MONITORING OF NEONATES IN THE NEONATAL UNIT AT UNIVERSITY HOSPITAL WISHAW

TARGET AUDIENCE	Healthcare workers in the Neonatal Unit
PATIENT GROUP	Babies in Neonatal care

Clinical Guidelines Summary

- All babies in Neonatal care should be monitored closely.
- Babies will be continuously monitored whilst Intensive Care Unit (ICU), High Dependency Unit (HDU) category with observations documented at frequent intervals.
- This can be stepped down to less frequent intervals or transitioned to apnoea monitoring only when they are deemed stable, for Special Care Baby Unit (SCBU) category babies and preparing for discharge.
- This guidance details suggested minimum observation frequencies, but these observations may be performed more frequently if there are clinical concerns or under medical discretion.

Continuous Monitoring

In Neonatal care, continuous monitoring of heart rate, oxygen saturations, respiratory rate and frequent measurements of temperature and blood pressure are essential to identify variations in trends that may indicate sepsis, necrotizing enterocolitis, brain injury, bronchopulmonary dysplasia, cardiorespiratory decompensation, and mortality (Kumar et al, 2020).

Clinical observations should be obtained and documented on admission, at start of a nursing shift, then at a frequency determined by the clinical condition or current treatment (e.g. more frequently during blood transfusions – please see relevant guidance). Trends should be observed and parameters out with normal should be reported to medical staff (Kinney, 2023).

Discontinuation of continuous cardiorespiratory monitoring should be considered in the following circumstances following medical discussion:

- Acute illness resolved
- No significant incidents
- Discharge planning/rooming in
- Transitioning onto apnoea monitoring only
  (UHL, 2023)

The below guidance should be followed in University Hospital Wishaw Neonatal Unit for frequency of documented observations on electronic patient record. Medical staff or clinical condition may guide variations to this on occasion.

Observation Frequency

Suggested observation frequency is detailed below to be documented on Badger EPR system via the trends tab.

	Respiratory support	Air entries	HR, RR, SPO2	Temperature	Blood Pressure	NPASS	IV fluids, Cannula site
Ventilated/Duopap/FIO2>40%, instability (ICU)	Baseline on admission/start of shift then hourly	Baseline on admission/start of shift then with care or as clinically indicated with changing respiratory status	Baseline on admission/start of shift then hourly	Continuous skin probe and axilla checks with care/concerns or baseline on admission/start of shift then 1-2 hourly if no skin probe in situ	Baseline on admission/start of shift. Continuous with arterial line. Hourly when on inotropic support or deteriorating. 4 hourly for stable ventilated babies. 6-8 hourly for non-ventilated ICU babies. Ask for medical instruction if unsure.	With each hands on care or procedure and when pain suspected	Hourly
CPAP/HFNC and stable (HDU)	Baseline on admission/start of shift then 2 hourly or when changes are made	Baseline on admission/start of shift then with care or as clinically indicated with changing respiratory status	Baseline on admission/start of shift then 2 hourly	Baseline on admission/start of shift then 2-4 hourly axilla temperature if stable	Baseline on admission/start of shift then with care twice daily unless clinically indicated more often	With hands on care twice daily or procedure and when pain suspected	Hourly
LFO2/Self ventilating (SCBU)	Baseline on admission/start of shift then 3 hourly if on variable oxygen or when changes made. 6 hourly when stable after sleep study.	Only as clinically indicated	Baseline on admission/start of shift then 3 hourly initially and 6 hourly when getting ready for discharge/on apnoea monitoring	3-6 hourly	Only as clinically indicated.	With hands on care or procedure once daily and when pain suspected	Hourly

Baseline observations should be obtained on admission/start of each shift for all babies on respiratory support (do your own initial observations rather that bringing forward previous values). Always escalate to the nurse in charge or medical team if you are unable to obtain an observation or the observations are outwith expected parameters.

This is only a guide and clinical judgement should be used for each individual case. Ask medical staff for guidance on frequency if unsure. IV sites should be checked and IV pumps read hourly at all times. Weigh nappies on all babies under 32 weeks for first 72 hours, all babies in intensive care category and others when clinically indicated.

Apnoea Monitoring

Apnoea of infancy is defined as “an unexplained episode of cessation of breathing for 20 seconds or longer, or shorter respiratory pause associated with bradycardia, cyanosis, pallor and/or marked hypotonia.

Preterm infants are at increased risk of apnoea due to the poor development of mechanisms of respiratory control.

Apnoea can also be caused by:

- Airway Obstruction
- Cardiac Disorders
- Metabolic disorders
- Cerebral oedema/seizures
- Gastro-oesophageal reflux
- Maternal Drug use
- Sepsis
- Sedation
- Immunisations
- Apnoea of prematurity <37 weeks (Musial, 2023)

Monitoring Neonates in Neonatal Care

Apnoea Monitoring can be used in:

- Babies who are > 35 weeks gestation
- Babies who are receiving treatment for Neonatal Abstinence Syndrome
- Babies who are receiving caffeine with no other monitoring (monitoring can be discontinued 7 days after last dose of caffeine, where there have been no incidents)
- Babies born <28 weeks gestation for first immunisation and for 48 hours post immunisation.
- Any baby who has an incident with their first immunisation (apnoea, bradycardia and desaturation) should be monitored for second immunisation if still admitted in hospital
- Other babies at the discretion of the the medical team

(Musial, 2023)

References/Evidence

Kinney, S. (2023) The Royal Children's Hospital Melbourne. Clinical Guidelines (Nursing): *Observation and continuous monitoring*. Available from: Nursing guidelines : Observation and continuous monitoring

Kumar, N., Akangire, G., Sullivan, B., Fairchild, K., and Sampath, V (2020*) Continuous vital sign analysis for predicting and preventing neonatal diseases in the twenty-first century: big data to the forefront*. Available at: Continuous vital sign analysis for predicting and preventing neonatal diseases in the twenty-first century: big data to the forefront | Pediatric Research

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UHL Womens Quality & Safety Board (2023) University Hospital of Leicester Guideline. *Monitoring of infants and clinical nursing observations standards on NNU*. Available at: http://www.library.leicestershospitals.nhs.uk/PAGL/Shared%20Documents/Monitoring%20of%20Infants%20on%20NNU%20UHL%20Neonatal%20Guideline.pdf

1. Governance information for Guidance document

Lead Author(s):	Mary Law, Senior Charge Midwife, SCBU and TCU Michelle Brooks, Neonatal Practice Educator
Endorsing Body:	Neonatal Clinical Effectiveness Group, University Hospital Wishaw
Version Number:	1.0
Approval date	**17/01/2025**
Review Date:	**17/01/2028**
Responsible Person (if different from lead author)	

CONSULTATION AND DISTRIBUTION RECORD	
Contributing Author / Authors	Input from members of the Neonatal Clinical Effectiveness Group, University Hospital Wishaw
Consultation Process / Stakeholders:	Ratified at Neonatal Clinical Effectiveness Group meeting 17th January 2025

Distribution	Reviewed at Neonatal Clinical Effectiveness Group Meeting January and July 2025

CHANGE RECORD

Date	Lead Author	Change	Version No.
		e.g. Review, revise and update of policy in line with contemporary professional structures and practice	1
			2