# SLHD: Royal Prince Alfred Hospital Policy

## Women and Babies: Neonatal Clinical Emergency Response System (CERS)

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<thead>
<tr>
<th>TRIM Document No</th>
<th>Policy Reference</th>
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<tr>
<td></td>
<td>RPAH_PD2016_025</td>
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<table>
<thead>
<tr>
<th>Related MOH/SLHD Policy</th>
<th>PD2013_049 Recognition and management of patients who are clinically deteriorating</th>
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<tr>
<th>Keywords</th>
<th>Newborn, deterioration, escalation</th>
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<tr>
<th>Applies to</th>
<th>Midwifery, nursing and medical staff working within Women and Babies birthing areas and wards.</th>
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<th>Clinical Stream(s)</th>
<th>Women's Health, Neonatology</th>
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<tr>
<th>Date approved GM, RPA</th>
<th>8/08/2016</th>
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<tr>
<th>Date approved by RPA Policy Committee</th>
<th>19/07/2016</th>
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<tr>
<th>Author</th>
<th>CMC Midwifery</th>
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<th>Status</th>
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<th>Risk Rating</th>
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<th>(At time of publication)</th>
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<tr>
<th>Replaces</th>
<th>Version 1, RPAH_PD2016_005 Neonatal Clinical Emergency Response System (CERS) - birthing and postnatal areas</th>
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## Version History V2

<table>
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<tr>
<th>Date</th>
<th>19 June 2018</th>
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Revision includes:

- Introduction of a 3rd tier for escalation of care 'Neonatal Assist (rapid response within 10 minutes) for neonatal
| observations in Red Zone, BGL less than 1.6 mmol/L or, a situation which is not life threatening |
| Neonatal Emergency reserved for life threatening situation e.g. baby is not breathing, or fitting (rapid response within 3 minutes) |
| SNOC no longer to be used for documenting or trending neonatal BGLs. |
| BGLs to be recorded in the Newborn Care Plan (MR504). in accordance with Neonatal Hypoglycaemia- Prevention and Management Guidelines |
| **V3 – 29/01/2019** Emergency Number 222 changed to 2222 |
Women and Babies: Neonatal Clinical Emergency Response System (CERS)

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Compliance with this Policy is Mandatory
SLHD – RPA Neonatal Clinical Emergency Response System (CERS)

1. Introduction
The Neonatal Clinical Emergency Response System (CERS) is a three-tiered emergency response system for managing the deteriorating newborn infant in the birthing and ward areas of RPA Women and Babies.

2. The Aims of this Policy
- To describe the minimum standards required for the monitoring and documentation of newborn vital signs during the early postnatal period
- To ensure a consistent and timely approach for the recognition and response to clinical deterioration in the newborn
- How to activate each tier of the Neonatal CERS
- Awareness of clinical staff responsibilities at each tier of the CERS

3. Risk Statement
SLHD Enterprise Risk Management System (ERMS) Risk # 2441 Recognising and Responding to Clinical Deterioration
- Perinatal morbidity and mortality and adverse outcomes associated with failure to recognise or respond to clinical deterioration in the newborn.

4. Policy Statement
The failure to recognise and respond to clinical deterioration has been highlighted as a significant factor in a number of adverse events within health service facilities. This Policy provides a framework for the minimum requirements to ensure that clinical deterioration in the newborn is recognised early and acted upon appropriately.

5. Scope
- Midwives, nurses and medical staff involved in the care of newborns in the birthing areas and wards
- Student midwives and Assistants in Midwifery under the direct supervision of Registered Midwives (RMs).

6. Resources
- Within existing resource allocation

7. Implementation
- Notification and distribution of this revised Policy will be communicated to relevant staff via email and at management and ward meetings.
- Staff education programs.
- Audit of Standard Newborn Observation Chart (SNOC) within RPAH Quality Audit Program

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8. **Key Performance Indicators and Service Measures**

- CERS calls monitored and reviewed in accordance with NSW Health PD2013_049
- Recognition and management of patients who are clinically deteriorating PD2013_049
- Case review via multidisciplinary education sessions and Neonatal Morbidity and Mortality Meetings

9. **Guidelines**

9.1 **Recognition of the deteriorating newborn**

Birth is a normal physiological event however, while there are normal variations during transition, failure to stabilise respiratory rate / effort, heart rate, temperature, colour and tone can be indicative of failure to adapt. The following safeguards are integral to providing appropriate care and will minimise the risk of adverse neonatal outcomes occurring during the first days of life:

- The identification of newborn risk factors i.e. respiratory distress, sepsis, jaundice, hypoglycaemia, subgaleal haemorrhage or trauma from instrumental delivery
- The skilled assessment and observation of the newborn during transition to extra-uterine life and the provision of assistance when initiating and establishing infant feeding.

9.2 **Monitoring and documenting newborn vital signs**

- All newborn vital signs observations must be documented on the Standard Newborn Observation Chart (SNOC) as per RPAH_PD2016_002 Newborn Observations
- The Standard Newborn Observation Chart has been developed to assist clinicians to identify clinical deterioration in the newborn and includes physiological parameters of early signs of clinical deterioration including:
  - Respiratory Rate, effort and $\text{SpO}_2\%$
  - Heart Rate, Capillary Refill and Blood Pressure
  - Pain Score
  - Temperature
  - Jaundice
  - Scalp inspection and palpation
  - A newborn risk assessment tool
  - Additional calling criteria requiring clinical review or rapid response
- Neonatal Blood Glucose Levels must be recorded in the Newborn Care Plan (MR504) and not on the SNOC, in accordance with Neonatal Hypoglycaemia- Prevention and Management RPAH_GL2016_032.
- Routine observations of feeding status, behaviour, passage of urine or meconium, hygiene, skin integrity and weight will also be recorded on the Newborn Care Plan (MR504).

9.3 **Calling criteria and alterations to calling criteria**

- The calling criteria are clearly displayed on the SNOC by blue, yellow and red zones. Additional calling criteria are displayed in the Escalation Table on page 4 of SNOC.
- Timely and appropriate follow up and referral must be made if any observation(s) fall into the coloured zones or there is clinical concern (see section 10.5 Table 1 Minimum frequency of observations).
- Calls can also be made if there are any clinical concerns.

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• Any alterations to calling criteria are to be entered on the SNOC and documented in the newborn’s clinical progress notes by the prescribing neonatal medical officer (MO) or neonatal nurse practitioner (NNP). Name, signature and date of modification must be clearly printed on the SNOC.
• Alterations must be confirmed by the designated neonatal MO first on call for Newborn Care.
• The altered calling criteria must be reviewed within 36 hours or earlier if clinically indicated.
• Altering Calling Criteria in DW / BC / OT must be discussed with the designated neonatal MO first on call prior to transferring the infant to recovery / postnatal areas.

   NOTE: Any infant who has repeated reviews (i.e. 3 or more in 24 hours) should be brought to the attention of the designated neonatal MO first on call or, the neonatal consultant on for postnatal wards.

10. Procedure for Activation of Neonatal CERS

NOTE: When communicating a Clinical Deterioration, use the ISBAR Communication Tool

10.1 Blue Zone response
• If the newborn has any Blue Zone observations:
  o initiate appropriate care
  o increase frequency of observations as indicated by the newborn’s condition
  o fully review the newborn in consultation with the in charge midwife
  o escalate by calling a Clinical Review if worried or unsure
• Consider the following:
  o what is usual for the newborn and are there any ‘Alterations To Calling Criteria’?
  o does the abnormal observation suggest deterioration?
  o is there an adverse trend in observations?

10.2 Yellow Zone response (Clinical Review Call or CRC)
• If the newborn has any observations in the Yellow Zone:
  o initiate appropriate clinical care
  o perform a full set of observations within 30 minutes of Yellow Zone breach and continue to monitor the neonate closely
  o consult promptly with the midwife in charge to decide whether a Clinical Review Call should be made (see Women and Babies Neonatal Escalation Plan).
• Consider the following:
  o are there any ‘Alterations To Calling Criteria’?
  o does the abnormal observation suggest deterioration?
  o is there more than one Yellow Zone observation or additional criteria?
  o are you concerned about the newborn?

• When a CRC is activated:
  o continue to monitor the newborn closely
  o document in newborn's clinical progress notes using CRC sticker
  o neonatal MO/NNP must attend within 30 minutes of CRC.
• Escalate to a Neonatal Assist if:
  o there has been no response from the neonatal MO / NNP or

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• there has been a response and the situation is getting worse or
• there has been a response but the midwife / nurse remains concerned about the condition of the neonate.

• If the decision is made not to make a CRC, document this in the Interventions/Comments/Actions section of the SNOC and in the clinical progress notes providing a rationale for the decision.

10.3 Red Zone response (Rapid Response)

• If observations enter the Red Zone, the BGL is less than 1.6 mmol/L or, a situation which is not life threatening, a Neonatal Assist must be called (see Women and Babies Neonatal Escalation Plan):
  o Response time 10 minutes
  o Initiate appropriate clinical care
  o Document management/intervention in the newborn's clinical notes.

• Escalate to Neonatal Emergency if:
  o there has been no response from the neonatal MO / NNP or
  o there has been a response and the situation is getting worse or
  o there has been a response but the clinician remains concerned about the condition of the neonate.

10.4 Neonatal Emergency

• In an emergency or life threatening situation e.g. baby is not breathing, or fitting, call a Neonatal Emergency (see Women and Babies Neonatal Escalation Plan).
  o Response time 3 minutes
  o Commence neonatal resuscitation
  o Document emergency management on the Neonatal Resuscitation Record located on the Resuscitaire.

• When a Neonatal Emergency call is activated, the following staff are alerted and will attend the emergency:
  o Senior neonatal MO / NNP (# 80126)
  o Team leader NICU + RED BAG (#81811). This page never leaves the NICU and must be handed to most appropriate RN before leaving the NICU and collected on return to NICU)
  o An additional nurse (RN) delegated by the nurse in charge NICU.

10.5 Frequency of observations after a call

• Repeat and document RR, apex HR, T and SpO₂ on the SNOC:
  o within **30 minutes** for a Yellow Zone breach
  o within **15 minutes** for a Red Zone breach

• It is important to continue to monitor vital signs and observe the condition of the infant closely (Table 1 below summarises minimum frequency of observations after a Neonatal CERS call.)
Table 1: Minimum frequency of observations after a Neonatal CERS call

<table>
<thead>
<tr>
<th>Normal zone</th>
<th>No concerns</th>
<th>• Minimum requirements as per risk factor assessment described in Newborn Observations Policy</th>
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<tbody>
<tr>
<td></td>
<td>Cause for concern = Clinical Review</td>
<td>• RR, apex HR, T and SpO₂ then&lt;br&gt;• observations as ordered by neonatal team</td>
</tr>
<tr>
<td>Blue zone</td>
<td>No concerns</td>
<td>• Minimum requirements as per risk factor assessment described in Newborn Observations Policy&lt;br&gt;• Consider increasing frequency of observations as clinically indicated</td>
</tr>
<tr>
<td></td>
<td>Cause for concern → Clinical Review</td>
<td>• RR, apex HR, T and SpO₂ then&lt;br&gt;• observations as ordered by neonatal team</td>
</tr>
<tr>
<td>Yellow zone</td>
<td>No concerns</td>
<td>• RR, apex HR, T and SpO₂ within 30 minutes of breach then,&lt;br&gt;• minimum requirements as per risk factor assessment described in Newborn Observations Policy</td>
</tr>
<tr>
<td></td>
<td>Cause for concern → Clinical Review</td>
<td>• RR, apex HR, T and SpO₂ within 30 minutes of breach&lt;br&gt;• admission to the NICU / SCN or&lt;br&gt;• observations as ordered by neonatal team</td>
</tr>
<tr>
<td>Red zone</td>
<td>Mandatory call</td>
<td>• RR, apex HR, T and SpO₂ within 15 minutes of breach then,&lt;br&gt;• every 15 minutes until admission to the NICU or&lt;br&gt;• observations as ordered by neonatal team</td>
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10.6 Clinician roles and responsibilities

- **Notifier** (person making the CERS call):
  - Discussion with midwife in charge- BC midwives often work alone therefore the decision to make a CRC is based on individual clinical judgement.
  - Complete a full set of vital signs observations (RR, HR, T and BGL +/- SpO2%) within **30 minutes** for a Yellow Zone breach or, within **15 minutes** for a Red Zone breach.
  - Complete documentation including newborn clinical progress notes, CRC sticker and/or eMR.

- **Responder** (the MO / NNP responding to the CERS call):
  - Attend to neonate within 30 minutes for CRC, or within 10 minutes if Neonatal Assist call.
  - Discuss and document in the clinical progress notes / eMR, a medical management plan with the neonatal registrar on service (if applicable) once the neonate has been stabilised.
  - Complete documentation in newborn’s clinical progress notes / CRC sticker / eMR.
o Review any neonate who has triggered a CRC to ensure that the baby is responding to treatment.
o If calling criteria has been adjusted on the SNOC, document this newborn's clinical progress notes/eMR.
o If there has been alterations to frequency of observations on the SNOC, document this in the newborns' clinical progress notes / eMR.
o Ensure timely and appropriate referral to other specialties if indicated.
o Escalate further to Neonatal Assist or Neonatal Emergency if unable to reverse clinical deterioration.
o Inform staff specialist on service regarding Neonatal Emergency calls and infant's condition.
o Notify mother's AMO (if appropriate) once infant is stabilised.

11. Definitions

<table>
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<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td><strong>BGL</strong></td>
<td>Blood Glucose Level</td>
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<tr>
<td><strong>NICU</strong></td>
<td>Neonatal Intensive Care Unit</td>
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<tr>
<td><strong>Red Bag</strong></td>
<td>Advanced neonatal resuscitation equipment / drugs not normally stocked on the Neonatal Resuscitare in ward areas.</td>
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<tr>
<td><strong>RR, HR, T</strong></td>
<td>Respiratory Rate, Heart Rate, Temperature</td>
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<tr>
<td><strong>SpO₂%</strong></td>
<td>Oxygen saturation by pulse oximetry</td>
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12. Consultation

- Head of Department and Staff Specialist Newborn Care
- Midwifery / Nursing Unit Managers Women and Babies
- RPAH CERS Committee

13. Links and tools

- RPA Women and Babies: Newborn Observations RPAH_PD2016_002
- RPA Women and Babies: Neonatal Early Assessment Program (NEAP)
  RPAH_GL2013_019
- RPA Women and Babies: Neonatal Hypoglycaemia- Prevention and Management

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13.1 Women and Babies Neonatal Escalation Plan

**NEONATAL CERS ESCALATION PLAN**

**RPA Women and Babies**

**Blood Glucose:**
Escalate blood glucose readings according to RPA Neonatal Hypoglycaemia Guideline
BGL less than 1.6 mmol/L triggers Neonatal Assist call see below.

**Observations in BLUE ZONE:**
1. Initiate appropriate clinical care, consider increasing frequency of observations
2. Consult with midwife in charge
**IF ANY CLINICAL CONCERN ESCALATE CARE BY CALLING A NEONATAL CLINICAL REVIEW**

**Clinical concern or observations in YELLOW ZONE:**
1. Consult with midwife in charge
2. Decide whether to call a CLINICAL REVIEW
3. Repeat observations and consider increasing their frequency

**NEONATAL CLINICAL REVIEW**
- Dial 2222 and state Neonatal Clinical Review
- Give pager number of MO/NIP
- Give newborn MRN, location + room number

**IF NO RESPONSE WITHIN 30 MINUTES CALL A NEONATAL ASSIST**

**Observations in RED ZONE or Blood Glucose less than 1.6 mmol/L or Situation which is not life threatening**

**NEONATAL ASSIST**
- Dial 2222 and state Neonatal Assist
- Give newborn MRN, location + room number

**IF NO RESPONSE WITHIN 10 MINUTES CALL A NEONATAL EMERGENCY**

**Emergency or life threatening situation e.g. Not breathing, or fitting.**

**NEONATAL EMERGENCY**
- Dial 2222 and state Neonatal Emergency
  (5E1, 5E2, 8E may use designated Red Phone)
- Give location + room number
- In Birth Centre: activate Neonatal Emergency buzzer then DW staff will respond as above

**IF NO RESPONSE WITHIN 3 MINUTES REPEAT CALL ON 2222**

RPA Women and Babies: Neonatal CERS June 2018

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13.2 ISBAR Communication Tool

14. References

- Clinical Excellence Commission, NSW Health between the Flags: Keeping patients safe. October 2008

14.1 NSW Health Policies

- NSW Health, Recognition and management of patients who are clinically deteriorating PD2013_049

14.2 National Standard

- Standard 1 Governance for Safety and Quality in Health Service Organisations
- Standard 9: Recognising and responding to clinical deterioration in acute health care

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