Provincial Pediatric Early Warning System (PEWS) Clinical Decision Support Tool

GUIDELINE PURPOSE

To provide guidance and direction for the use of the Pediatric Early Warning System (PEWS). The PEWS system supports the recognition, mitigation**,** notification, and response to the pediatric patient identified to be at risk of deterioration.

PRACTICE LEVEL / COMPETENCIES

Conducting physical assessments, vital sign measurements and PEWS scoring are foundational level competencies of registered nurses (RN) and licensed practical nurses (LPN).

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.

BACKGROUND

The PEWS provides evidence-informed methods to assess children in different age groups, using vital signs parameters and risk indicators supported by evidence to be reliable indicators of deterioration. The system is made up of a risk score based on physiological findings, evidence based risk factors (situational awareness), escalation responses, and a communication framework. Together these system parts are designed to provide a standardized framework and language to identify potential deterioration in a child, mitigate that risk, and escalate care as needed as early as possible.

SITE APPLICABILITY

This practice applies to all pediatric patient care areas that have been designated by your health authority.

DEFINITIONS

Pediatric Early Warning System Score: Relevant patient assessment findings such as cardiovascular, respiratory, behavioural data as well as persistent vomiting following surgery and use of bronchodilators every 15 minutes is 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 patients 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, child different from "normal", aggressive patient, "certified" patient, over/under hydration, pain, oedema, "gut" feeling).

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

Unusual Therapy: includes staff unfamiliar with ward or department (e.g. float nurses or break coverage), therapy or process (e.g. high risk infusion, new medication or protocol for patient or nurse).

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

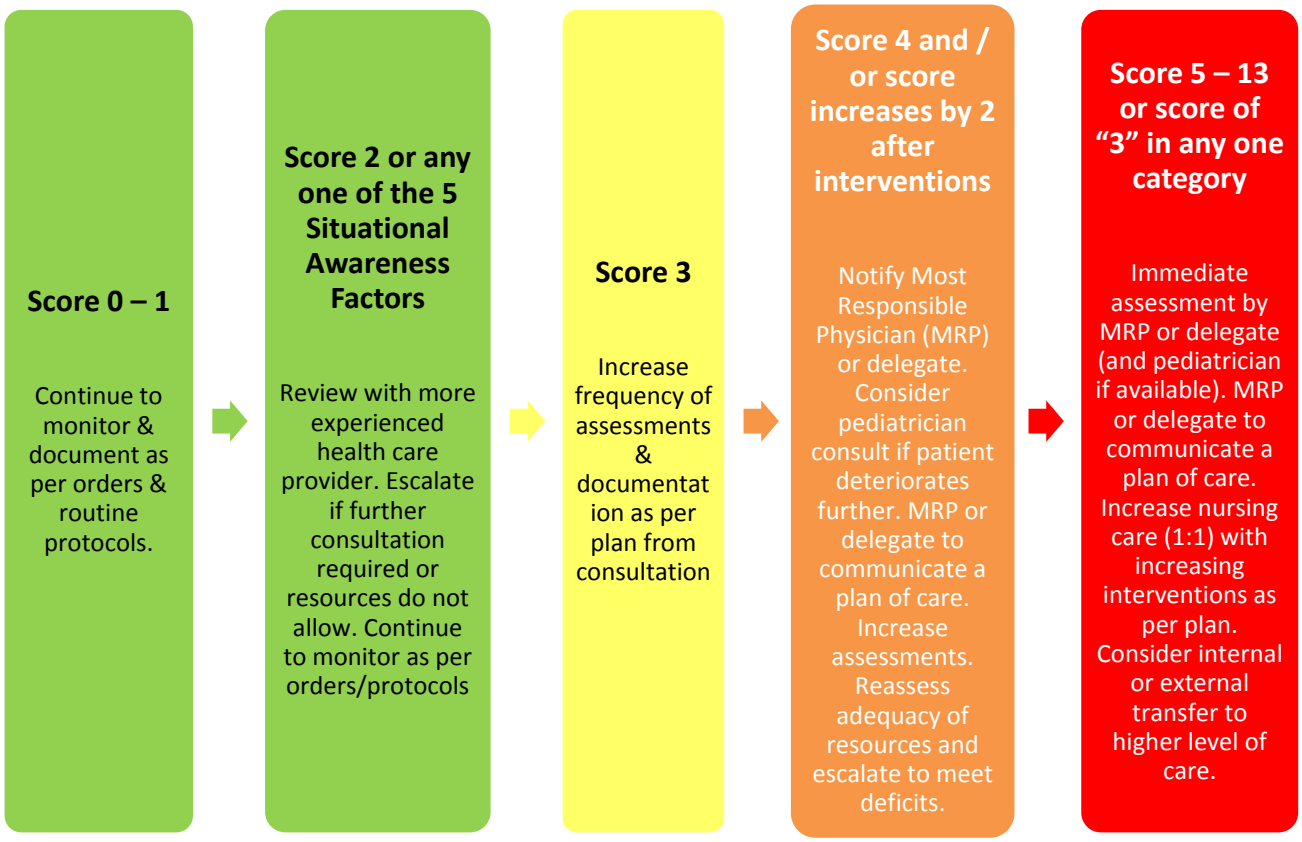
SBAR: The Situation-Background-Assessment-Recommendation (SBAR) technique provides a framework for communication between members of the health care team about a patient's condition. SBAR is an easy-to-remember, concrete mechanism useful for framing any conversation, especially critical ones, requiring 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.

PROCEDURE

IDENTIFICATION OF PATIENTS AT RISK FOR DETERIORATION	***Rationale***
A. RN	
1. Prior to shift handover **REVIEW** patients and **NOTE IDENTIFIED** at risk patients. Continue to check status of identified patients throughout the day	*Increase team awareness of unit status for at risk patients.*
2. **VERBALLY** report identified **at risk patients** using SBAR	*Shared communication increases awareness of where resources may be needed.*
3. **BE AWARE** of other patients **at risk**	
4. At beginning of shift, or when you assume responsibility conduct a full head-to-toe **ASSESSMENT** of your patient	*Establishes a baseline*
5. **IDENTIFY** any situational awareness factors present for your patient	
6. **DOCUMENT** your patient's assessment at the bedside, including the PEWS Score and any identified situational awareness factors. **RE-ASSESS** your patient per the frequency identified in the physician orders, care plan, and escalation aid for your agency.	*Communication for rest of health care team*
B. Charge Nurse or RN Responsible for patient care unit	***Rationale***
1. **ATTEND** handover and **UPDATE** at risk patient status on facility tracking system	*Supports increased awareness and ongoing communication*
2. During shift report **LISTEN** to RN's report of patients and ensure at risk patients are identified	*Make sure everyone is aware of at risk patients. Establish baseline*

3. **NOTIFY** site manager or delegate of at risk patients. If applicable in your facility, **ATTEND** bed meeting**.**	*Contribute to system view of patients in hospital* *Notification of potential resources*
4. **CHECK-IN** every 4 hours or sooner if required; engage RNs in coaching conversation using 6 questions to determine at risk patients, plan of care, supports required and follow-up a. What is going on now? b. What have you done already? c. What still needs to be done/What are the barriers to care? d. What are the next steps? e. What support do you need? f. When/How will we follow up? ** If nurses do not check in then the Charge Nurse or delegate to seek them out for check-ins*	*Understand areas of concern* *Support plans as required* *Escalate as required*
5. UPDATE visual cues– colour the patient identifier **RED** on the communication tool used in your agency	*Visual cues to signal all team members of at risk patients*
6. CHECK-IN with manager, supervisor or designate and **REPORT** at risk patients	*Communicate areas of concern* *Trouble shoot plan of care* *Escalation support*
NOTIFICATION/RESPONSE TO IDENTIFIED AT RISK PATIENTS - RN	***Rationale***
1. **REPORT** using **SBAR** identification of patient at risk and/or progress with patient at risk to the Charge Nurse per the frequency identified in the physician orders, care plan, and escalation aid for your agency.	*Facilitates timely notification to team members*

2. **Actions** for identified risks:
   a. Follow the escalation aid **for your agency** which will be modified from the Provincial PEWS Escalation Aid, to reflect the resources and processes specific to your site.



NOTE: Provincial PEWS and the Escalation Aid are not a substitute for clinical judgment but rather tools to aid you in identifying patients at risk, and accessing resources to mitigate that risk as soon as possible. **For any patient with a life-threatening condition escalate care immediately as per your health authority code**

b. Situational Awareness Factors • Discuss plan of action with charge nurse or delegate and notify required medical and if required, other health care team members for support. c. **SEPSIS SCREEN** is to be conducted if the PEWS score increases by two or if patient's temperature is above 38.5° C or below 36° C.	
3. **IMPLEMENT** actions as indicated by the PEWS escalation aid **for your agency**.	*Delay in response could cause patient harm*
4. **RE-EVALUATE** patient and response to actions	

5. **DOCUMENT** all responses and assessment findings/changes on the PEWS Flowsheet and in the nursing notes **used in your agency.**	
6. **Communicate** updated PEWS assessment and level of risk to the charge nurse and members of the healthcare team following each assessment as needed	

RELATED DOCUMENTS

1. Provincial PEWS Flowsheets
   - 1.1. 0-3 months
   - 1.2. 4-11 months
   - 1.3. 1-3 years
   - 1.4. 4-6 years
   - 1.5. 7-11 years
   - 1.6. 12 + years
2. Instructions for use of the Provincial Pediatric Patient Flowsheet
3. Situational Awareness Poster
4. Sepsis Screening Tool

DOCUMENT CREATION / REVIEW

Adapted from BC Children's Hospital by Child Health BC
Create Date: July 11, 2014
Revision Date: February 5, 2016

APPENDICIES

A. Brighton PEWS Scoring Tool
B. Situational Awareness Poster
C. Provincial Escalation Aid
D. SBAR Tool

REFERNCES

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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	
				Q15 minutes bronchodilators &/OR persistent vomiting following surgery (2 points each)	
				TOTAL PEWS SCORE	

(Monaghan, 2005)

APPENDIX B: SITUATIONAL AWARENESS

Situational Awareness

There are five factors that would prompt the identification of a pediatric patient as being at increased risk:

Patient / Family / Caregiver Concern

A concern voiced about a change in the patient's status or condition.
For example:

- A concern that has the potential to impact immediate patient safety
- Family states the patient is worsening or not behaving as they normally would

"Watcher" Patient

A patient that you identify as requiring increased observations.
For example:

- Unexpected responses to treatments
- Child different from "normal"
- Aggressive patient
- "Certified" patient
- Over/under hydration
- "Gut" feeling

Communication Breakdown

Describes clinical situations when there is lack of clarity about:

- Treatment
- Plans Responsibilities
- Conversation outcomes
- Language barriers

Unusual Therapy

Includes staff unfamiliar with ward or department, therapy or process.
For example:

- Float nurses or break coverage
- High risk infusion
- New medication or protocol for patient or nurse

Pediatric Early Warning System Score 2 or Higher

P.E.W.S 2+

Relevant patient assessment findings are summated into a score that can be used to identify patient physical deterioration early, so to optimize chances for intervention. These include:

- Cardiovascular, respiratory and behavioural data
- Persistent vomiting following surgery
- Use of bronchodilators

A score of 2 or higher should trigger increased awareness.

Each of the factors is equally important as an indicator of risk and this "system" encourages nursing assessment of both subjective and objective risk. Cincinnati Children's Hospital found these 5 factors to be 100% sensitive (i.e. every child who deteriorated clinically had one or more of these factors when they audited 89 serious safety events in the hospital)

CHILD HEALTH BC LEAD BENEFACTOR save on foods

Client:	CHBC	Date:	4 March 2016 9:37 AM
File Name:	21012221_P_PEWS_SituAware_Poster_12x18in_CMYK_v5	Target:	Poster
Actual Size:	12x18 Inches + .25" Bleed	Revisions:	0
Colours:	4c	Operator:	J Shaw

APPENDIX C: PROVINICAL ESCALATION AID

Refer to the Escalation Aid specific to your site or Health Authority

Provincial Pediatric Early Warning System (PEWS) Escalation Aid

PEDIATRIC EARLY WARNING SYSTEM SCORE	0 – 1	2	3	4 &/or score increases by 2 after interventions	5 – 13 or score of "3" in one category
Notify		• Review patient with a more experienced healthcare provider • Escalate if deemed further consultation required **OR** resources do not allow to meet care needs	• As per PEWS Score 2	• As per PEWS Score 2 **AND** notify most responsible physician (MRP) or delegate • Consider pediatrician consult if patient deteriorates further	• As per PEWS Score 4 **AND** MRP to assess patient immediately (& pediatrician if available) • If MRP unable to attend, call for STAT physician review as per MRP's direction • Appropriate "senior" review
Plan				• MRP or delegate communicate a plan of care to mitigate contributing factors of deterioration	• As per PEWS Score 4
Assessment	• Continue monitoring & 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 & document as per plan	• As per PEWS Score 4
Resources				• Reassess adequacy of resources available and escalate to meet deficits • Consider internal or external transfer to higher level of care	• Increased nursing (1:1) care with increasing interventions as per plan • Reassess care location – consider internal or external transfer to higher level of care

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

PEWS Escalation Aid (V.3 _TN & CM) Updated August 2015

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 mins) 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 mins) 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	