Early Warning Score (EWS)

Purpose

Use of an Early Warning Score (EWS) assists with the recognition and appropriate response to the patient at risk of clinical deterioration as well as a clinically deteriorating patient. The EWS is a support to skilled clinical assessment, decision making and plan of care.

An Early Warning Score must be used for all patients within a hospital setting when recording vital signs for:
- Early detection of detrimental changes.
- Safe, timely, effective management of care in response to a patient’s deteriorating condition.

The EWS is to be communicated between staff when transferring patients between areas and with requests for clinical assistance.

Specialist areas that do not use EWS routinely are required to calculate an EWS for safe transfer.

Vital signs observation charts will contain the appropriate EWS tool.

Types of early warning scores in use

- The New Zealand Early Warning Score (NZEWS) is a nationally standardised scoring tool designed for adults. For the present the NZEWS is intended for adult non-maternity patients only.
- Maternity patients use The New Zealand National Maternity Early Warning System (MEWS). The MEWS should be used for all pregnant women of any gestation including up to 6 weeks after birth.
- Paediatric patients up to 15 years of age, use the age appropriate Paediatric EWS (PEWS).
- Neonates; babies born in CWH and CDHB primary birthing units use the new-born Observation Chart (NOC) which incorporates the New-born Early Warning Score (NEWS).
- For the purposes of this policy when the term EWS is used, this encompasses the EWS, MEWS, PEWS, NEWS.

Applicability

All CDHB or contracted clinical staff (e.g. Agency nursing staff, Lead Maternity Carers with CDHB access agreement).

Definitions

Early Warning Score Parameters

Adult patients

For an adult patient, the following observations/symptoms must be recorded to obtain an accurate NZEWS:
- Respiratory rate calculated over 1 minute
- Presence or absence of oxygen therapy
- Oxygen saturation % (SpO₂)
- Heart rate for at least ½ minute
- Blood pressure using appropriate cuff and calibrated equipment
- Level of consciousness using AVPU (alert, voice, pain, unresponsive)
- Temperature (using a consistent site and method)
Pregnant women (of any gestation including up to 6 weeks after birth)
For a maternity patient, the following observations / symptoms must be recorded to obtain an accurate MEWS:

- Respiratory rate calculated over 1 minute
- Supplemental oxygen administration (L/min)
- Oxygen saturation % (SpO₂)
- Heart rate for at least ½ minute
- Blood pressure
- Temperature (using a consistent site and method)
- Level of consciousness (normal or abnormal)

Paediatric patients
For a paediatric patient the following observations / symptoms must be completed on admission to obtain accurate PEWS. Subsequent observation requirements are determined by the PEWS management plan, the Nursing Observations and Monitoring Policy [Ref 239155] and/or as indicated by the paediatric medical team.

- Respiratory rate calculated over 1 minute
- Respiratory distress score
- Oxygen saturation % (SpO₂)
- Heart rate for at least ½ minute
- Blood pressure
- Level of consciousness using AVPU (alert, voice, pain, unresponsive)
- Capillary refill time

Note: Whilst temperature is not included in the PEWS, a baseline temperature recording is taken on admission and four hourly thereafter for an inpatient if within normal limits.

Neonates
For neonates during the immediate post-natal period (1-2 hours) post birth and then at 24 hours, the following should be observed and recorded on the New-born Observation Chart and a NEWS calculated:

- Respiratory rate calculated over 1 minute
- Work of Breathing
- Temperature
- Heart rate calculated over a minute
- Colour
- Behaviour / Feeding

All babies should be assessed against the risks for deterioration as outlined on the New-born Observation Chart and if identified to be at risk then observations and NEWS are performed as instructed and care escalated as required.

Education and training
All staff within the scope of this procedure must have completed relevant clinical training on the EWS score, escalation and response.

Education should be guided by the EWS decision tree.
Early Warning Score Procedure Clinical staff responsibilities

Clinical staff responsibilities
All patients must have a clinically appropriate plan of care documented, including frequency of monitoring of vital signs, any limitations or ceiling of care and any modification to the response pathway.

Staff must be able to perform their responsibilities within this procedure.

1. **Recognition: Activation**
   - 1.1. Provide adequate privacy and ensure informed consent
   - 1.2. Take the vital signs using appropriate techniques, where applicable inform the patient or caregiver of the results and record
   - 1.3. Using appropriate EWS, check for EWS triggers, and in the absence of Patientrack calculate the score and record.
   - 1.4. Check clinical record for relevant treatment goals and/or plan of care
   - 1.5. If escalation pathway triggered, activate according to the response pathway zone colour and follow plan.
   - 1.6. Care for patient, record and act on vital signs as per the EWS zone colour and clinical protocols while awaiting review.
   - 1.7. Record activation in clinical progress notes or where Cortex is available on the Patient Deterioration Form.
   - 1.8. For adults (except maternity), use of the NZEWS activation template is mandatory if a clinical review is requested.
   - 1.9. For maternity patients, use of the Activation of MEWS Pathway sticker (Ref: [2311278](#),) or digital equivalent whenever discussion or further review is requested.

**Note:** The EWS does not replace clinical judgement. Should a clinician or family member be concerned in the absence of a high EWS consider medical review. Within inpatient areas where Kōrero Mai – Patient Family Escalation has been implemented, staff are to support families with escalating care at their request and responding as applicable.

2. **Response: Escalation**
   - 2.1. Respond according to the escalation pathway, clinical plans and clinical judgement
   - 2.2. Record the response in the clinical notes (using the appropriate response template):
     - a. The EWS triggers and zone
     - b. Date and time of review
     - c. Assessment, decisions and management plan including vital sign frequency (if contrary to the EWS pathway recommendations), follow up, higher level of care needs, treatment limitations and ceiling of care
     - d. Staff notified and consulted
     - e. If a follow up review is required, indicate the timeframe for the review to prevent further patient clinical deterioration.
     - f. If a Senior Medical Officer or Registrar modifies the EWS, the reason is recorded, and the modification must be reviewed by the patient’s Home Team in the am the next day (12 noon at the latest).
3. Communication / handover/ transfer of care requirements
Any pathway communication / handover or transfer of care with other staff is provided using ‘Identity, Situation, Background, Assessment, Response’ (ISBAR) communication method stating the:

a. Patient’s condition / diagnosis
b. Patient’s EWS
c. The parameters that drove the score
d. The actions already been taken
e. Repeat back the plan of action to take following the communication i.e. repeat EWS in set timeframe and contact medical staff again as required.

Measurement / Evaluation
Use of early warning system One System Dashboard in clinical governance meetings; regular audit of adherence of the EWS system conducted in areas using the CDHB EWS / MEWS / PEWS / NEWS Audit tool; inclusion in morbidity and mortality meetings.
Evaluation can be guided by the EWS decision tree.

Associated material
CDHB Resources:
- Transfer of patients between hospitals.
- ISBAR handover / communication policy.
- Deteriorating Patient Activation and Response form document (Ref: 2406526) or digital equivalent

Healthlearn
- Deteriorating Patient Course (DP001)
- New Zealand Early Warning Score
- Paediatric Early Warning Score (PE001)
- MEWS – Maternity Early Warning Score (RGMY001)
- New-born Observation Chart with new-born Early Warning Score (RGMY002)

NZEWS Zone / Score (Ref: 2403999) (Appendix 1)

NZEWS site specific pathways (Appendix 2)
- Christchurch Ref: 2405744
- Burwood Ref: 2405791
- Hillmorton Ref: 2404730
- Ashburton Ref: 2406302

PEWS pathway (Appendix 5)
Nursing Observation and Monitoring - Paediatrics (Ref: 2405195)

EWS decision tree (Appendix 3)
MEWS site specific pathways (Appendix 4)
- Christchurch Women’s Hospital (Maternity, Birthing Suite, Maternity Assessment Unit, Women’s Outpatient Department) (Ref: 2406285)
- Primary Units (Ashburton, Lincoln, Kaikoura, Darfield, Rangiora) (Ref: 2406474)
- St. Georges maternity Ref: (2406789)
- Activation of MEWS Pathway sticker (Ref: 2404638)
- Minimum Frequencies of Observations for Maternity Early Warning Score (MEWS) Chart (Ref: 2404636)
Clinical policies and procedures
Early Warning Score

NOC/NEWS (Appendix 6)

- CDHB New-born Observation Chart 6676 (Ref: 2401230)
- CDHB New-born Record QMR0044 (Ref: 2400438)
- Observation of mother and baby in the immediate postnatal period: consensus statements guiding practice, MOH, (July 2012)

Kōrero Mai - Patient Family Escalation - “Are you Concerned” Signage (Ref: 2407406, 2406997, 2406998).
Shared Goals of Care Document (Ref: 2406924)

Appendix One: NZEWS Zone calculator

<table>
<thead>
<tr>
<th>Canterbury DHB NZEWS Score calculator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Respiratory Rate</strong></td>
</tr>
<tr>
<td><strong>SpO₂</strong></td>
</tr>
<tr>
<td>≤ 91</td>
</tr>
<tr>
<td><strong>Supplemental O₂</strong></td>
</tr>
<tr>
<td>YES</td>
</tr>
<tr>
<td><strong>Temperature</strong></td>
</tr>
<tr>
<td>≤ 34.9</td>
</tr>
<tr>
<td><strong>Systolic Blood Pressure</strong></td>
</tr>
<tr>
<td>≤ 69</td>
</tr>
<tr>
<td><strong>Heart Rate</strong></td>
</tr>
<tr>
<td>≤ 39</td>
</tr>
<tr>
<td><strong>Level of Consciousness</strong></td>
</tr>
<tr>
<td>Alert</td>
</tr>
</tbody>
</table>

| Total EWS Score Zone                  |
| Add up score from table above        |
| **YELLOW ZONE** – EWS 1-5            |
| **ORANGE ZONE** – EWS 6-7 Or any single RED parameter |
| **RED ZONE** – EWS 8-9                |
| **BLUE ZONE** – EWS 10+ Or any single BLUE parameter |

Ref: 239115  Authorised by: Director Quality and Patient Safety  April 2019
## Appendix two: CDHB NZEWS site specific response pathways

<table>
<thead>
<tr>
<th>Christchurch Campus NZEWS pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>If serious clinical concern activate clinical emergency</strong></td>
</tr>
<tr>
<td><strong>Patient/family/whānau concerns – listen, discuss &amp; consider review</strong></td>
</tr>
<tr>
<td><strong>Always check if current observations are expected within the treatment plan</strong></td>
</tr>
<tr>
<td><strong>YELLOW ZONE EWS 1-5</strong></td>
</tr>
<tr>
<td>- Manage pain, fever, distress</td>
</tr>
<tr>
<td>- Observe trends, and determine what is driving the score</td>
</tr>
<tr>
<td>- Escalate to NIC if concerned or rapid/significant change of NZEWS score</td>
</tr>
<tr>
<td>- Consider increasing frequency of obs</td>
</tr>
<tr>
<td><strong>ORANGE ZONE EWS 6-7</strong></td>
</tr>
<tr>
<td>Or any single RED parameter</td>
</tr>
<tr>
<td>Actions as above, and:</td>
</tr>
<tr>
<td>- Discuss with NIC</td>
</tr>
<tr>
<td>- Escalate to CTC or house surgeon if unexpected/new episode of deterioration</td>
</tr>
<tr>
<td><strong>At risk</strong></td>
</tr>
<tr>
<td>- Increase frequency of obs to q30-60 mins until medical assessment</td>
</tr>
<tr>
<td><strong>RED ZONE EWS 8-9</strong></td>
</tr>
<tr>
<td>Actions as above, and:</td>
</tr>
<tr>
<td>- Inform NIC and CTC</td>
</tr>
<tr>
<td>- Increase frequency of obs to q30 mins until medical assessment</td>
</tr>
<tr>
<td>- Senior RMO bedside review within 20mins</td>
</tr>
<tr>
<td><strong>Sick</strong></td>
</tr>
<tr>
<td>- Nurse to stay with patient for initial medical assessment</td>
</tr>
<tr>
<td>- Escalate to ICU if not improving</td>
</tr>
<tr>
<td><strong>BLUE ZONE EWS 10+</strong></td>
</tr>
<tr>
<td>Or any single BLUE parameter</td>
</tr>
<tr>
<td>Actions as above, and:</td>
</tr>
<tr>
<td>- Immediate Senior RMO and ICU outreach review</td>
</tr>
<tr>
<td>- Stay with Patient</td>
</tr>
<tr>
<td>- Q15-30min obs until medical assessment</td>
</tr>
<tr>
<td><strong>Critical</strong></td>
</tr>
<tr>
<td>- Consider Clinical Emergency activation</td>
</tr>
</tbody>
</table>

**Document assessment, plan, interventions, criteria & time for review**
# Burwood Campus NZEWS pathway

If serious clinical concern activate clinical emergency

## Patient/family/whānau concerns – listen, discuss & consider review

Always check if current observations are expected within the treatment plan

| YELLOW ZONE EWS 1-5 | • Manage pain, fever, distress  
|• Observe trends, and determine what is driving the score  
|• Escalate to NIC if concerned or rapid change of NZEWS score  
|• Consider increasing frequency of obs |

| ORANGE ZONE EWS 6-7 | Actions as above, and:  
|• Discuss with NIC  
|• Escalate to CTC or house surgeon if unexpected/new episode of deterioration  
|• Increase frequency of obs to q30-60 mins until assessed |

| RED ZONE EWS 8-9 | Actions as above, and:  
|• Inform NIC and CTC  
|• Increase frequency of obs to q30mins  
|• Registrar review within 20mins  
|• Nurse to stay with patient for initial medical assessment  
|• Registrar to consult with SMO |

| BLUE ZONE EWS 10+ | Actions as above, and:  
|• Activate Clinical Emergency  
|• Stay with patient |

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Document assessment, plan, interventions, criteria & time for review
### Specialist Mental Health NZEWS pathway

**If serious clinical concern activate clinical emergency**

**Patient/family/whānau concerns – listen, discuss & consider review**

Always check if current observations are expected within the treatment plan

<table>
<thead>
<tr>
<th>YELLOW ZONE EWS 1-5</th>
<th>Actions:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Manage pain, fever or distress</td>
</tr>
<tr>
<td></td>
<td>• Escalate to NIC if concerned</td>
</tr>
<tr>
<td></td>
<td>• Consider increasing frequency of obs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ORANGE ZONE EWS 6-7</th>
<th>Actions as above, and:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Or any single RED parameter</td>
<td>• Discuss with NIC</td>
</tr>
<tr>
<td></td>
<td>• Increase frequency of obs</td>
</tr>
<tr>
<td></td>
<td>• Escalate to House Surgeon / *CTC if concerned</td>
</tr>
</tbody>
</table>

**At risk**

<table>
<thead>
<tr>
<th>RED ZONE EWS 8-9</th>
<th>Actions as above, and:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Inform NIC and *CTC</td>
</tr>
<tr>
<td></td>
<td>• Increase frequency of obs to q15-20 mins until medical assessment</td>
</tr>
<tr>
<td></td>
<td>• House Surgeon or Registrar review within 20 mins (TPMH After Hours: CTC to discuss with Reg or HS on call re plan/transfer to ED)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sick</th>
<th>Nurse to stay with patient for initial medical assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Registrar to discuss review with medical SMO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BLUE ZONE EWS 10+</th>
<th>Actions as above, and:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Or any single BLUE parameter</td>
<td>• Stay with Patient</td>
</tr>
<tr>
<td></td>
<td>• Continuous observations</td>
</tr>
<tr>
<td></td>
<td>• Activate Medical Emergency procedure</td>
</tr>
</tbody>
</table>

**Critical**

Document assessment, plan, interventions, criteria & time for review

* Call CTC between 4pm-11pm; 7am – 11pm weekends. Otherwise call DNM.
<table>
<thead>
<tr>
<th>Ashburton Hospital NZEWS pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>If serious clinical concern activate clinical emergency</strong></td>
</tr>
<tr>
<td><strong>Patient/family/whānau concerns – listen, discuss &amp; consider review</strong></td>
</tr>
<tr>
<td><strong>Always check if current observations are expected within the treatment plan</strong></td>
</tr>
<tr>
<td><strong>YELLOW ZONE EWS 1-5</strong></td>
</tr>
<tr>
<td>- Manage pain, fever or distress</td>
</tr>
<tr>
<td>- Observe trends, and determine what is driving the score</td>
</tr>
<tr>
<td>- Escalate to NIC if concerned or rapid change of NZEWS score</td>
</tr>
<tr>
<td>- Consider increasing frequency of obs</td>
</tr>
<tr>
<td><strong>ORANGE ZONE EWS 6-7</strong></td>
</tr>
<tr>
<td>Or any single RED parameter</td>
</tr>
<tr>
<td>Actions as above, and:</td>
</tr>
<tr>
<td>- Discuss with NIC/shift leader and DNM*</td>
</tr>
<tr>
<td>- Escalate to RMO/DNM* if concerned unexpected / new episode of deterioration (DNM* to facilitate RMO review afterhours)</td>
</tr>
<tr>
<td><strong>At risk</strong></td>
</tr>
<tr>
<td>- Increase frequency of obs to q30-60 mins until assessed</td>
</tr>
<tr>
<td><strong>RED ZONE EWS 8-9</strong></td>
</tr>
<tr>
<td>Actions as above, and:</td>
</tr>
<tr>
<td>- Inform NIC / Shift leader / DNM*</td>
</tr>
<tr>
<td>- Increase frequency of obs to q15-30 mins until assessed</td>
</tr>
<tr>
<td>- Review by RMO/DNM* within 30mins (DNM* to facilitate RMO review afterhours)</td>
</tr>
<tr>
<td><strong>Sick</strong></td>
</tr>
<tr>
<td>- Nurse to consider staying with patient for initial medical assessment</td>
</tr>
<tr>
<td>- Any concerns activate clinical emergency</td>
</tr>
<tr>
<td><strong>BLUE ZONE EWS 10+</strong></td>
</tr>
<tr>
<td>Or any single BLUE parameter</td>
</tr>
<tr>
<td>Actions as above, and:</td>
</tr>
<tr>
<td>- Activate Clinical Emergency</td>
</tr>
<tr>
<td>- Stay with patient</td>
</tr>
<tr>
<td>- Q15 min obs until medical assessment</td>
</tr>
<tr>
<td><strong>Critical</strong></td>
</tr>
<tr>
<td>- Duty RMO to discuss with responsible team</td>
</tr>
</tbody>
</table>

Document assessment, plan, interventions, criteria & time for review

* after hours are 1500-0800 and weekends

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**Owner:** Director Quality and Patient Safety  
**Authoriser:** Clinical Director, Service Improvement  
**Ref:** 2404057  
**Issue date:** 23 February 2021  
**EDMS version is authoritative.**
Appendix three: EWS decision tree

EWS Decision Tree

Observation with raised EWS score

Are observations within treatment plan and goals of care?

Yes

Do family/whānau wish to escalate?

Yes

Is there a nursing concern?

Yes

Ask for help
Escalate for review
Document treatment plan

Think:
- Sepsis / Infection
- Acute Kidney Injury
- Dehydration
- Pain / Anxiety
- Positioning
- Comorbidities
- Pharmacology

Consider:
- Vital sign trends
- Inspecting wounds, drains, devices, catheters
- Performing a bladder scan
- Increasing frequency of observations
- Commencing a fluid balance chart
- Talking to family / whānau

No

No

No

Care as planned

No

Is a clinical emergency imminent?

Yes

ACTIVATE CLINICAL EMERGENCY

Communicate:
- Ask for help
- Document actions & decisions
- EWS stickers / Cortex
- Update care plans
- Discuss with patient
- Handover to colleagues

Authorised by the NZEWS working group April 2019.
Appendix four: Modified Early Obstetric Warning (MEWS) Management Protocol Score and management/response

Christchurch Women’s Hospital
(Maternity, Birthing Suite, Maternity Assessment Unit, Women’s Outpatient Department)

<table>
<thead>
<tr>
<th>MEWS 1-4</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Manage pain, fever or distress</td>
<td></td>
</tr>
<tr>
<td>- Consider escalation to Midwife/Nurse-in-Charge</td>
<td></td>
</tr>
<tr>
<td>- Consider escalation with House Officer/Registrar</td>
<td></td>
</tr>
<tr>
<td>- Consider increasing frequency of observations</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MEWS 5-7</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Midwife/Nurse-in-Charge review within 30 minutes</td>
<td></td>
</tr>
<tr>
<td>- Registrar review within 30 minutes</td>
<td></td>
</tr>
<tr>
<td>- Increase observation frequency to at least q30 minutes</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MEWS 8-9</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Midwife/Nurse-in-Charge review within 20 minutes</td>
<td></td>
</tr>
<tr>
<td>- Registrar review within 20 minutes</td>
<td></td>
</tr>
<tr>
<td>- Call SMO if Registrar not available</td>
<td></td>
</tr>
<tr>
<td>- Call ICU outreach if not improving</td>
<td></td>
</tr>
<tr>
<td>- Increase observation frequency to at least q25 minutes</td>
<td></td>
</tr>
<tr>
<td>- Consider transfer to a higher acuity area</td>
<td></td>
</tr>
<tr>
<td>- One to one care</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MEWS 10+</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Stay with patient</td>
<td></td>
</tr>
<tr>
<td>- Support ABC and manually displace uterus if visibly pregnant</td>
<td></td>
</tr>
<tr>
<td>- Activate clinical emergency, eg. Green button: Adult Emergency Team Women's Hospital Call 777: Obstetric Emergency Team</td>
<td></td>
</tr>
</tbody>
</table>

A full set of vital signs with corresponding MEWS must be taken and calculated each time at the frequency stated in policy. If there is no timely response to your request for review, escalate to the next coloured zone.
CDHB Primary Community Maternity Units (Ashburton, Lincoln, Kaikoura, Darfield, Rangiora)

This chart is for pregnant or recently pregnant women only (within 42 days)

**Escalate Care For:**
- Any woman you, they or their family are worried about, regardless of vital signs or Early Warning Score
- Acute Fetal Concern

<table>
<thead>
<tr>
<th>Mandatory escalation pathway - maternity</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternity Early Warning Score (MEWS)</td>
<td></td>
</tr>
</tbody>
</table>
| MEWS 1-4                                 | • Manage pain, fever or distress  
• Consider escalation with Registrar on call at CWH if concerned  
• Consider increasing frequency of observations |
| MEWS 5-7                                 | Actions as above, and:  
• Discuss need to transfer to CWH with on-call Registrar and ACMM  
• Prepare for acute transfer to CWH |
| Acute illness or unstable chronic disease | • Increase observation frequency to at least q30 minutes  
• Available staff/LMC to assist |
| MEWS 8-9 or any vital sign in pink zone  | Actions as above, and:  
• Arrange acute transfer to CWH  
Call 1-0800 262 665: Option 1  
- life threatening  
Call 777: Obstetric emergency team |
| Likely to deteriorate rapidly             | • Increase observation frequency to at least q15 minutes  
• One to one care |
| MEWS 10+ or any vital sign in blue zone  | Actions as above, and:  
• Arrange acute transfer to CWH  
Call 1-0800 262 665: Option 1  
- life threatening  
Call 777: Obstetric emergency team |
| Immediately life threatening critical illness | • Stay with patient  
• Support ABC and manually displace uterus if visibly pregnant |

A full set of vital signs with corresponding MEWS must be taken and calculated each time at the frequency stated in policy. If there is no timely response to your request for review, escalate to the next coloured zone.
### St. George’s Maternity Unit

**THIS CHART IS FOR PREGNANT OR RECENTLY PREGNANT WOMEN ONLY (WITHIN 42 DAYS)**

**ESCALATE CARE FOR:**
- ANY WOMAN YOU, THEY OR THEIR FAMILY ARE WORRIED ABOUT, REGARDLESS OF VITAL SIGNS OR EARLY WARNING SCORE
- ACUTE FETAL CONCERN

<table>
<thead>
<tr>
<th>Mandatory escalation pathway - maternity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternity Early Warning Score (MEWS)</td>
<td>Action</td>
</tr>
</tbody>
</table>
| MEWS 1-4                                | • Manage pain, fever or distress  
• Consider escalation with Registrar on call at CWH if concerned  
• Consider increasing frequency of observations |
| MEWS 5-7                                | Actions as above, and:  
• Discuss need to transfer to CWH with on-call Registrar and ACMM  
• Prepare for acute transfer to CWH  
• Increase observation frequency to at least q30 minutes  
• Available staff/LMC to assist |
| Acute illness or unstable chronic disease |  |
| MEWS 8-9 or any vital sign in pink zone | Actions as above, and:  
• Arrange acute transfer to CWH  
Call 1-0800 262 665: Option 1  
- life threatening  
Activate clinical emergency - speak with Obs Registrar on call  
• Increase observation frequency to at least q15 minutes  
• One to one care |
| Likely to deteriorate rapidly            |  |
| MEWS 10+ or any vital sign in blue zone | Actions as above, and:  
• Arrange acute transfer to CWH  
Call 1-0800 262 665: Option 1  
- life threatening  
Activate clinical emergency - speak with Obs Registrar on call  
• Stay with patient  
• Support ABC and manually displace uterus if visibly pregnant |
| Immediately life threatening critical illness |  |

A full set of vital signs with corresponding MEWS must be taken and calculated each time at the frequency stated in policy. If there is no timely response to your request for review, escalate to the next coloured zone.
Appendix five: Paediatric Early Warning Score (PEWS) Management Protocol Score and management / response

**Calculating PEWS scores:**

- **On admission:** When patient deteriorates
- **On transfer between clinical areas:** For observations outside the range of the graph, write as a number
- **SpO2:** To be written as a number

**Minimum standards for observations as per Vol. Q to be followed:**

**Variance to PEWS**

If abnormal ranges are expected for a child’s clinical condition, please specify accepted parameters:

- **SpO2:** Desired levels
- **Heart Rate:** Desired levels
- **Systolic Blood Pressure:** Desired levels

**Respiratory Distress Score**

Score 1-3 mild, moderate or severe depending on the degree of increased respiratory effort. Clinical indicators that describe increased effort include:

- Chest recession
- Accessory muscle use
- Head bobbing
- Nasal flaring
- Tachypnea
- Stridor

**Indicators** will vary with each patient.

**Visual Phlebitis Score**

- **Score:** 0 No symptoms
- **1:** Erythema at insertion site with or without pain
- **2:** All of the above plus palpable cord
- **3:** All of the above plus Streak formation &/or palpable cord
- **4:** All of the above plus varices and diaphoresis

**Oxygen Delivery Method**

- **HF:** High Flow Nasal Oxygen (score % O2)
- **HP:** High Pressure Oxygen (score % O2)
- **AC:** Adult Mask CPAP (score % O2)
- **BU:** BP roller
- **BD:** Bi-Phasic Driver CPAP (score % O2)

**Paediatric Early Warning Score (PEWS) Management Plan**

PEWS is a tool and does not replace sound clinical judgement - IF CONCERNED AT ANY TIME seek medical review even if patient’s score does not trigger management plan. Use IEBAR Format to communicate with medical staff re change in patients condition.

**Score 1 - 3**: If respiratory or cardiac arrest is imminent

- **Notification:** Notify nurse in charge
- **Actions:** 
  - Calculate PEWS score
  - Initiate treatment
  - Notify RMO and discuss patient’s condition

**Score 4 - 5**:unless risk of deterioration is significant

- **Notification:** Notify nurse in charge
- **Actions:** 
  - Calculate PEWS score
  - Initiate treatment
  - Restart phone line
  - Notify RMO and discuss patient’s condition

**Score 6 - 7**: Unless initial response unsuccessful

- **Notification:** Notify nurse in charge
- **Actions:** 
  - Calculate PEWS score
  - Review plan which includes time frame & criteria for review
  - Recalculate PEWS
  - Consider PHSU

**Score 8 +**

- **Notification:** Notify nurse in charge
- **Actions:** 
  - Calculate PEWS score
  - Review plan which includes time frame & criteria for review
  - Recalculate PEWS
  - Consider PHSU

**Call a Clinical Emergency immediately**

- If respiratory or cardiac arrest is imminent
- Any observations in E. Zone
- Major Bleeding
- Airway threat

**Request urgent review if**

- Any unexpected seizure
- Skin has increased by >4 in last hour
- Nurse concerned about patient

**FLACC Scale (Children < 5y)**

<table>
<thead>
<tr>
<th>Item</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>0 No particular expression or smile</td>
</tr>
<tr>
<td>1</td>
<td>Distressed or Frowning, mouth open, diaphoresis</td>
</tr>
<tr>
<td>2</td>
<td>Frequent to constant cry, avoid contact or touch</td>
</tr>
<tr>
<td>Legs</td>
<td>0 Normal position or relaxed</td>
</tr>
<tr>
<td>1</td>
<td>Unusual, restless, tensed</td>
</tr>
<tr>
<td>2</td>
<td>Kicking, or leg drawn up</td>
</tr>
<tr>
<td>Activity</td>
<td>0 Sitting quietly, normal position, moves easily</td>
</tr>
<tr>
<td>1</td>
<td>Squirming, lifting leg and feet, turn</td>
</tr>
<tr>
<td>2</td>
<td>Arching, rigid, or jerking</td>
</tr>
<tr>
<td>Cry</td>
<td>0 No cry (tactile or thermal)</td>
</tr>
<tr>
<td>1</td>
<td>Moans or whimpers, occasional complaints</td>
</tr>
<tr>
<td>2</td>
<td>Crying already, occasionally or acutely</td>
</tr>
</tbody>
</table>

**COMMITMENT**

1. Communicate by occasional touching, hugging, or holding to reduce distress; difficult to control or comfort
## Appendix six: Guide of When to use the New-born Observation Chart and NEWS

### Complete Risk Assessment Below for All Babies

<table>
<thead>
<tr>
<th>Risk Assessment</th>
<th>Observation Requirements</th>
<th>Oxygen Sat. Monitoring</th>
<th>Blood Glucose Monitoring</th>
</tr>
</thead>
</table>
| All babies     | • At 0-2 and 24 hours post birth  
• Any time you or parent are concerned about baby | • Perform if concerned about baby or as per DHB policy  
• Perform if signs or symptoms hypoglycaemia/acidosis |  |
| ○ Intrapartum NICU gestation  
• SG/SOF/CRM with or without intrapartum antibiotics, or other sepsis risk | At 1 and 4 hours post birth  
• If birth less than 4 hours post intrapartum antibiotics, stay for 4 hours  
• If repeat lactate greater than 5 mmol/L, not for transfer |  
• At 1 and 4 hours with NEWS observations |  |
| ○ Mechanism exposure:  
• all fluids, thin, only if  
• less than 7% at 5 minutes or rescue needed |  |  
• Repeat lactate with pre-feed blood glucose at 5-4 hours postpartum  
• If glucose 2.0 mmol/L or above and lactate is below 3 step monitoring blood glucose |  |
| ○ Severe intrapartum fetal compromise, e.g., one or all of:  
• pH less than 7.1  
• IFN greater than 5 mins or resus greater than 10 mins  
• mucus greater than 10 mm  
• cords less than 7 @ 6 mins  
• cord lactate greater than 6 mmol/L | At 1 and 4 hours post birth  
• If repeat lactate greater than 5 mmol/L, not for transfer |  
• At 1 and 4 hours with NEWS observations |  |
| ○ Less than 27+0 weeks  
• Below 3rd centile weight on growth chart  
• Maternal diabetes (insulin off)  
• Other risk factors (e.g., limited amniotic fluid, fetal concern) | At 1, 4, 12, 24 hours post birth  
• Once between 12 and 24 hours |  
• At 1, 4, 24 hours post birth |  |
| Instrumental birth – vacuum and/or forceps, including forceps during caesarean section (risk for Subgaleal Haematoma) | Observations required:  
• NEWS, frequency:  
• O2, sat, frequency: |  |
| Any of the following:  
• Total vacuum extraction time less than 20 minutes  
• Uterus 5 pulls  
• No utopic attachment  
• Attempted Instrumental birth | At 1 and 4 hours post birth  
• Head circumstances at birth and repeat if head swelling occurs |  
• Perform at 4 hours |  |
| Any of the following:  
• Total vacuum extraction time more than 20 minutes  
• More than 3 pulls  
• 2 or more cephalic attachments  
• Fetal heart rate < 70 at 6 mins | At 1, 2, 4, 6, 8, 12 hours post birth  
• Head circumstances at birth and repeat if head swelling occurs  
• Per IMMEDIATE Neonatal/Path/Ob review if:  
• HR < 100 bpm  
• Resp < 60 or Ap WR |  
• Perform at 2 and 4 hours or if concerned about baby |  |

**Newborn Early Warning Score (NEWS) – Escalation Pathway**

1. Repeat in 1 hour if uncharacteristic, persistently abnormal, e.g., Apgam and discuss with Registrar/CNS-ANP/NP

2. Requires review within 30 minutes by Neonatal/Paediatric Registrar/CNS-ANP/NP

3. Requires immediate review by Registrar/CNS-ANP  
   • Consider emergency call to Neonatal Team (CWM 777)

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Owner: Director Quality and Patient Safety  
Authoriser: Clinical Director, Service Improvement  
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Applicability .............................................................................................................................................................1
Definitions ..................................................................................................................................................................1

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