STANDARD

All inpatients in acute hospital settings will have regular physiological observations completed and documented to monitor their health status.

For inpatients, these observations are used to calculate the Early Warning Score (EWS) or the Paediatric Early Warning Score (PEWS). If abnormal, these are acted upon using the SBARR system and as per the clinical response to EWS or PEWS triggers process.

For level of care required when transferring a patient refer to policy 6.4.1 protocol 1 Patient Transfer - Internal Hospital (Inter-Departmental) Transfer Standards

OBJECTIVE

This protocol is aimed to support the early recognition of patient deterioration and to support timely response by clinical staff.

EXCLUSIONS

1. The EWS will not be routinely used for observation and assessment within ICU / CCU, ED, Acute Care Units and PACU. The EWS should be recorded prior to discharge from these areas to another clinical area in order to provide a baseline for ongoing monitoring.
2. The PEWS will not be routinely used for observation and assessment within ED and PACU. The PEWS should be recorded prior to discharge from these areas to another clinical area in order to provide a baseline for ongoing monitoring. It will, however be used routinely in the Intensive Care / High Dependence Unit.
3. Patients on the Last Days of Life Care Pathway.
4. Other exceptions may be appropriate in individual circumstances e.g. physiological abnormalities due to long term conditions. This decision should be made by a consultant medical practitioner or the most senior doctor available and is documented in the patient's health record.

   ** Exclusion from this protocol does not mean that a patient should not be assessed. An individual plan should be documented for all those excluded from routine observations, e.g. assessment of symptom management within Last Days of Life pathway.*

ROLES AND RESPONSIBILITIES

Measuring, recording, interpreting and response to observations

1. It is the responsibility of medical and nursing staff to ensure that they are competent to measure, record and interpret observations. This requires knowledge of normal parameters, baseline parameters for the individual patient and target parameters according to the plan of care.
2. The staff member who identifies abnormal observations is responsible for escalation of information as per the response to Clinical Response to EWS / PEWS Triggers process. If there is any concern about a patient's observations these should always be reported to a senior healthcare professional.

SECTION 1: ADULT MONITORING AND OBSERVATION STANDARDS (EWS)

SECTION 2: PAEDIATRIC MONITORING AND OBSERVATION STANDARDS (PEWS)

SECTION 1: ADULT MONITORING PHYSIOLOGICAL OBSERVATIONS STANDARDS (EWS)

STEP	ACTION	RATIONALE
1	**Patient Consent** • Verbal informed consent is obtained from the patient prior to undertaking observations as per BOPDHB policy 1.1.1 protocol 1 Informed Consent - Standards.	• To ensure patient understands the reason for observations being undertaken.
2	**Routine Monitoring:** • All patients who are acutely admitted to hospital or who have been transferred from critical care area to a ward should have a minimum of 4 hourly observations recorded for the first 24 hours • All adult inpatients should have EWS observations (listed below) recorded on initial assessment and at least 12 hourly. • **EWS Observations -** use the Adult Observation Chart and Early Warning Score (EWS) OR Maternal Obstetric Early Warming Chart (8293) to document and calculate a EWS and, if abnormal (see back of chart), respond as per the Clinical Response to EWS Triggers process (Appendix 1). – **Respiratory Rate** - Breaths per minute - should be counted for 60 seconds and observation for abnormal respiratory effort undertaken. – **Oxygen Saturation** - Pulse oximetry percentage - %. Any supplemental oxygen is documented. – **Temperature** - Degrees Celsius – ^{o}C. – **Blood Pressure (BP)** – both systolic and diastolic is documented. Systolic is used for EWS assessment. Manual BP recording is required if there is identified abnormal automated BP result or concerns around accuracy, e.g. irregular heart rate**.** – **Heart rate** - beats per minute. If irregular, manually record radial or apical rate over a full minute. – **Level of Consciousness –** assessed using AVPU scale: ▪ **Alert –** fully awake (although not necessarily orientated). Spontaneous eye opening, response to voice (may be confused*) and will have voluntary motor function. ▪ **Voice -** patient responds when you talk to them, with either eye (e.g. opens eyes when you talk to them), vocal or motor response. ▪ **Pain** – response to pain stimulus. Patient may not be alert, or respond to voice and is likely to exhibit only withdrawal or involuntary response to stimulus. ▪ **Unresponsive** – no eye, voice or motor response to voice or pain. ***New onset confusion** – whilst not formally part of assessment should prompt increased assessment for potentially serious causes and urgent clinical evaluation including use of CAMS evaluation.	• To identify patients whose clinical condition is deteriorating or who are at risk of deterioration. • Frequency of observations should be increased according to a patients EWS score and / or changes in patient's condition.

STEP	ACTION	RATIONALE
	– **Urine Output** – If a patient has a EWS score of 5 or above a fluid balance chart recording input and measured output must be commenced. – **Pain score** (on movement – score 0 – 10)	• Urine output and pain scores are separate from the calculation of EWS but essential for assessment.
3	**Frequency of monitoring:** • The triggers for increasing frequency of observations are clinical concerns and / or the Clinical Response to EWS Trigger process (see Appendix 1)	• The EWS may not accurately represent the severity of illness in every situation. Therefore, regardless of the Clinical Response to EWS Trigger process, clinical staff may increase the frequency of observations, call for urgent review via task manager / pager or call a medical emergency (777) **if they are concerned** about a patient for any reason
4	**Documentation** • Frequency of patient observations is documented in the individual patient care plan and health record. • All observations are documented on the BOPDHB Adult Observation Chart and Early Warning Score (EWS)	• To ensure that all observations and assessments meet organisational documentation standards.

SECTION 2: PAEDIATRIC MONITORING PHYSIOLOGICAL OBSERVATIONS STANDARDS (PEWS)

STEP	ACTION	RATIONALE
1	**Caregiver / Parent / Patient Consent** • Verbal informed consent is obtained prior to undertaking observations as per BOPDHB policy 1.1.1 protocol 1 Informed Consent - Standards.	• To ensure that the caregiver / parent / patient understands the reason for observations being undertaken.
2	**Routine Monitoring:** • All patients who are acutely admitted to hospital or who have been transferred from critical care area to a ward should have a minimum of four (4) hourly observations recorded for the first 24 hours • All inpatients should have PEWS observations (listed below) recorded on initial assessment and at least 4 hourly. • **PEWS Observations -** use the Paediatric Early Warning Score (PEWS) to document and calculate a PEWS and, if abnormal, respond as per the Recommended actions based on PEWS Triggers process (Appendix 2). – **Respiratory Rate** - Breaths - should be counted for one minute and observation for abnormal respiratory effort undertaken. Infants and children less than six to seven years of age are predominantly abdominal breathers, therefore abdominal movements should be counted – **Respiratory Distress** – identified as Mild, Moderate-Severe, Very Severe as per the Guide to Level of Respiratory Distress for PEWS scoring on the PEWS chart – **Oxygen (L/min)** – as per the parameters and mode identified on the PEWS charts. Supplemental oxygen should be prescribed – **Oxygen Saturation** - Pulse oximetry percentage - %. Probe changes to be documented on the PEWS charts – **Heart rate** - beats per minute. A stethoscope should be used to auscultate the apex heart rate of children less than 2 years of age. Electronic data should be cross-checked by auscultation or palpation of the heart/pulse rate. Heart/pulse rates should be counted for one minute. – **Blood Pressure (BP)** –the systolic is required, however the diastolic (if attained) should also be documented. Systolic is used for PEWS assessment score. The arm should be used for measuring blood pressure, if this is not possible in infants, the lower leg can be used**.** Sucking, crying and eating can influence blood pressure measurements, these should be noted**.** Manual BP recording is the preferred mode, and is required if there is identified abnormal automated BP result or concerns around accuracy, e.g. irregular heart rate**.**	• To identify patients whose clinical condition is deteriorating or who are at risk of deterioration. • Frequency of observations should be increased according to a patients PEWS score and / or changes in patient's condition.

STEP	ACTION	RATIONALE
	– **Capillary Refill Time –** to be undertaken centrally for 5 seconds before releasing – **Level of Consciousness –** assessed using AVPU scale: ▪ **Alert –** fully awake (although not necessarily orientated). Spontaneous eye opening, response to voice (may be confused*) and will have voluntary motor function. ▪ **Voice -** patient responds when you talk to them, with either eye (e.g. opens eyes when you talk to them), vocal or motor response. ▪ **Pain** – response to pain stimulus. Patient may not be alert, or respond to voice and is likely to exhibit only withdrawal or involuntary response to stimulus. ▪ **Unresponsive** – no eye, voice or motor response to voice or pain. ***New onset confusion** – whilst not formally part of assessment should prompt increased assessment for potentially serious causes and urgent clinical evaluation. – **Urine Output** –documented on the Paediatric Fluid Balance chart (8171). As a guideline an average urine output of less than 2 mL / kg / hour for an infant, 1 mL / kg / hour for a child and 0.5 mL / kg for an adolescent / adult should be escalated as a concern and result in a clinical review. – **Pain score** (on movement – score 0 – 10).	• Urine output, temperature, pain scores and Staff/Family concern are separate from the calculation of PEWS but essential for assessment.
3	**Frequency of monitoring:** • The triggers for increasing frequency of observations are clinical concern and / or the Clinical Response to PEWS Trigger process (see Appendix 2) • Therefore, regardless of the Clinical Response to PEWS Trigger process, clinical staff may increase the frequency of observations or call a medical emergency (777) **if they are concerned** about a patient for any reason	• The PEWS may not accurately represent the severity of illness in every situation.
4	**Documentation** • Frequency of patient observations is documented in the individual patient care plan and health record. • All observations are documented on the BOPDHB Paediatric Early Warning Score (PEWS) age related charts, which are: – 0 - 11 months – 1 – 4 years – 5 - 11 years – 12+ years • Please note for adolescents > 15years of age the admitting team is to determine whether they require a PEWS or EWS chart	• To ensure that all observations and assessments meet organisational documentation standards.

REFERENCES

- Royal College of Physicians. *National Early Warning Score (NEWS): Standardising the assessment of acute illness severity in the NHS*. Report of a working party. London: RCP, 2012
- Heinemann M. et al; Automated versus Manual Blood Pressure Measurement: A Randomised Crossover Trial. Monash University, Australia
- Parshuram, C.P., Hutchinson, J., & Middaugh, K. (2009). *Development and initial validation of the Bedside Paediatric Early Warning System score.* Critical Care 13(4): 135
- Royal Children's Hospital (2012). *Observation and Continuous Monitoring Clinical Practice Guideline*, RCH: Melbourne
- Royal College of Nursing (2007). Standards for assessing, measuring and monitoring vital signs in infants, children and young people. RCN: London
- Starship Children's Hospital (2014). Observation and Monitoring of an Infant, Child or Young Person Document

ASSOCIATED DOCUMENTS

- Bay of Plenty District Health Board policy 7.104.1 Care Delivery - Nursing and Midwifery
- Bay of Plenty District Health Board policy 6.4.1 protocol 1 Patient Transfer - Internal Hospital (Inter-Departmental) Transfer Standards
- Bay of Plenty District Health Board Clinical Practice Manual protocol CPM.C2.1 Cardiopulmonary Resuscitation (CPR) - Basic Life Support - BOPDHB Level 4
- Bay of Plenty District Health Board Adult Observation Chart for Early Warning Score (EWS) - (145337) – *viewable only. Order through Design & Print Centre*
- Bay of Plenty District Health Board Maternal Obstetric Early Warning Chart (not for intra partum use) - 8293 – *viewable only. Order through Design & Print Centre*
- Bay of Plenty District Health Board Paediatric Early Warning Score Chart 0-11 months (8333) – *order through Oracle*
- Bay of Plenty District Health Board Paediatric Early Warning Score Chart 1-4 years (8334) – *order through Oracle*
- Bay of Plenty District Health Board Paediatric Early Warning Score Chart 5-11 years (8335) – *order through Oracle*
- Bay of Plenty District Health Board Paediatric Early Warning Score Chart 12+ years (8336) – *order through Oracle*

Appendix 1: Clinical Response to EWS trigger process

- The EWS is designed to identify patient deterioration and ensure appropriate early intervention.
- Practitioners should use their clinical judgement and seek advice if they have concerns about any patient, regardless of the EWS score.
- A medical emergency can be activated at any time according to clinical judgement.

OUTLINE OF CLINICAL RESPONSE TO EWS TRIGGERS

Total: 1 - 4

Frequency of monitoring
Minimum 4-6 hourly

Clinical response

- Inform Senior RN who must assess the patient;
- Decision if increased frequency of monitoring and / or escalation of clinical care is required;

Total: 5 or more OR 3 in one parameter

Frequency of monitoring
Increased frequency to a minimum of 1 hourly

Clinical response

- RN to urgently inform the medical team caring for the patient;
- Urgent assessment by medical team;
- Consider initiation of monitoring e.g. Telemetry;

Total: 7 or more

Frequency of monitoring
Continuous monitoring of vital signs

Clinical response

- RN to immediately inform the medical team caring for the patient by urgent page via switchboard and/or consider 777;
- Emergency assessment by medical team;
- Consider transfer to HDU or ICU; Discuss with ICU Consultant on-call

NOTES:

Call Medical Emergency 777 if patient rapidly deteriorating

Any major or rapid change in EWS call for urgent medical review

- All observations must be completed to obtain an EWS score
- Minimum frequency of monitoring is 12 hrly.
- EWS parameters for individual patients may be modified or discontinued only after discussion with consultant and registrar. Any changes must be documented in the patient's health record e.g. COPD patients requiring modification of respiratory parameters.
- For further information refer to Policy 7.104.1 Protocol 8 Care Delivery – Physiological Observation Standards For Inpatients (Adult)

Appendix 2: Clinical Response to PEWS trigger process

- The PEWS is designed to identify patient deterioration and ensure appropriate early intervention.
- Practitioners should use their clinical judgement and seek advice if they have concerns about any patient, regardless of the PEWS score.
- A medical emergency can be activated at any time according to clinical judgement.

Paediatric Early Warning Score

0	1	2	4	E
Score E = Place 777 Call				

Recommended actions based on PEWS

Total Score 0-3
- Notify nurse in charge at ward safety briefing
- Assess child and record PEWS 4 hourly
- Routine doctor review

Total Score 4-5
- Notify nurse in charge within 1 hour
- Assess child and record PEWS 1-2 hourly
- Doctor review within 4 hours

Total Score 6-7
- Notify nurse in charge immediately
- Assess child and record PEWS every 30-60 minutes
- Doctor review within 2 hours
- Senior doctor review within 4 hours
- Consider continuous monitoring
- Consider 777 call

Total Score 8+
- Notify nurse in charge immediately
- Assess child and record PEWS every 15 minutes initially then every 15-60 minutes after review
- Doctor review within 15 minutes
- Senior doctor review within 30 minutes
- Continuous monitoring
- Consider ICU review
- Consider 777 call

Recommended action for staff or family serious concern
- Discuss with nurse in charge immediately
- Consider doctor review
- Consider 777 call