

FORM E. ASSESSMENT FOR PHYSIOLOGICAL BPD AT 36 WEEKS PMA

Perform this assessment when the infant reaches 36 weeks PMA

All infants will require a SHIFT test.

- Perform when stable about 30 minutes after a feed
- Nurse infant in position that you felt achieves the best SpO₂ for that particular infant
- Set SpO₂ lower alarm at 89%
- Set SpO₂ higher alarm at 95%

SHIFT TEST at 36⁺⁰ to 36⁺⁶ weeks CGA

ST1. Date and time of Shift Test	<input type="text"/> <input type="text"/> - <input type="text"/> <input type="text"/> <input type="text"/> - <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <small>DD-MMM-YYYY eg. 26-Dec-2017</small> <input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/> 24 hour time <small>(HH:MM eg. 17:45)</small>
ST2. Current weight at test or most recent weight before test	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> grams
ST3. Record respiratory support immediately prior to Shift Test:	<input type="text"/> (enter appropriate number) 0= No respiratory support 1=Low flow air ± oxygen with feeds (≤1L/min) 2=Low flow oxygen (≤1L/min) 3=Oxygen via head box or incubator 4=Nasal High flow (high-fow nasal cannulae) >1L/min 5=Nasal CPAP 6=Nasal ventilation (includes nasal intermittent positive pressure ventilaton or nasal high frequency) 7=Endotracheal CPAP or ventilation (includes high frequency oscillatory ventilation or JET ventilation) 8=Tracheostomy CPAP or ventilation (includes high frequency oxcillatory ventilation or JET ventilation)
ST4. If infant was previously NOT on respiratory support* within the last week, why was respiratory support recommened? <small>*Respiratory support includes: nasal high flow≥ 2 L/min, CPAP, NIPPV, nasal high-frequency, endotracheal CPAP or ventilation</small>	<input type="text"/> (enter appropriate number) 0=Not off respiratory support in the last week 1=Preterm lung disease 2=Intercurrent illness (eg presumed or proven viral or bacterial sepsis) 3= Post-immunisations 4=Surgery (eg laser for ROP or hernia repair) 5=Other (describe at ST4A) ST4A: _____

Shift Test

- 1. For infants receiving mechanical ventilation via an endotracheal tube, CPAP, NIPPV, or HF ≥ 2 L/min,** the FiO₂ will be adjusted to maintain the peripheral oxygen saturation (SpO₂) between 90 - 94% over a 15-minute period.
Document every minute the most often seen FiO₂ and SpO₂, I values.
- 2. For infants in room air:**
Perform test in room air. If average SpO₂ <90% then transfer baby to head box or incubator
- 3. For infants on low flow oxygen or air or receiving < 2L/min of blended oxygen or air:**
Transfer infant to either a head box, incubator or nasal cannula for Shift test.

Head box (preferred):

- Place blended air/oxygen tubing on bed, away from infant's face.
- Provide desired FiO₂ of fresh blended gas through the tubing at a flow of at least 6L/min to ensure adequate flushing of CO₂ from the head box chamber.
- Position oxygen analyser r probe on bed, close to infant's face.
- Place head box over infant's head and gently seal neck opening with bedding material.
- Wait for infant to settle, then commence recording of SpO₂.
- Keep FiO₂ constant throughout the 15 minute recording period.

Incubator (equally preferred):

- Titrate oxygen concentration, according to manufacturer procedure manual, to maintain infant's SpO₂ at 90-94%.
- If the incubator does not have an automated oxygen concentration delivery system, blended air/oxygen gas flow can be used.
- Provide desired FiO₂ of fresh blended gas through the tubing at a flow of at least 6L/min to ensure adequate flushing of CO₂ from the incubator.
- Position oxygen sensor probe on bed, close to infant's face.
- Wait for infant to settle, then commence recording of SpO₂.
- Keep FiO₂ constant through the 15 minute recording period.

Nasal cannula - If headbox or incubator is not available, select appropriate size nasal cannula for infant – the largest size appropriate for the infant should be used:

- Cut a small piece of Comfeel to place over the end of the infant's nose and create two small holes in the centre of the Comfeel.
- Remove the protective backing from the Comfeel and place the nasal cannula prongs through the holes in the Comfeel.
- Ensure that adequate flow is provided to exceed the infant's minute volume (eg. a 3kg infant needs a flow at 2L/min of fresh gas flow. DO NOT use higher flows unless

already on humidified high flow). It is not necessary for this short test to use heated humidified flow.

- Place the cannula prongs in the infant’s nares, and gently seal nares with Comfeel.
- Position a chin strap to gently close the infant’s mouth.
- Wait for the infant to settle. Adjust FiO₂ on blender to achieve SpO₂ in the desired 90-94% range (note: if no blender is available, the effective FiO₂ needs to be calculated from the required mix of air and oxygen – but this approach requires low flow air and oxygen flow meters).
- Commence recording of SpO₂.
- Keep FiO₂ constant throughout the 15 minute recording period.

4. Maintain SpO₂ at 90-94% for 15 minutes.

<p>ST5. Record respiratory support DURING Shift test</p>	<p><input type="text"/> (enter appropriate number)</p> <p>0= No respiratory support 1=Nasal prongs and air/oxygen < 2 L/min 2=Headbox ≥ 6L/min 3= Incubator ≥ 6L/min Low flow oxygen (≤1L/min Oxygen via head box or incubator 4=High flow ≥ 2L/min(humidified) 5=Nasal CPAP/nasal ventilation (includes nasal high frequency) 7=Endotracheal tracheostomy CPAP or ventilation (includes high frequency)</p>
---	---

Record the FiO₂ required to maintain SpO₂ at 90 to 94%, if the FiO₂ was required to be adjusted during the 15 minute test period in order to maintain SpO₂ at 90-94%, then record the average FiO₂.

ST5. Record in the table the SpO ₂ and FiO ₂ every minute from the patients monitor or download from the oximeter during Shift test	Time mins	SpO ₂ %			FiO ₂		
	0	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	7	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	8	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	9	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	10	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	11	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	12	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	13	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	14	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
15	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
ST6. Average SpO ₂ during Shift test (calculated from the average of measurements from the oximeter over the 15 minutes)	<input type="text"/> <input type="text"/> <input type="text"/> %						
ST7. Average FiO ₂ during Shift Test	<input type="text"/> . <input type="text"/> <input type="text"/> (Room air= 0.21, 100% =1.00)						
ST8. If the infant was initially in room air, did the average SpO ₂ dip below 90% during the Shift Test?#	<input type="checkbox"/> 0= No 1=Yes						

SpO₂ dips below 90% for more than 5 minutes (or below 80% for 15 seconds)

END SHIFT TEST

MODIFIED WALSH OXYGEN REDUCTION AIR TRIAL

Continue on to Modified Walsh Oxygen Reduction Air Trial if the infant was

- initially in low flow oxygen/air or < 2L/min of blended oxygen/air
- AND the FiO₂ required to maintain SpO₂ between 90 to 94% over the 15 mins was <0.3.

This is to determine if infants who need low level of supplemental oxygen or flow can reach room air and maintain oxygen saturation ≥ 90%.

Keep the baby in the head box or incubator oxygen

Wean oxygen slowly (reduce by 2%) every 5 minutes until in air.

Discontinue if SpO₂ dips below 90% for more than 5 minutes (or below 80% for 15 seconds) or the baby has an apnoea for more than 20 seconds or the baby has bradycardia. Record at MW4 as a Fail.

MW1.	Time (clock)	Time (mins)	SpO ₂ %	FiO ₂
		0	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> . <input type="text"/> <input type="text"/>
		5	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> . <input type="text"/> <input type="text"/>
		10	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> . <input type="text"/> <input type="text"/>
		15	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> . <input type="text"/> <input type="text"/>
		20	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> . <input type="text"/> <input type="text"/>
		25	<input type="text"/> <input type="text"/> <input type="text"/>	0.21

If infant maintains SpO₂ ≥ 90% in air for 5 minutes, leave in air for 15 minutes

MW2.	Time (clock)	Time (mins)	SpO ₂ %	FiO ₂
		0	<input type="text"/> <input type="text"/> <input type="text"/>	0.21
		5	<input type="text"/> <input type="text"/> <input type="text"/>	0.21
		10	<input type="text"/> <input type="text"/> <input type="text"/>	0.21
		15	<input type="text"/> <input type="text"/> <input type="text"/>	0.21

MW3. Result of Modified Walsh Oxygen Reduction Trial

(enter appropriate number)

1=Not performed

2=Successfully weaned to air with SpO₂ maintained ≥ 90% for 15 minutes

3=Failed Modified Walsh Oxygen Reduction Air Trial

4=Attempted but infant unable to complete

PLUS PRIMARY OUTCOME

PRIMOUT.

Using the flow chart below
Does the infant have BPD?

0= No 1=Yes

