



CLINICAL GUIDELINE	
Safety in Air Test	
Scope (Staff):	Nursing and Medical Staff
Scope (Area):	NICU KEMH, NICU PCH, NETS WA

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

Note: Refer to [Home Oxygen Referral](#) guideline **prior** to commencing a safety in test.

Safety in Air Test

Aim

To determine whether an oxygen dependent infant being considered for discharge on home oxygen is able to maintain safe SaO₂ levels for a period of up to 4 hours, during accidental disconnection from oxygen in the home environment (i.e. SaO₂ > 80%). This test is conducted over a 4 -6 hour period including at least 2 hours sleep time (usually between feeds). It is preferable that one nurse oversee the infant during this time to ensure continual visual assessment.

Key Points

- Safety in Air Test ordered by Consultant after discussion with parents regarding home oxygen therapy.
- The Safety in Air Test is ideally performed at night when there are fewer disruptions and therefore the infant is less likely to be disturbed when sleeping.
- On completion of the test recommence original oxygen therapy and monitor the infant's condition until stable.
- Liaise with the PCH Respiratory Team regarding review of the infant and/or test result.

Responsibility of Nurse Supervising the Test:

- Use an oximeter that allows data to be downloaded and printed out. Download and print out prior to end of shift (see instructions below).
- Prior to the commencement of test, measure and document baseline ranges of SaO₂, heart rate and respiratory rate.
- Disconnect the oxygen source when the infant is asleep and record the time on observation sheet. Monitor and record the following for a **minimum** of 4 hours on the [Safety in Air Observation Sheet](#):
 - SaO₂ levels, respiratory rate and heart rate every 15 minutes, or during an event (alarm triggered, infant unsettled).
 - Sleep state (awake or asleep).
 - Document comments as necessary including any drop in SaO₂ due to movement artefact.

- Discontinue the test and recommence oxygen if the SaO₂ drops < 75% continuously for more than 2 minutes, or if the infant will not settle and shows definite clinical signs of distress. Monitor the infant until condition is stable and oxygen saturation within pre-test range.
- After the test is completed, recommence the original oxygen therapy and monitor the infant' condition until stable.

There may be transient drops of less than 2 minutes to < 75% SaO₂ but these are acceptable if the infant does not show clinical signs of distress.

Printing of Air Test

HP Recording Strip

A 'realtime' recording strip is obtained as per the instructions on the HP recorder.

Aligent-HP-V24C Monitor (HDU and 2 West Nurseries)

Print out of Graph Trends and vital signs are obtained retrospectively. The Aligent-HP-V24C monitor collects and stores data for 24 hours. If the monitor is turned off the data cannot be retrieved.

Please follow the below steps to obtain the print outs required.

To Print Graphs Trends

1. Use Deskjet 930C printer stored in SCN2W store room. Connect cable from back of printer to computer port at the rear of monitor (Agilent-HP-V24C).
2. Plug printer into mains power.
3. Press power button. On is indicated by green light.
4. Place A4 paper into paper tray.
5. Press Trends/Calcs on monitor.
6. Press Graph Trends.
7. To display desired time frame move cursor by pressing arrow keys. For example to print time slot 0100-0500 move cursor to 1 hour post commencement time of air test i.e. 0200.
8. Press Zoom in.
9. A 2 hour graph is displayed in 15 minute intervals.
10. Press PRINT graphs.
11. Wait until Report in progress has disappeared from top left hand of screen before selecting the next graph required.
12. To print next consecutive time frame using arrow keys move cursor 2 hours forward e.g. 0400.
13. Press Zoom in.
14. Press Zoom out to obtain time frame from 0300-0500.
15. Press PRINT graphs.

To Print Vital Signs

1. Remain on Graph Trends page.
2. Press Vital Signs.
3. Use arrow keys to move highlight to desired time.
4. Ensure 15 minute intervals are displayed (Press zoom in or out as required).
5. Press PRINT Vitals.

6. Move highlighter to time slot required to display next consecutive 2 hours.

Repeat process until 4 hours of Air Test are printed. Overlap is unavoidable when printing a 4 hour vital signs time period.

MP 50/70 (SCN2)/MP 70 (SCN3)

Graphs trends and vital sign reports can be generated from the MP 50/MP 70 Phillips Patient Monitor. Reports from SCN3 MP 70 studies are printed on the printer in the SCN3 utility room. Reports from SCN2 MP 50 studies are printed on the printer at bed 4.


1. Select Vital Trend SmartKey.
2. Change interval to 15 minutes.
3. Select Next Page.
4. Select Graphs.
5. Move cursor to time of commencement of study.
6. Select Print.
7. Select Vital Signs.
8. Select Print.
9. Repeat this process until four hours of Air Test are printed. Overlap of time frames is unavoidable when printing.

At completion of air test

1. Using A4 sheet of white copy paper
2. Place infant sticker in right upper corner
3. Cut air strip with care
4. Paste air strip onto paper

Related CAHS internal policies, procedures and guidelines
Neonatology Guideline <ul style="list-style-type: none"> • Home Oxygen Referral • Home Oxygen Request Form • Home Oxygen Referral Quick Reference Guide

This document can be made available in alternative formats on request for a person with a disability.

File Path:			
Document Owner:	Neonatology		
Reviewer / Team:	Neonatology		
Date First Issued:	April 2011	Last Reviewed:	26 th November 2019
Amendment Dates:		Next Review Date:	26th November 2022
Approved by:	Neonatal Coordinating Group	Date:	26th November 2019
Endorsed by:	Neonatal Coordinating Group	Date:	26th November 2019
Standards Applicable:	NSQHS Standards: 		
Printed or personally saved electronic copies of this document are considered uncontrolled			