. Vaccination is contraindicated for children with any of the specified medical conditions listed in the table above.

17.6.2 Catch-up recommendations

Not applicable. Vaccination is contraindicated for children with any of the specified medical conditions listed in the table above.

18 Zoster

18.1 People aged ≥18 years with immunocompromise

The following recommendations apply to all people aged ≥18 years with immunocompromise (outlined in the table below).

Risk categories leading to immunocompromise and an increased risk of zoster	
Chronic renal disease	• Stage 4 kidney disease – eGFR <30 mL/min • Stage 5 kidney disease (kidney failure) – eGFR <15 mL/min

Immunocompromising conditions	• Congenital or acquired immune deficiency
	• Current or future treatment with complement inhibitor therapy (e.g. eculizumab, ravulizumab or pegcetacoplan)
	• Defects in, or deficiency of, complement components, including factor H, factor D or properdin deficiency
	• Haematological malignancies
	• HIV infection
	  ○ CD4 <15% (500 cells/μL for 1-5y, 200 cells/μL for ≥5y)
	  ○ CD4 ≥15% (500 cells/μL for 1-5y, 200 cells/μL for ≥5y)
	• Immunosuppressive therapy (current or anticipated)
	• Inborn errors of immunity, including primary immunodeficiency disorders
	• Non–haematological malignancies receiving chemotherapy or radiotherapy (currently or anticipated)
	• Other immunocompromising condition

18.1.1 Recommended schedule

2 doses of zoster vaccine, 2 months apart

18.1.2 Catch-up recommendations

Valid doses

Minimum age

- Minimum age dose 1 for future recommendations is 18 years

Minimum intervals

- Minimum interval for doses already given is 1 month
- Minimum interval for future doses is 2 months

Invalid doses

Condition	Message
Minimum interval between any 2 doses not met	Dose given at less than the 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.

18.1.3 NIP Funding

Zoster vaccine is funded by the NIP for people aged ≥18 years who are moderately to severely immunocompromised:

- Stage 5 kidney disease (kidney failure) – eGFR <15 mL/min
- Haematological malignancies
- HIV infection
  - ≥6 years CD4 <200 cells/μL
- Inborn errors of immunity, including primary immunodeficiency disorders
- Immunosuppressive therapy (current or anticipated)
- Non–haematological malignancies receiving chemotherapy or radiotherapy (currently or anticipated)

Funding statement for Inborn errors of immunity, including primary immunodeficiency disorders, Immunosuppressive therapy (current or anticipated) and Non–haematological malignancies receiving chemotherapy or radiotherapy (currently or anticipated) are shown below.

Condition	Message
Inborn errors of immunity, including primary immunodeficiency disorders	Zoster vaccination is free under the National Immunisation Program for people with some disorders. Please refer to Australian Immunisation Handbook for more details.
Immunosuppressive therapy (current or anticipated)	Zoster vaccination is free under the National Immunisation Program for people on some immunosuppressive therapies. Please refer to Australian Immunisation Handbook for more details.
Non–haematological malignancies receiving chemotherapy or radiotherapy (currently or anticipated)	Zoster vaccination is free under the National Immunisation Program for people on chemotherapy. Please refer to Australian Immunisation Handbook for more details.

18.2 Haematopoietic stem cell transplant (HSCT)

The following recommendations apply to people who have had a haematopoietic stem cell transplant.

18.2.1 Recommended schedule

- 2 doses of zoster vaccine, 8 weeks apart, starting ≥7 months post-transplant

18.2.2 Catch-up recommendations

Valid doses

Minimum age

- Minimum age for dose 1 (future recommendations) is 18 years

Minimum intervals

- Minimum interval from transplant – dose 1 is 6 months for doses already given
- Minimum interval from transplant – dose 1 is 7 months for future doses
- Minimum interval from dose 1 – dose 2 is 8 weeks

Invalid doses

Condition	Message
Booster dose administered at <6 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any dose not met	Dose given at less than the 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.

18.2.3 NIP Funding

Zoster vaccine is funded by the NIP for people aged ≥18 years who have had a HSCT

18.3 Solid organ transplant (SOT)

The following recommendations apply to people who are having or have had a solid organ transplant.

18.3.1 Recommended schedule

- Where possible, people aged ≥18 years should receive all doses at least 2 weeks before transplant.
- If any doses were not received prior to transplant, vaccination should commence at least 3 months after transplant, giving 2 doses of zoster vaccine, 8 weeks apart.

18.3.2 Catch-up recommendations

- Before and after transplant, follow the catch-up schedule below.
- No vaccine doses should be given within 2 weeks of surgery.

Valid doses

Minimum intervals

- The minimum interval between the transplant and the next scheduled dose is 3 months
- At 3 months follow the catch-up schedule for people who are moderately to severely immunocompromised.

Invalid doses

Condition	Message
Dose administered at <3 months from transplant	Dose given at less than the minimum interval from transplant
Minimum interval between any 2 doses not met	Dose given at less than the 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.

18.3.3 NIP funding

Zoster vaccine is funded by the NIP for people aged ≥18 years who are having/have had an SOT.

Immunisationhandbook.health.gov.au

All information in this publication is correct as of June 2026.