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 % (SpO_2)
- 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 % (SpO_2)
- 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 % (SpO_2)
- 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*)

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

Canterbury DHB NZEWS Score calculator

	10+	**3**	**2**	**1**	**0**	**1**	**2**	**3**	**10+**
Resp rate	≤4	5 – 8		9 – 11	12 – 20		21 – 24	25 – 35	≥36
SpO₂		≤91	92 – 93	94 – 95	≥96				
Supplemental O₂			YES		NO				
Temp			≤ 34.9	35.0–35.9	36.0–37.9	38.0–38.9	≥39.0		
Sys BP	≤ 69	70 – 89	90 – 99	100 – 109	110 – 219			≥220	
Heart rate	≤39		40 – 49		50 – 89	90 – 110	111 – 129	130 – 139	≥140
Level of consciousness					Alert			Voice or Pain	Unresponsive or fitting
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

Christchurch 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/significant change of NZEWS score • Consider increasing frequency of obs
ORANGE ZONE EWS 6-7 Or any single RED parameter *At risk*	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 medical assessment
RED ZONE EWS 8-9 *Sick*	Actions as above, and: • Inform NIC and CTC • Increase frequency of obs to q30 mins until medical assessment • Senior RMO bedside review within 20mins • Nurse to stay with patient for initial medical assessment • Escalate to ICU if not improving
BLUE ZONE EWS 10+ Or any single BLUE parameter *Critical*	Actions as above, and: • Immediate Senior RMO and ICU outreach review • Stay with Patient • Q15-30min obs until medical assessment • Consider Clinical Emergency activation
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

Zone	Actions
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 Or any single RED parameter *At risk*	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 *Sick*	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+ Or any single BLUE parameter *Critical*	Actions as above, and: • Activate Clinical Emergency • Stay with patient

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

Zone	Actions
YELLOW ZONE **EWS 1-5**	Actions: • Manage pain, fever or distress • Escalate to NIC if concerned • Consider increasing frequency of obs
ORANGE ZONE **EWS 6-7** Or any single RED parameter *At risk*	Actions as above, and: • Discuss with NIC • Increase frequency of obs • Escalate to House Surgeon / *CTC if concerned
RED ZONE **EWS 8-9** *Sick*	Actions as above, and: • Inform NIC and *CTC • Increase frequency of obs to q15-20 mins until medical assessment • 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) • Nurse to stay with patient for initial medical assessment • Registrar to discuss review with medical SMO
BLUE ZONE **EWS 10+** Or any single BLUE parameter *Critical*	Actions as above, and: • Stay with Patient • Continuous observations • Activate Medical Emergency procedure

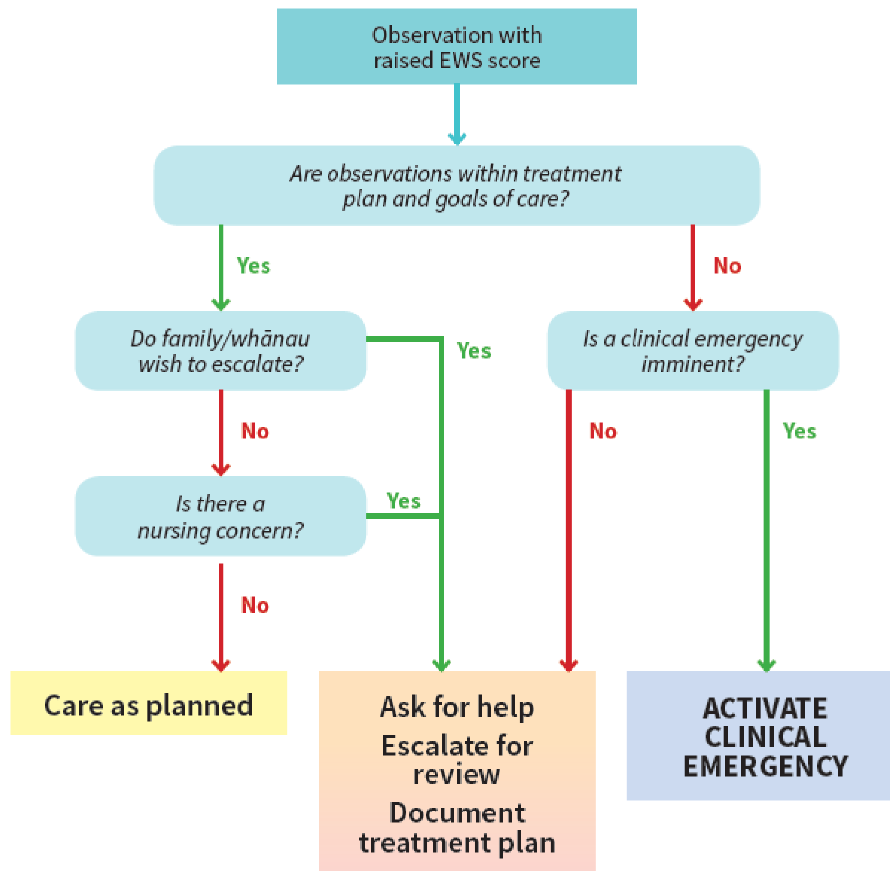
Document assessment, plan, interventions, criteria & time for review

* Call CTC between 4pm-11pm; 7am – 11pm weekends. Otherwise call DNM.

<table>
<tr><th colspan="2">Ashburton Hospital NZEWS pathway</th></tr>
<tr><td colspan="2">If serious clinical concern activate clinical emergency</td></tr>
<tr><td colspan="2">Patient/family/whānau concerns – listen, discuss & consider review</td></tr>
<tr><td colspan="2">Always check if current observations are expected within the treatment plan</td></tr>
<tr><td>YELLOW ZONE
EWS 1-5</td><td>• Manage pain, fever or 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</td></tr>
<tr><td>ORANGE ZONE
EWS 6-7
Or any single RED parameter</td><td rowspan="2">Actions as above, and:
• Discuss with NIC/shift leader and DNM*
• Escalate to RMO/DNM* if concerned unexpected / new episode of deterioration (DNM* to facilitate RMO review afterhours)
• Increase frequency of obs to q30-60 mins until assessed</td></tr>
<tr><td>At risk</td></tr>
<tr><td>RED ZONE
EWS 8-9</td><td rowspan="2">Actions as above, and:
• Inform NIC / Shift leader / DNM*
• Increase frequency of obs to q15-30 mins until assessed
• Review by RMO/DNM* within 30mins (DNM* to facilitate RMO review afterhours)
• Nurse to consider staying with patient for initial medical assessment
• Any concerns activate clinical emergency</td></tr>
<tr><td>Sick</td></tr>
<tr><td>BLUE ZONE
EWS 10+
Or any single BLUE parameter</td><td rowspan="2">Actions as above, and:
• Activate Clinical Emergency
• Stay with patient
• Q15 min obs until medical assessment
• Duty RMO to discuss with responsible team</td></tr>
<tr><td>Critical</td></tr>
<tr><td colspan="2">Document assessment, plan, interventions, criteria & time for review</td></tr>
</table>

* after hours are 1500-0800 and weekends

Appendix three: EWS decision tree



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 / whanau

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)

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**

Mandatory escalation pathway - maternity

Maternity Early Warning Score (MEWS)	Action	
MEWS 1-4	• Manage pain, fever or distress • Consider escalation to Midwife/Nurse-in-Charge • Consider escalation with House Officer/Registrar • Consider increasing frequency of observations	
MEWS 5-7 Acute illness or unstable chronic disease	Actions as above, and: • Midwife/Nurse-in-Charge review within 30 minutes • Registrar review within 30 minutes	• Increase observation frequency to at least q30 minutes
MEWS 8-9 *or* <u>any</u> vital sign in pink zone Likely to deteriorate rapidly	Actions as above, and: • Midwife/Nurse-in-Charge review within 20 minutes • Registrar review within 20 minutes • Call SMO if Registrar not available • Call ICU outreach if not improving	• Increase observation frequency to at least q15 minutes • Consider transfer to a higher acuity area • One to one care
MEWS 10+ *or* <u>any</u> vital sign in blue zone Immediately life threatening critical illness	Actions as above, and: • Stay with patient • Support ABC and manually displace uterus if visibly pregnant • Activate clinical emergency, eg. Green button: Adult Emergency Team Women's Hospital Call 777: Obstetric Emergency Team	

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**

Mandatory escalation pathway - maternity		
Maternity Early Warning Score (MEWS)	**Action**	
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 Acute illness or unstable chronic disease	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
MEWS 8-9 *or* <u>any</u> vital sign in pink zone Likely to deteriorate rapidly	Actions as above, and: • Arrange acute transfer to CWH Call 1-0800 262 665: Option 1 - life threatening Call 777: Obstetric emergency team	• Increase observation frequency to at least q15 minutes • One to one care
MEWS 10+ *or* <u>any</u> vital sign in blue zone Immediately life threatening critical illness	Actions as above, and: • Arrange acute transfer to CWH Call 1-0800 262 665: Option 1 - life threatening Call 777: Obstetric emergency team	• 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**

Mandatory escalation pathway - maternity		
Maternity Early Warning Score (MEWS)	**Action**	
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 Acute illness or unstable chronic disease	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
MEWS 8-9 *or* <u>any</u> vital sign in pink zone Likely to deteriorate rapidly	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
MEWS 10+ *or* <u>any</u> vital sign in blue zone Immediately life threatening critical illness	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

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:

Calculate a **full PEWS score:**
- on admission
- when patient deteriorates
- on transfer between clinical areas

For observations outside the range of the graph write as a number
SpO2 is to be written as a number

Minimum standards for observations as per Vol. Q to be followed. Variation away from this standard or the and/or the PEWS management plan is required to be documented in the nursing care plan or medical management plan.

Variance to PEWS

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

The patient should be reviewed if vital signs are outside documented parameters below

Respiratory Rate: SpO$_2$:

Heart Rate

Systolic Blood Pressure

Completed by: Doctor's Name: ....

Designation: ....

Signature: ....

Date:....../....../...... Time: ....

Respiratory Distress Score

Score as nil, 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, tracheal tug, sternal recession, grunting.

Indicators will vary with each patient

Visual Phlebitis Score

Score	IV Site
0	No symptoms
1	Erythema at insertion site with or without pain
2	All of the above plus oedema
3	All of the above plus streak formation/palpable cord
4	All of the above plus palpable venous cord ≥1cm and discharge

*Oxygen Delivery Method

NP = Nasal Prongs (Low Flow O$_2$)
M = Face Mask
R = Non-Rebreather Mask
HF = High Flow Nasal Oxygen (record % O$_2$)
AC = Adult/Mask CPAP (record % O$_2$)
BU = F&P Bubble CPAP (record % O$_2$)
FD = EME Flow-Driver CPAP (record % O$_2$)

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 ISBAR format to communicate with medical staff re change in patients condition.

Score 1 – 3

Notification
- Consider informing Nurse in charge

Actions
- Optimise appropriate treatment as prescribed
- Manage anxiety/pain
- Observations at least Q4H or more frequently if required
- Review oxygen requirement

Score 4 – 5

Notification
- Notify nurse in charge
- Notify RMO and discuss patient's condition

Actions
- Calculate full PEWS score
- Optimise treatment
- Plan to be formulated and documented including timeframe and criteria for review and frequency of observations
- Recalculate PEWS after interventions

Score 6 – 7

CHRISTCHURCH

Notification
- Notify nurse in charge
- Request registrar review - within 15 mins

Actions
- Calculate full PEWS score
- Observations minimum of Q1hr
- Document plan which includes time frame & criteria for review.
- Recalculate PEWS after interventions
- Consider PHDU

ASHBURTON WEST COAST/RURAL

Notification
- Notify nurse in charge
- Request RMO/MO review - within 15 mins

Actions
- Calculate full PEWS score
- Observations minimum of Q1hr
- Document plan which includes time frame & criteria for review.
- Recalculate PEWS after interventions
- Discuss with senior clinician covering paediatrics

Score 8 +

CHRISTCHURCH

Notification
- Request urgent registrar review
- Notify nurse in charge
- Registrar to notify consultant
- Consider ICU outreach – CNS pg 8073, Reg pg 8155

Actions
- Observations minimum of Q30min
- Transfer to PHDU
- Document plan which includes time frame and criteria for review
- Recalculate PEWS after interventions

ASHBURTON WEST COAST/RURAL

Notification
- Request MO/RMO review - within 15 mins
- MO/RMO contacts senior clinician covering paediatrics
- Notify nurse in charge

Actions
- Observations minimum of Q30min
- Recalculate PEWS after interventions
- Senior clinician to discuss with Chch Paediatrician
- Consider transfer to Chch Hospital

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
- Apnoea
- Unexpected seizure
- If score has increased by >4 in last hour
- Nurse concerned about patient

FLACC Scale (Children < 5y)

Score	Face	Legs	Activity	Cry	Consolability
0	No particular expression or smile	Normal position or relaxed	Lying quietly, normal position, moves easily	No cry (awake or alseep)	Content, relaxed
1	Grimace of Frown, withdrawn disinterested	Uneasy, restless, tense	Squirming, shifting back and forth, tense	Moans or whimpers, occasional complaints	Reassured by occasional touching, hugging, or 'talking to', distractible
2	Frequent to constant frown, clenched jaw quivering chin	Kicking, or legs drawn up	Arched, ridged, or jerking	Crying steadily, screams or sobs, frequent complaint	Difficult to consol or comfort

MEDISTOCK REF: 160370

Appendix six: Guide of When to use the New-born Observation Chart and NEWS

COMPLETE RISK ASSESSMENT BELOW FOR **ALL** BABIES

RISK ASSESSMENT	OBSERVATION REQUIREMENTS			
RISK Mark with a X all boxes ☐ that apply	**MINIMUM REQUIRED NEWS OBSERVATIONS** (respiratory rate, work of breathing, temperature, heart rate, colour, behaviour, feeding)		**OXYGEN SATS MONITORING** To be performed on either foot until stable	**BLOOD GLUCOSE MONITORING**
☐ **All babies**	• At 0-2 and 24 hours post birth • At 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 apparent
NOTE: prior to transfer (to a primary unit before 24 hours) a baby with risk factors must have a repeat NEWS of 0				
☐ **Intrapartum IV/IM opioid analgesia or general anaesthesia**	• At 1 and 4 hours post birth		• At 1 and 4 hours with NEWS observations	• Perform if signs or symptoms hypoglycaemia apparent
☐ **Maternal GBS/PROM with or without intrapartum antibiotics, or other sepsis risk (suspected or clinical chorioamnionitis, maternal temperature greater than 38°C, previous GBS baby)**	• At 1 and 4 hours post birth Then • 4 hourly for 24 hours	+ if birth less than 4 hours post intra-partum antibiotics, stay for 6 hours		
☐ **Meconium exposure:** • all thick, OR • thin, only if apgar less than 9 at 5 minutes or resus needed				
☐ **Severe intrapartum fetal compromise**, eg. one or all of: • pH less than 7.1 • IPPV greater than 5 mins or resus greater than 10 mins • apgar less than 7 @ 5 mins • cord lactate greater than 6 mmol/L	• At 1 and 3-4 hours post birth Then • 4 hourly for 24 hours	• If repeat lactate greater than 3 mmol/L not for transfer	• At 1 and 3-4 hours with NEWS observations	• Repeat lactate with pre-feed blood glucose at 3-4 hours postpartum • If glucose 2.6 mmol/L or above and lactate is below 3 stop monitoring blood glucose
☐ **Less than 37+0 weeks**	• At 1, 4, 12, 24 hours post birth		• Once between 12 and 24 hours	• 3 hourly before feeds until a total of 3 consecutive results are 2.6 mmol/L or above • When top-ups discontinued repeat blood glucose before next two feeds following last top up
☐ **Below 9th centile weight on growth chart**	• At 1, 4, 24 hours post birth			
☐ **Above 98th centile weight on growth chart**				
☐ **Maternal diabetes (infant of)**				
☐ **Other risks/concerns** *eg. limited antenatal care, feeding concern*	Observations required: ☐ NEWS, frequency: .... ☐ O_2 sats, frequency:			☐ Other: .... frequency: ....
Instrumental birth – vacuum and/or forceps, including forceps during caesarean section (risk for Subgaleal Haemorrhage)				
☐ **Any of the following:** • Total vacuum extraction time less than 20 minutes • Up to 3 pulls • No or 1 cup detachment • Attemped instrumental birth	• At 1 and 4 hours post birth • Head circumference 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 cup detachments • Apgar < 7 @ 5 mins	• At 1, 2, 4, 6, 8, 12 hours post birth • Head circumference at birth and repeat if head swelling occurs • For IMMEDIATE Neonatal/Paed review if: – HR > 160 bpm – Resp > 60 or ↑ WOB		• Perform at 2 and 4 hours or if concerned about baby	
☐ **At clinician's request** *Signature:*.................................... *Pager:*....................				

Record escalation of care communication and outcomes in clinical notes

MODIFICATIONS *(completed by Neonatal team only)*

Vital sign *use abbreviation*	Accepted values and modified NEWS	Date and time	Duration *hours*	Initial/surname /contact details
Reason:				
Reason:				
Reason:				

Newborn Early Warning Score (NEWS) – ESCALATION PATHWAY

Score	Action	Contact
1	• Repeat in 1 hour, if unchanged notify person in-charge, eg. ACMM, and discuss with Registrar/CNS-ANP/NP	08:30-16:30 page: 5039 After hours page: 5019
1a	• Reassess feeding as per feeding chart and discuss with snr MW. If no improvement escalate to Registrar/CNS-ANP/NP	
2	Requires review within 30 minutes by Neonatal/Paediatric Reg/CNS-ANP/NP	
3+	Requires immediate review by Registrar/CNS-ANP → Consider emergency call to Neonatal Team (CWH 777)	

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