



CLINICAL PRACTICE GUIDELINE

Guideline coverage includes NICU KEMH, NICU PCH and NETS WA

Home Oxygen Referral

This document should be read in conjunction with the [Disclaimer](#)

Home Oxygen Referral Procedures

This referral procedure is for infants with continuing oxygen requirements deemed medically ready for discharge home.

The **Safety in Air Test** is completed to determine whether an oxygen dependent infant being considered for discharge on home oxygen is able to maintain his/her oxygen saturations at a safe level (i.e. $SpO_2 > 75\%$) during disconnection from oxygen for a period of up to 4 hours. It is designed to ascertain how an infant would respond in the case of accidental disconnection from oxygen in the home environment.

Key Points

- Parents must be willing and able to accept the discharge home of their infant on home oxygen therapy.
- A medical consultant must complete and fax a **MR035: Consultation report and request** form to Respiratory Medicine Department at PCH.
- A Neonatal Consultant must order the Safety in Air test after discussion with parents regarding home oxygen.
- On completion of the test liaise with the PCH Respiratory Medical Team regarding review of the infant and/or test result. See [Appendix](#) for documentation required by PCH Respiratory Medical Team.
- The PCH Respiratory Medical Team will determine the result of the Safety in Air test.

[Quick Reference Guide](#) for Home oxygen referral

Palivizumab

Preterm infants requiring home oxygen who are discharged between May and September will be eligible for Palivizumab. These infants should receive their first dose prior to discharge. This will continue in the BPD outpatient's clinic for the duration of the RSV season.

Safety in Air Test

To determine whether an oxygen dependent infant being considered for discharge on home oxygen is able to maintain safe SpO_2 levels for a period of up to 4 hours, during accidental disconnection from oxygen in the home environment (i.e. $SpO_2 > 75\%$). This test is conducted over a 4 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

- The Safety in Air Test is ideally performed at night over a 4 hour period (usual time between feeds) 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 Medical 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 SpO₂, 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](#):
 - SpO₂ 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 SpO₂ due to movement artefact.
- Discontinue the test and recommence oxygen if the SpO₂ 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's condition until stable.

There may be transient drops of less than 2 minutes to < 75% SpO₂ but these are acceptable if the infant does not show clinical signs of distress.

Printing out 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)

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.

To Print Graphs Trends

1. Use Deskjet 930C printer stored in SCN 2 West 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.

Resources

[Home Oxygen Request Form](#)
[Quick Reference Guide](#)

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Appendix

Documents required by Respiratory Medicine at PCH.

- Fax documents to Respiratory Medicine on 64562075 **prior** to PCH home oxygen education appointment.
 1. Home oxygen request form
 2. Graph reports
 3. Vital signs report
 4. MR811 – Medication Chart
 5. MR485.02
 6. MR485.03
 7. MR420 – New page with infant label
 8. Air Test Strip (photocopy)
 - Original Air Strip to be placed in clear plastic sheet protector and filed in infant buff notes.

Air Test Strip

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