



GUIDELINE

Car Seat Challenge

Scope (Staff):	Nursing and Medical Staff
Scope (Area):	NICU PCH

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations.

Read the full statement here:

[CAHS Child Safe Organisation Commitment Statement](#)

This document should be read in conjunction with this [disclaimer](#)

Aim

To assess if infants with airway problems, poor muscular tone or requiring prone positioning can maintain cardiorespiratory stability whilst in their own car seat prior to discharge.

Risk

Infants with known airway problems or poor muscular tone are at risk of cardiorespiratory instability whilst in a semi-reclined position.

Background

The car seat challenge is to assess if a baby with airway problems, poor tone or requiring prone positioning can maintain normal oxygen saturations when in their car seat prior to discharge. Car seats put babies in a semi-reclined position, (from 30 to 45 degrees) which may impact breathing. This a 60-minute test is done in PCH 3B nursery one to two days before the baby is discharged from the hospital to home. Consider longer test for country travel.

Key points

- Advise parents that Australian law regulates that babies under six months of age must be restrained in a rearward facing child restraint when travelling in the car. This car seat must meet Australian and New Zealand Standards AS/NZS 1754. Car seats also have an expiry date on them, 10 years from the date of manufacturing, this can be found stamped on the plastic underside of the car seat.

- The test does not guarantee safety. Parents/carers are encouraged to complete CPR education prior to discharge. When driving, parents/carers of at-risk infants are encouraged to travel with an adult in the back seat to observe the infant. Parents should be encouraged to make multiples stops on long journeys and take the infant out of the car seat.
- Infants should only be placed in a car seat for travel in a moving vehicle and removed promptly once the destination is reached.
- This test is done to see if infant can maintain cardiorespiratory stability whilst in a car seat.
- Certain car seat safeguards may need to be put in place (special padding, head supports or limits on travel time, etc) if the infant fails the initial car seat challenge.

Eligible infants

- Any patient with a complex airway, craniofacial malformations that can lead to abnormal airway (For example Pierre Robin, Nasopharyngeal airway, oxygen dependant).
- Infants with low muscular tone.

Procedure / Process

1. Explain test to parents and request parents to bring in their own car seat to use for the test.
2. Time the test to be between feeds so infant is asleep / settled.
3. Apply oxygen saturation probe to the patient (if predetermined, use home monitor if available).
4. Complete a full set observation and record on MR 491, noting the time car seat challenge commenced.
5. Place infant in car seat and secure seatbelts
6. Record the heart rate, breathing rate and oxygen saturations every 10 minutes for 60 minutes.
7. If oxygen saturations fall below 85% for 2 minutes: reposition infant. If oxygen saturation falls below 85% again for 2 minutes, and stays below 85%, stop test. Record observations on MR491 and report outcome in DMR. Report results to shift coordinator and medical staff.
8. Once the test is complete, place infant in cot. Remove oxygen saturation probe or recommence level of monitoring prior to test until medical review.

Failed Car Seat Challenge

- If the car seat challenge test is failed, consult Occupational Therapist and Consultant for consideration of positioning aids to support the airway. Repeat in 48hrs after consultation.
- If repeat car seat challenge test failed, a plan to safely discharge must be made by the Consultant and 3B CNC/CNS.

Related CAHS internal policies, procedures and guidelines *(if required)*


[Pierre Robin Sequence](#)

[Recognising and Responding to Clinical Deterioration](#)

References and related external legislation, policies, and guidelines *(if required)*

1. Bass JL, Bull M. Oxygen desaturation in term infants in car safety seats [commentary]. *Pediatrics* 2002;110:401–2.
2. Davis, N. (2015). Car Seat Screening for Low Birth Weight Term Neonates. *PEDIATRICS*, 136(1), 89-96. doi: 10.1542/peds.2014-3527
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4. Davis NL, Gregory ML, Rhein LM. Test-retest reliability of the infant car-seat challenge. *J Perinatol* 2014;34(1):54-8.
5. Jensen, E., Foglia, E., Dysart, K., Aghai, Z., Cook, A., Greenspan, J., & DeMauro, S. Car Seat Tolerance Screening in the Neonatal Intensive Care Unit: Failure Rates, Risk Factors, and Adverse Outcomes. *J Pediatrics* 2018; 194: 60-66.
6. Stein N. Car-seat test. *Pediatrics* 2004;113:1469
7. Narvey MR; Canadian Paediatric Society, Fetus and Newborn Committee. Assessment of cardiorespiratory stability using the infant car seat challenge before discharge in preterm infants (<37 weeks' gestational age). *Paediatr Child Health*. 2016 Apr;21(3):155-62. doi: 10.1093/pch/21.3.155. PMID: 27398056; PMCID: PMC4933079.
8. Australian Competition and Consumer Commission. Child restraints for use in motor vehicles mandatory standard (2013). <https://www.productsafety.gov.au/business/search-mandatory-standards/child-restraints-for-use-in-motor-vehicles-mandatory-standard>
9. Davis NL, Cheo S. A National Survey of Car Seat Tolerance Screening Protocols in Neonatal Intensive Care Units. *Acad Pediatr*. 2021 Jan-Feb;21(1):109-116. doi: 10.1016/j.acap.2020.02.004. Epub 2020 Feb 7. PMID: 32044465.

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Document Owner:	Neonatology		
Reviewer / Team:	Neonatology Coordinating Group		
Date First Issued:	December 2025	Last Reviewed:	December 2025
Amendment Dates:		Next Review Date:	18 th December 2028
Approved by:	Neonatal Coordinating Group	Date:	18 th December 2025
Endorsed by:	Neonatal Coordinating Group	Date:	
Standards Applicable:	NSQHS Standards:  Child Safe Standards: 1,10		

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