Site Applicability

The British Columbia Pediatric Early Warning System (BC PEWS) assessment and documentation guidelines are applicable to all areas where BC PEWS has been implemented. This practice applies to all nurses providing care to pediatric patients in areas designated by the health authority.

Practice Level / Competencies

Conducting physical assessments, vital sign measurements and PEWS scoring are foundational level competencies of registered nurses (RN), licensed practical nurses (LPN) and registered psychiatric nurses (RPN). In areas where various levels of care providers (LPN, Care Aide, Student Nurses, Employed Student Nurses) are assigned to patients, care of a deteriorating patient will be assumed by the RN.

Guideline Purpose

The purpose of this document is to provide clear, standardized instructions for use of the BC PEWS Inpatient Flowsheet. The BC PEWS supports the early recognition, mitigation**,** notification and response to the pediatric patient identified to be at risk of deterioration.

Background

Failure to identify and intervene with pediatric patients experiencing clinical deterioration is a source of unintended harm; including death, disability, and prolonged hospital stays or readmission. Internationally, Pediatric Early Warning Systems (PEWS) assist direct care nursing staff with early identification and mitigation of deterioration. The BC PEW system has 5 components: 1) a score based on physiologic assessment that indicates the degree of risk of deterioration (Appendix A), 2) an escalation guide based on the score (Appendix B), 3) pediatric documentation records that include vital signs norms by age groupings (Appendix C), 4) prompts for identification of situational awareness factors and 5) a communication framework (Appendix D). These components of BC PEWS are designed to work together, with clinical judgement, to provide a standardized framework and language to aid in identification of potential risk or deterioration in a child, mitigate that risk, and/or escalate care as needed as early as possible.

It is important to remember PEWS is a system; it was designed so there is cumulative impact from using the various components together, alongside clinical judgement. For instance, for the purpose of identifying risk, the score provides a physiologic picture in the moment and a longitudinal picture when trended across time. However, the score will not capture contextual or situational factors surrounding the patient, nor the range of additional risks that may be noted from careful, systematic assessment or practitioner's clinical experience and judgement. Research and quality reviews demonstrate that scores alone may not capture, or only partially capture, risk for the following presentations: surgical risk; abnormal lab values; mental health concerns; changes in neurovital signs, or pain. In these instances, or when a practitioner has concerns about a patient's potential level of risk that is not reflected in the score, they should identify the patient as "watcher" patient to elevate the child's risk profile. In addition, a score will not capture the concerned voice of caregivers who knows what is typical for their child (**caregiver concern**) or **communication breakdowns** that prevent critical information from flowing to or between team members. Using the score alongside situational awareness factors, comprehensive assessment guided by the assessment records, and in conjunction with clinical judgement, heightens the team's recognition of the bigger picture of risk. Further, PEWS as a whole promotes the careful documentation, communication and timely mitigation of this risk.

Definitions

Pediatric Patient:

- In emergency departments (EDs) and health authority-funded health centres: children up to their 17th birthday (16 years + 364 days); and
- In inpatient settings: children up to their 17th birthday (16 years + 364 days); and for children receiving ongoing care up to their 19th birthday (18 years + 364 days).

Pediatric Early Warning System Score: Relevant patient assessment findings including cardiovascular, respiratory, behavioural parameters as well as persistent vomiting following surgery and use of bronchodilators every 20 minutes are collected, documented, and summated into a score. The score can be used to identify patient physical deterioration at a single point in time or through trend monitoring, to optimize chances for early intervention.

Situational Awareness: Awareness of the factors associated with the risk of pediatric clinical deterioration. For PEWS this consists of 5 risk factors: Patient/Family/Caregiver Concern, Watcher Patient, Communication Breakdown, Unusual Therapy, and PEWS Score 2 or higher.

Patient/Family/Caregiver Concern: a concern voiced about a change in the patient's status or condition (e.g. concern has the potential to impact immediate patient safety, family states the patient's condition is worsening or they are not behaving as they normally would).

"Watcher" Patient: a patient that you identify as requiring increased observations (e.g. unexpected responses to treatments, a child acting differently from their norm, surgical risk, abnormal lab results, abnormal neurovitals, an aggressive patient, a patient admitted involuntarily under the mental health act, over/under hydration, pain, edema, "gut feeling").

Communication Breakdown: describes clinical situations when there is lack of clarity about treatment, plan, responsibilities, conversation outcomes and language barriers.

Unusual Therapy: Unfamiliarity with a medication, protocol and/or department by the health care provider (e.g. new and/or low frequency and high risk medication or process). Applying the unusual therapy factor brings increased awareness to patient care, support and planning

PEWS Score 2 or higher: A score of 2 or higher should trigger increased awareness, notification, planning, assessment, and resource review.

SBAR: The Situation-Background-Assessment-Recommendation (SBAR) technique provides a framework for communication between members of the health care team about a patient's condition. SBAR is an easy-to-remember, concrete mechanism useful for framing any conversation, especially critical ones, requiring a clinician's immediate attention and action. It allows for an easy and focused way to set expectations for what will be communicated and how between members of the team, which is essential for developing teamwork and fostering a culture of patient safety.

Abbreviations

Use only abbreviations that are included in the legend on the document and do not use any abbreviations or symbols that are on the "DO NOT USE" list (e.g. @, <, >) from Institute of Safe Medication Practice (ISMP)-Canada

Abbreviations used in this document:

BB	Blow by	mL	Milliliters
BiPAP	Bi-level Positive Airway Pressure	N	No
°C	Degrees Celsius	N/A	Not Applicable
cm	Centimeter(s)	NN	Nurses' Notes
CPAP	Continuous Positive Airway Pressure	NP	Nasal prongs
FT	Face Tent	NRB	Non-rebreather mask
HHF	Heated Humidified High Flow	PRB	Partial Rebreather Mask
M	Mask	q_h	Every ___ hours
MAP	Mean Arterial Pressure	RA	Room Air
MRP	Most Responsible Practitioner	SM	Simple Mask

Note: If your Health Authority has standards on Clinical Abbreviations, please follow those.

Graphic Section- Page 1

1. **Date: RECORD** date at top **left** of page ensuring day, month and year are included (e.g. 12 SEP 2020 or SEP 12, 2020) spelling out the month using first 3 letters.
2. **PATIENT IDENTIFICATION:** Addressograph or label BC PEWS Inpatient Flowsheet in top **right** corner of each page.
3. **INITIAL** in the space provided above the time. Ensure that *full signature* has been recorded on the signature identification record located on the BC PEWS Flowsheet.
4. **Time**: **RECORD** the actual time of the assessment or intervention in the assigned space running across the top of the page. Use 24-hour clock format e.g. 0030.
5. **RESPIRATORY SECTION:**
   a. **RECORD** respiration rate using a • symbol. **NOTE:** draw a line to connect each subsequent rate symbol to create a visual trend. May record numerical value under dot.
   b. **RECORD** oxygen saturations percentage.
   c. **RECORD** any supplemental O_2 concentration delivered in litres per minute or oxygen percentage delivered in appropriate spaces.
   d. **RECORD** supplemental O_2 mode of delivery (Room Air [RA], Nasal Prongs [NP], Mask [M], Blow By [BB], Heated Humidified High Flow Therapy [HHHF].

      NOTE: The use of oxygen delivery via the blow by method is not recommended, as it is difficult to determine the exact percentage of oxygen and the actual dose received by the patient. If blow by method is used please document in the nurse's notes and provide clinical rationale.
   e. For Patients receiving **Heated Humidified High Flow Therapy** (HHHF). **Record** the actual numerical value of oxygen % being delivered in the supplemental O_2 concentration box. **Record** the prescribed L/min flow in the mode of delivery box, noting 'HHHF' in front of 'mode of delivery'. Patients receiving HHHF will be scored based on the FiO_2 % delivered.
   f. **RECORD** level of respiratory distress using ✓ symbol to indicate **as** per Canadian Triage and Acuity Scale (CTAS) manual 2013 (p.42) definitions:

      Severe: Excessive work of breathing, cyanosis; lethargy, confusion, inability to recognize caregiver, decreased response to pain; single word or no speech; tachycardia or bradycardia; tachypnea or bradypnea; apnea irregular respirations; exaggerated retractions, nasal flaring, grunting; absent or decreased breath sounds; upper airway obstruction (dysphagia, drooling, muffled voice, labored respiration's and stridor); unprotected airway (weak to absent cough or gag reflex); poor muscle tone.

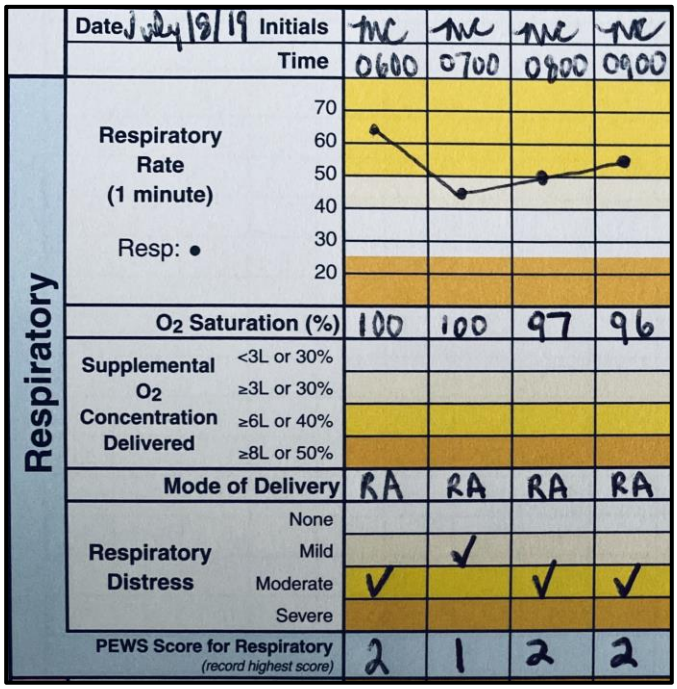
      Moderate: Increased work of breathing, restlessness, anxiety, or combativeness; tachypnea; hyperpnea; mild increased use of accessory muscles, retractions, flaring, speaking phrases or clipped sentences, stridor, but airway protected, prolonged expiratory phase.

      Mild: Dyspnea; tachypnea; shortness of breath on exertion; no obvious increased work of breathing; able to speak in sentences; stridor without obvious airway obstruction; mild shortness of breath on exertion; frequent cough.

g. **CALCULATE** RESPIRATORY CATEGORY PEWS SCORE:

Document assessment findings on the BC PEWS INPATIENT Flowsheet for: respiratory rate, supplemental oxygen concentration delivery and respiratory distress. The Respiratory PEWS score is calculated based on the most severe score in the category. The maximum score a patient can receive for the respiratory category is 3. Always score using the highest number in each category.

PEWS Scoring Legend: | 0 | 1 | 2 | 3 |



h. **RECORD** PEWS score for respiratory category in the appropriate box. **NOTE** if PEWS score is zero please record **0**.

NOTE: When caring for patients with Asthma PRAM scores are to be calculated and recorded in the ***CARE*** section of the BC PEWS Inpatient Flowsheet.

6. **CARDIOVASCULAR SECTION:**

a. **RECORD** apical heart rate using • symbol. **NOTE:** draw a line to connect each subsequent rate symbol to create a visual trend. May record numerical value under dot.

b. **RECORD** blood pressure (BP) using ∨ symbol (BP is measured and documented but not included in the score).

∧

Note: Indicate limb used for BP measurement (if other than arm), and patient position using the following symbols:

Lying Sitting Standing

c. **RECORD** mean arterial pressure (MAP). Note: calculate MAP use the following equation:

$$\text{MAP} = \frac{\text{Systolic Pressure} + (2 \times \text{Diastolic Pressure})}{3}$$

d. **RECORD** capillary refill time in seconds by pressing lightly on a peripheral site such as a nail or a central site such as the sternum. Normal capillary refill time is less than 2 seconds.

e. **INDICATE** skin colour using a ✓symbol in the appropriate box.

PINK/Normal – typical skin colour for the patient. Skin should be warm and well perfused.

PALE – lack of typical colour in the skin or mucous membranes.

GREY/CYANOTIC – bluish discolouration/tone throughout skin.

GREY & MOTTLED – irregular or patchy discolouration of the skin.

NOTE: Refer to the *BC PEWS Vital Sign, Assessment & Documentation Guidelines: Appendix D Skin Colour Terminology* for additional information.

f. **CALCULATE** CARDIOVASCULAR CATEGORY PEWS SCORE (refer to instruction above in section 5. g).

g. **RECORD** PEWS score for the cardiovascular section in the appropriate box**. NOTE** if PEWS score is zero please record **0**.

7. **BEHAVIOUR SECTION:**

a. **INDICATE** assessed patient behaviour using a ✓symbol in the appropriate box.

Behaviour is scored exactly as observed. If you are unsure about what is expected, please review the patient's behaviour with their family/caregiver and/or a more experienced health care provider.

PLAYING/APPRORIATE- is the patient behaving as expected based on the current circumstances and the child's developmental level?

SLEEPING- is the patient sleeping? If the patient is sleeping (even at expected times) they receive a score.

IRRITABLE- is the patient inconsolable, restless, or agitated?

LETHARGIC/CONFUSED- does the patient have an altered mental status? Are they confused, disoriented, or presenting with severe drowsiness?

REDUCED RESPONSE TO PAIN- does the patient have an altered mental status? Do they respond only to pain?

b. **CALCULATE** BEHAVIOUR CATEGORY PEWS SCORE (refer to instruction above in section 5. g).

c. **RECORD** PEWS score for the behaviour section in the appropriate box. **NOTE** if PEWS score is zero please record **0**.

8. **OTHER PEWS INDICATORS (score of 2 for each factor identified):**

a. **INDICATE** if the patient has **unexpected** persistent vomiting following surgery using a ✓symbol in the corresponding box. **NOTE:** if this score is zero please record **0**.

Postoperative nausea and vomiting (PONV) is defined as any nausea, retching, or vomiting occurring during the first 24–48 hours after surgery. PONV is a common complication for pediatric patients, and is often expected. Persistent Vomiting refers to more than expected emesis. If you are unsure about what is expected, please review with a more experienced health care provider (Hohne, 2014; Pierre & Whelan, 2013).

b. **INDICATE** if the patient is receiving a bronchodilator every 20 minutes using a ✓symbol in the corresponding box. **NOTE:** if this score is zero please record **0**.

9. **TOTAL PEDIATRIC EARLY WARNING SYSTEM (PEWS) SCORE**:

a. To obtain a total PEWS score, **ADD** the category scores together (respiratory + cardiovascular + behaviour + other PEWS indicators: persistent vomiting following surgery + bronchodilator every 20 minutes = maximum achievable score of 13).

b. **CALCULATE** and **RECORD total PEWS score** with every set of vital signs. **NOTE** if PEWS score is zero please record **0**.

10. **SITUATIONAL AWARENESS FACTORS:**

    a. With each set of vital signs **ASSESS, IDENTIFY**, and **DOCUMENT** using a ✓symbol any situational awareness factors present for your patient.

11. When the Escalation Process is activated:
    a. **RECORD** the actual time using 24-hour clock format e.g. 0030.
    b. **REVIEW** recommended actions in the *BC PEWS Escalation Aid for Inpatient & Emergency Settings*
    c. **CONSULT** and **PLAN** with team members to determine appropriate steps to escalation care based on the escalation aid and health authority/agency standards.

12. **DOCUMENT** escalation actions taken to mitigate identified risk, the patient's response to interventions, and additional actions in the nursing note section. **Note** if no action is being taken in response to identified risk, document reasoning and plan for reassessment.

13. **TEMPERATURE:**

    a. **RECORD** temperature in Celsius using • symbol. **NOTE:** draw a line to connect each subsequent symbol to create a visual trend. May record numerical value under dot.

    b. **RECORD** source/route of temperature measurement: oral (O), axilla (A), rectal (R), temporal (T) or esophageal (E).

Graphic Section- Page 2

1. **Date: RECORD** date at top left corner of each page ensuring day, month and year are included (e.g. 12 SEP 2020 or SEP 12, 2020) spelling out the month using first 3 letters.
2. **PATIENT IDENTIFICATION**: Addressograph or label BC PEWS Inpatient Flowsheet on top **right** corner of each page.
3. **INITIAL** in the space provided above the time. Ensure that *full signature* has been recorded on the signature identification record located on the BC PEWS Inpatient Flowsheet.
4. **Time: RECORD** the actual time of the assessment in the assigned space running across the top of the page, using the 24-hour clock format e.g. 0030

5. **NEUROLOGICAL**

    a. **ASSESS** Neurovital signs once a shift unless ordered more frequently or clinically indicated.

    b. Pupils: **RECORD** pupil size using guide located on the bottom left corner of form. **RECORD** pupillary response using the following letters to indicate B = Brisk, S = Sluggish, and/or F = Fixed under the corresponding time column.

    c. Glasgow Coma Scale (GCS): **RECORD** using ✓ symbol to indicate the score for eye, verbal and motor response under the time column when the assessment was completed.

    d. **RECORD** total numeric score for GCS in the total score box under corresponding time column.

    e. Muscle Strength: **RECORD** numeric score in appropriate box for each limb under corresponding time column.

    f. Color, Sensation and Warmth of Extremities: **RECORD** using ✓symbol under the corresponding time column to indicate Normal or NN to indicate that there is further documentation in the Nursing Notes section of the health record.

g. Bladder Function: **RECORD** using ✓ symbol under the corresponding time column to indicate Normal or NN to indicate that there is further documentation in the Nursing Notes section of the health record.

6. **CARE**

a. **Time: RECORD** the actual time of the assessment or intervention in the assigned space running across the top of the page. Use 24-hour clock format e.g. 0030

b. **RECORD** the pain score, tool used and location of pain under the time column when pain was assessed. Pain score will be recorded as a numeric value. Name of tool and location of pain to be written in space provided. If more space is required document NN and record observations in the nurse's notes section. Pain is to be assessed every 4 hours and PRN. If patient is on a continuous opioid infusion, epidural analgesia or PCA, refer to your health authority/agency specific documentation guidelines.

c. **RECORD** the patient's level of arousal score every hour if awake and if the patient is receiving continuous opioid infusion or patient controlled continuous analgesia (PCA) infusion or when sleeping and respirations are below norm for patient's age.

d. **RECORD** using a ✓ symbol to indicate when a sepsis screen was completed. *Please use the sepsis screening tool identified by your health authority/agency.* Use NN to indicate that there is further documentation in the nursing notes section.

NOTE Sepsis Screening is recommended if:

- The patient's heart rate is in the critical PEWS score of 3 or
- The PEWS score increases by 2 or
- The patient's temperature is above 38°C or less than 36°C

e. **RECORD** using a ✓symbol to indicate the Enteral/Gastric Tube site to source check was completed. Document this hourly or per your health authority/agency guidelines. Use NN to indicate that there is further documentation in the nursing notes section.

f. **RECORD** using a ✓ symbol to indicate the IV site to source check, including rate & solution, was completed. This ✓ also indicates that the IV Touch, Look, & Compare check was completed. Document this hourly or per your health authority/agency guidelines. Use NN to indicate further documentation in the nursing notes section.

g. **RECORD** using a ✓ symbol to indicate a patient safety check was completed in the space provided. Document this hourly or per your health authority/agency guidelines

h. When caring for patients with Asthma **CALCULATE** and **RECORD PRAM** scores per the guidelines used in your health authority/agency.

i. When applicable **RECORD** using a ✓ symbol to indicate you have checked the phototherapy module and eye shield placement. Document this hourly or per your health authority/agency guidelines.

j. **RECORD** incubator temperature in Celsius. Document this hourly or per your health authority/agency guidelines.

k. **RECORD** using a ✓ symbol to indicate the time the patient:

i. Was repositioned (q2h & PRN)

ii. Ambulated

iii. Received foley care and/or pericare

iv. Received a shower (S) or bath (B)

v. Received mouth care

vi. Had the oximeter probe site changed (q4h & PRN)

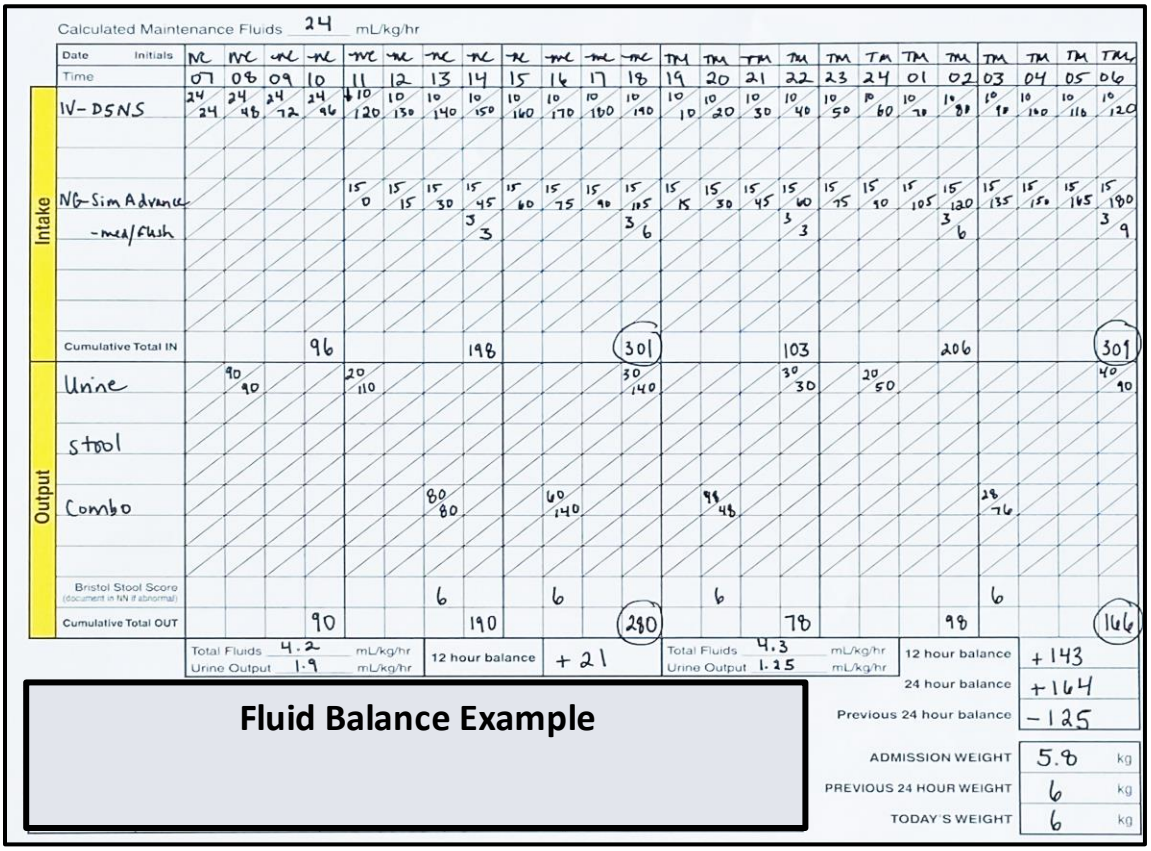
vii. Had family/caregiver present at the bedside

Intake and Output Page 3

The purpose of this section is to keep an accurate account of all intake and output for the patient.

1. **Date: RECORD** date at top left corner of each page ensuring day, month and year are included (e.g. 12 SEP 2020 or SEP 12, 2020) spelling out the month using first 3 letters.
2. **PATIENT IDENTIFICATION**: Addressograph or label BC PEWS Inpatient Flowsheet on top **right** corner of each page.
3. **INITIAL** in the space provided above the time. Ensure that *full signature* has been recorded on the signature identification record located on the BC PEWS Inpatient Flowsheet.
4. **Time: RECORD** the actual time of the assessment in the assigned space running across the top of the page, using the 24-hour clock format e.g. 0030
5. **CALCULATE** the maintenance fluid requirement for the patient in mL/hr and record it here. **Note:** Calculate at the start of each shift. For example: if the patients weight is 6 kg the calculated maintenance would be 25 mL/hr (6x100= 600/24= 25).
6. **RECORD** all parenteral, enteral, and oral intake. **DESCRIBE** each type of intake on a separate line including any additives.
7. **RECORD** the time at the top of the column and **RECORD** the volume infused *during* that hour below. **Note**: If any infusion, medication or oral intake is complete at any time other than on the hour it is included in that hour's intake.
8. **CALCULATE** the total volume of intake for hourly and if required, cumulative volumes. Cumulative volumes can be indicated by writing the hourly total over the cumulative total (Refer to output example below).
9. **CIRCLE** the total volume infused at the completion of any infusion if the infusion completes before the end of the shift as a reminder to add this volume to the cumulative total for the shift.
10. **CALCULATE** all total volumes infused during the shift to obtain a final 12-hour total. **RECORD** this amount at the end of the last column and **circle.**
11. **RECORD** all types of output including urine, stool, blood loss, emesis and drainage. **DESCRIBE** each type of output on a separate line.
12. **RECORD** under the appropriate hour the volume of any type of output. **Note**: If output occurs at any time other than on the hour it is included in that hour's intake.
13. **RECORD** Bristol stool score (type 1 – 7) for all stool output under appropriate time column.
14. **CALCULATE** the total volume of output for hourly and if required, cumulative volumes. Cumulative volumes can be indicated by writing the hourly total over the cumulative total (Refer to example below).
15. **CALCULATE** all total volumes of output recorded during shift to obtain a 12-hour total; **RECORD** this amount at the end of the last column and circle.
16. **SUBTRACT** intake from output to obtain a 12-hour fluid balance; **RECORD** this as either a positive (+) or negative (-) amount in the appropriate box.
17. **CALCULATE** your 24-hour fluid balance by adding the two 12-hour balances together**. For example: if the 0700-1900 balance is +300 mL and the 1900-0700 balance is -200 mL the 24-hour fluid balance would be +300 mL + -200 mL = +100mL.**

18. **CALCULATE** the actual total fluid the patient received in mL/kg/hr and record it here. This is to be done as part of the 12-hour balance.
19. **CALCULATE** urine output in milliliters per kilogram per hour (mL/kg/hr).
20. **RECORD** any intravenous access initiated using space provided. Include signature of initiator.
21. **RECORD** admission weight, previous 24-hr weight, current weight and previous 24-hour fluid balance in the spaces provided.
22. **RECORD** in the space provided any measurements taken such as abdominal girth, head circumference, and height.



Initial Assessment – Day Shift Page 4/Night Shift Page 5

1. **Date: RECORD** date at top left corner of each page ensuring day, month and year are included (e.g. 12 SEP 2020 or SEP 12, 2020) spelling out the month using first 3 letters.
2. **PATIENT IDENTIFICATION**: Addressograph or label BC PEWS Inpatient Flowsheet in top **right** corner of each page.
3. **RECORD** time and initials of health care provider in spaces provided.
4. **RECORD** initial patient assessment for day or night shift by:
    a. *ticking* the appropriate descriptors using a ✓ symbol to indicate assessment findings;
    b. *filling in the blank* spaces provided to indicate details of assessment findings
    c. striking a line through any assessment data to indicate that it does not apply or has not been assessed
    d. using a ✓ symbol indicate *See Nursing Notes* if additional assessment findings need to be documented in the Nursing Notes section of the health record

e. using a ✓ symbol to indicate you have completed additional documentation as required on specific health authority/agency forms (i.e. Neurovascular Assessment Record, Violence Risk Screening, and Personal Safety Care Plans)

5. **RECORD** using a ✓ symbol to indicate any **Psychosocial/Safety** risk identified. When identified communicate findings to the MRP for further evaluation. Develop a Plan of Care with Observation Level as required per your health authority/agency guidelines.
6. **COMPLETE Quality Checks and Scores** by using ✓ to indicate completion and/or record the actual score in space provided.

Nursing Notes – Page 6

1. **Date: RECORD** date at top left corner of each page ensuring day, month and year are included (e.g. 12 SEP 2020 or SEP 12, 2020) spelling out the month using first 3 letters.
2. **PATIENT IDENTIFICATION**: Addressograph or label BC PEWS Inpatient Flowsheet in top **right** corner of each page.
3. **RECORD** in the nursing notes section any assessment findings or changes noted during shift in greater detail. Record time of entry and use variance charting including data, action and response (DAR) or problem, intervention, evaluation (PIE) formats. If additional space is required to document your nursing notes please utilize the nursing note form used in your health authority/agency.
4. **RECORD** full signature and initials in space provided.

Related Documents

** Documents are labelled for ED as 'BC PEWS ED', for inpatients as 'BC PEWS Inpatients', or if applicable to both areas, 'BC PEWS'*

For patient documentation:

1. BC PEWS Inpatient Flowsheets
    - 0-3 months
    - 4-11 months
    - 1-3 years
    - 4-6 years
    - 7-11 years
    - 12 + years

Support documents:

1. BC PEWS Clinical Decision Support Tool
2. BC PEWS Vital Sign Assessment and Documentation Guidelines
3. BC PEWS Situational Awareness Poster
4. BC PEWS Escalation Aid for Inpatient & Emergency Settings
5. Child Health BC Modified Sepsis Screening Tool

Document Creation / Review

Adapted from BC Children's Hospital by Child Health BC
Create Date: December 31, 2013
Revision Date: July 2, 2020

Appendices

A. Brighton PEWS Scoring Tool
B. BC PEWS Escalation Aid for Inpatient & Emergency Settings
C. Pediatric Vital Sign Parameters by Age Group
D. SBAR Tool
E. Disclaimer

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Appendix A: Brighton PEWS Scoring Tool

Brighton Pediatric Early Warning Score					
	0	**1**	**2**	**3**	**SCORE**
Behaviour	Playing Appropriate	Sleeping	Irritable	Lethargic **&/OR** Confused **&/OR** Reduced response to pain	
Respiratory	Within normal parameters No recession or tracheal tug	10 above normal parameters, *Using accessory muscles,* **&/OR** *30+% FiO2 or 4+ liters/min*	>20 above normal parameters recessing/retractions, tracheal tug **&/OR** 40+% FiO2 or 6+liters/min	5 below normal parameters with sternal recession/retractions, tracheal tug or grunting **&/OR** 50% FiO2 or 8+liters/min	
Cardiovascular	Pink **&/OR** capillary refill 1-2 seconds	Pale **&/OR** capillary refill 3 seconds	Grey **&/OR** capillary refill 4 seconds Tachycardia of 20 above normal rate.	Grey and mottled or capillary refill 5 seconds or above **OR** Tachycardia of 30 above normal rate or bradycardia	
				Q 20 minutes bronchodilators &/OR persistent vomiting following surgery (2 points each)	
				TOTAL PEWS SCORE	

(Modified from: Monaghan, 2005)

Appendix B: *BC PEWS Escalation Aid for Inpatient and Emergency Department Settings*

PEDIATRIC EARLY WARNING SYSTEM SCORE	0 – 1	2	3 * For a score of "3" in any one category consider higher escalation	4 &/or score increases by 2 after interventions	5 – 13 or score of "3" in one category
Notify		• Consider reviewing patient with a more experienced healthcare provider	• As per PEWS Score 2	• As per PEWS Score 2 **AND** notify most responsible physician (MRP) or physician delegate • Based on rate of deterioration, consider pediatrician consult	• MRP to assess patient immediately (& pediatrician if available) • If MRP unable to attend, call for STAT physician review • Appropriate senior review
Plan				• MRP or delegate communicate a plan of care to mitigate contributing factors of deterioration • Communicate plan of care to the patient and/or family	• As per PEWS Score 4
Assessment	• Continue assessment, monitoring and documentation as per orders & routine protocols	• As per PEWS Score 1	• Increase frequency of assessments & documentation as per plan from consultation with more experienced healthcare provider	• Increase frequency of assessments & documentation as per plan	• As per PEWS Score 4

Resources			• Escalate if further consultation required or if resources do not allow for safe monitoring and care	• Reassess adequacy of resources and make changes as needed:
				  • RN to patient ratio
				  • Location: ensure appropriate level of skill, equipment, medication and resources available.
				• Consider internal or external consult or transfer to higher level of care
					• As per PEWS Score 4

SITUATIONAL AWARENESS

If patient is assessed with one or more of the following situational awareness factors:

- ☐ Parent concern
- ☐ Watcher patient
- ☐ Unusual therapy
- ☐ Breakdown in communication

→ Follow PEWS Score 2 actions

Appendix C: Pediatric Vital Sign Parameters by Age Group

"Normal" range determined by using highest of low range and lowest of high range of vital sign parameters

	Age Group	CTAS 4-5	No score	Yellow (Score 1)	Gold (Score 2)	Red (Score 3)
Respiratory Rate	0-3 mos	35-51	31-60	61-70	71 or higher	30 or less
	4- 11 mos	33-44	29-53	54-63	64 or higher	28 or less
	1-3 yrs	29-30	25-39	40-49	50 or higher	24 or less
	4-6 yrs	21-22	17-31	32-41	42 or higher	16 or less
	7-11 yrs	19	15-28	29-38	39 or higher	14 or less
	12 plus yrs	16	12 - 25	26-35	36 or higher	11 or less
Heart Rate	0-3 mos	127-143	104-162		163-172	173 or higher AND 103 or less
	4- 11 mos	127-140	109-159		160-169	170 or higher AND 108 or less
	1-3 yrs	111-120	89-139		140-149	150 or higher AND 88 or less
	4-6 yrs	88-109	71-128		129-138	139 or higher AND 70 or less
	7-11 yrs	78-95	60-114		115-124	125 or higher AND 59 or less
	12 plus yrs	67-85	50-104		105-114	115 or higher AND 49 or less

Blood Pressure	Systolic (mmHg)	Diastolic (mmHg)	Mean Arterial Pressure (mmHg)
0-28 days ***	60-84	30-53	40 or higher
1-3 mos*	73-105	36-68	48 or higher
4- 11mos*	82-105	46-68	58-80
1-3 yrs†	85-109	37-67	53-81
4-6yrs†	91-114	50-74	63-87
7-11 yrs†	96-121	57-80	70-94
12 plus yrs†	105-136	62-87	76-103

*BP ranges modified from American Heart Association (2012). Pediatric emergency assessment, recognition, and stabilization (PEARS), provider manual.
†BP ranges modified from National Heart Lung and Blood Pressure Institute. (2004). The fourth report on the diagnosis, evaluation, and treatment of high blood pressure in children and adolescents. Pediatrics. 114(2): 555-576.
** Perinatal Services BC Newborn Guideline 13 Newborn Nursing care Pathway (2013).
*** American Heart Association (2012). Pediatric emergency assessment, recognition, and stabilization (PEARS), provider manual

Appendix D: SBAR Tool

S	**Situation:** *What is the situation you are calling about?* I am (name), a nurse on ward (X) I am calling about (patient X) I am calling because I am concerned that… (e.g. BP is low/high, pulse is XX, temperature is XX, PEWS score is X)
B	**Background**: *Pertinent Information & Relevant History* Patient (X) was admitted on (XX date) with…(e.g. respiratory infection) They have had (X procedure/investigation/operation) Patient (X)'s condition has changed in the last (XX minutes) Their last set of vital signs were (XXX)
A	**Assessment:** *What do you think the problem is?* I think the problem is (XXX) and I have…(e.g. applied oxygen/given analgesia, stopped the infusion) OR I am not sure what the problem is but the patient (X) is deteriorating OR I don't know what's wrong but I am really worried
R	**Recommendation:** *What do you want to happen?* I need you to… Come to see the child in the next (XX minutes) AND Is there anything I need to do in the meantime? (give a normal saline bolus/repeat vitals/start antibiotics)
Ask receiver to repeat key information to ensure understanding	

Appendix E: Disclaimer

Child Health BC develops evidence-based clinical support documents that include recommendations for the care of children and youth across British Columbia. These documents are intended to give an understanding of a clinical problem, and outline one or more preferred approaches to the investigation and management of the problem. These documents are for guidance only and not intended as a substitute for the advice or professional judgment of a health care professional, nor are they intended to be the only approach to the management of a clinical problem. Healthcare professionals should continue to use their own judgment and take into consideration context, resources and other relevant factors. Neither Provincial Health Services Authority nor Child Health BC assume any responsibility or liability from reliance on or use of the documents.