

National Early Warning Score (NEWS 2) for Clinical Deterioration in Adults

Site Applicability

PHC – acute care sites (see page 3 for applicability)

VCH – acute care sites live on CST Cerner (see page 3 for applicability)

PHSA:

- BC Women's Post op Gynecology only
- BC Cancer
- BC Mental Health and Substance Use

Practice Level

Basic Skill: [Providers](#), Nurses (RN, RPN, LPN) and Allied Health Professionals providing direct care, measuring vital signs and performing physical assessments

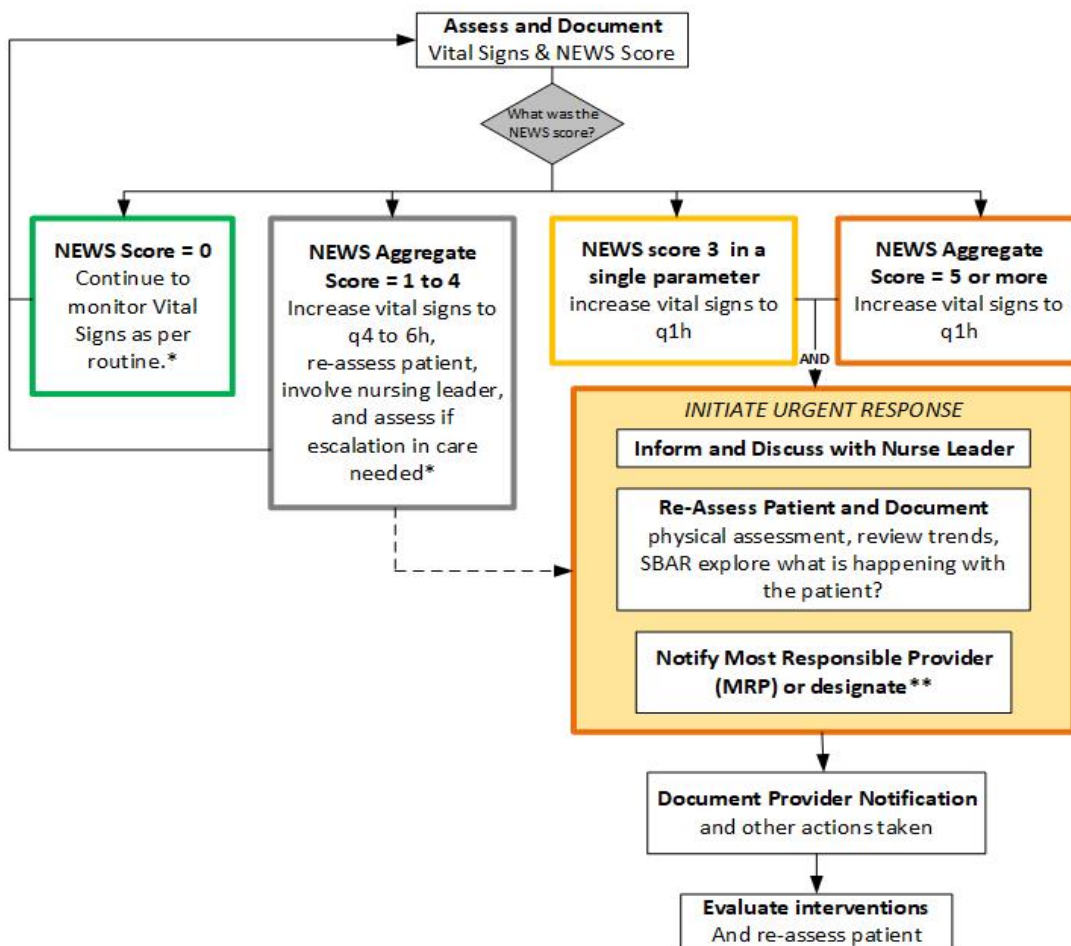
Additional Education is available:

Nurses: **CST Cerner-Nurse Early Warning System and Sepsis** (Course ID: 16525 on LearningHub)

CST Cerner- UPCC Nurse: Early Warning System (Course ID: 24753)

Providers: **CST Cerner-Provider Early Warning System and Sepsis** (Course ID: 16526 on LearningHub)

Algorithm



Clinician Responsibilities

Nurses will:

- Ensure all care aligns with the patient's goals of care.
- Involve other members of the care team when NEWS score is elevated as appropriate
- Notify MRP as appropriate, and urgently when NEWS score is elevated
- Review and complete any orders received, and perform interventions as appropriate.
- Re-assess the patient and evaluate the effect of care / interventions
- Document care delivered and assessments
- Continue to escalate care as appropriate until resolved or patient is transferred to a higher level of care (see escalation aid)

Providers will:

- Ensure all care aligns with the patient's goals of care.
- Once notified, make decisions about initial treatment and next steps and re-assess the patient in person in a timely manner
- Place orders, provide instructions to the care team and perform interventions as needed.
- Document assessment and interventions
- Evaluate/Re-evaluate the care /interventions provided, which may include reassessing the goals of care.
- Escalate care (e.g., consult critical care) as needed

Notes: * = you can activate A Rapid Response or Clinical Resource Team (e.g. CCOT/NAR) if you are worried about your patient for any reason. You do not need to wait for an elevated NEWS value to raise any issues or concerns with the patient's care team or rapid response team; ** = both NEWS of 3 in a single parameter OR an aggregate NEWS of 5 or more meets the CCOT/NAR call criteria for activation

Need to Know

NEWS calculations and this protocol do not apply to:	NEWS Discern alerts are suppressed in:
<ul style="list-style-type: none"> ○ The recognition of deterioration and care in children (See Pediatric Early Warning System (PEWS) protocol); ○ Critical Care inpatient units (including HAU, Post Anesthetic Care Units (PACU) for stays less than 4 hours, neuro ICU at VGH) ○ Ambulatory or Short Stay areas ○ Maternity units (See Maternity Early Warning System (MEOWS)) 	<ul style="list-style-type: none"> ○ VGH Spinal step down and Neuro ICU ○ Palliative Care units and/or patients in the final stages of a terminal illness where an end of life PowerPlan is in place ○ Emergency Departments (ED) ○ Urgent Primary Care Centres (UPCC)

- NEWS was developed by the Royal College of Physicians in the United Kingdom and endorsed by the National Health Service (NHS) to improve the detection and response to clinical deterioration in adults with acute illness. (**Note:** in VPP Cerner Sites Adult refers to 17 years and over, Pediatric is 16 years and younger).
- NEWS aims to reduce the risk of increased length of hospital stay, or death due to failure to detect and respond to a patient's deteriorating condition. NEWS considers all the patient's recorded vital signs together, rather than a single variable in isolation.
The current version of NEWS is NEWS2, referred to as NEWS in this document and in Cerner.
- Clinical deterioration can occur at any point in a patient's illness, but particularly during vulnerable periods such as:
 - following an emergency admission to hospital;
 - before or after surgery;
 - during treatments or procedures;
 - during recovery from a critical illness or
 - exacerbation of complex and multiple co-morbidities.
- NEWS does not automatically notify the most responsible provider or rapid response teams [e.g Critical Care Outreach Team (CCOT), Nursing Assessment Response (NAR)].
- Emergency (ED) and Urgent and Primary Care Centre (UPCC) clinicians document NEWS scores to establish a baseline assessment at triage (using the ED Triage Adult PowerForm). The NEWS score populates into LaunchPoint and is used in addition to the CTAS score to identify and prioritize patients at risk for or experiencing clinical deterioration.

NEWS calculation

A total NEWS score is calculated in Cerner from the following Vital Signs (VS) parameters:

- Temperature
- Heart Rate (HR)
- Respiratory Rate (RR)
- Oxygen Saturation (Scale 1 (majority of patients), Scale 2 (with provider order, patients with hypercapnic respiratory failure and a lower target SpO₂))
- Blood Pressure (BP)

- ACVPU:
 - Alert (A)- patient is alert
 - New onset confusion (C). If unclear whether confusion is new or baseline, assume confusion new until confirmed otherwise
 - Voice (V) – patient responds to voice
 - Pain (P) – patient responds to pain
 - Unresponsive (U) – patient is unresponsive to any stimuli

See the scoring criteria ([Table 1](#)) for calculation of a NEWS score

NEWS Status – Complete or Incomplete

The NEWS calculation will display as “complete” if all parameters are entered, otherwise it will display as “incomplete” in iView (see image next page).

NEWS can generate an alert from a single abnormal vital sign. The NEWS score will be calculated regardless of how many vital signs parameters are entered. Clinicians can identify if the NEWS score was calculated from a complete or partial set of vital signs by looking at the **NEWS Status**. The NEWS status will be auto-generated as “Complete” if all vital signs have been documented and as “Incomplete” if one or more vital signs have been left blank.

In LaunchPoint, an asterisk (*) will appear next to the NEWS score as a visual indicator of an incomplete NEWS score

When reviewing a trend in the NEWS score, be cognizant that NEWS scores with an “incomplete” NEWS status, may have scored higher if a complete set of vital signs been used to calculate the score.

Look Back for Temperature and ACVPU

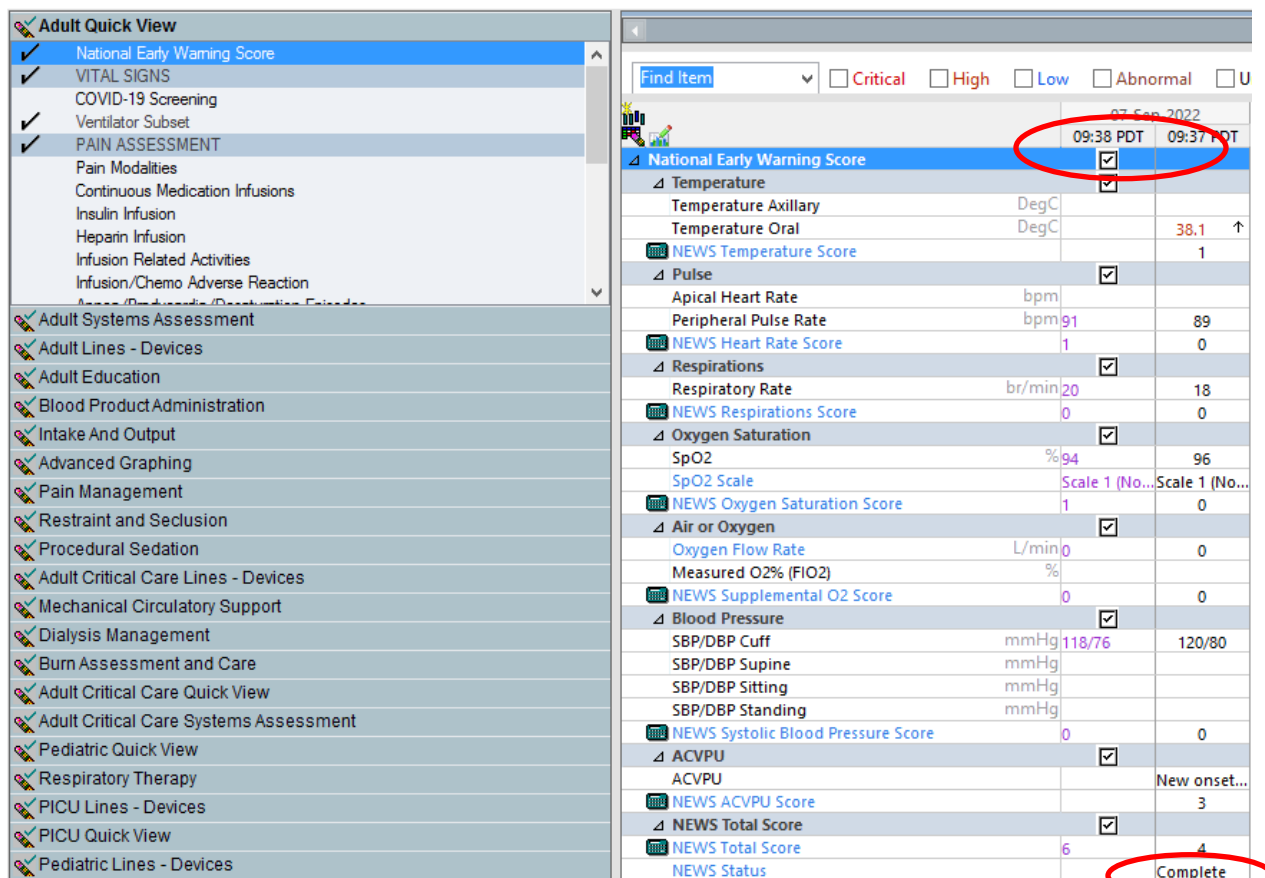
Temperature and ACVPU scores often change more slowly and are not always as frequently assessed, therefore these two vital signs have a 4-hour “look-back” feature. If no new temperature or ACVPU score is documented, NEWS will include any previous score within the past 4 hours and add it as part of the current calculation. For example, if BP, HR, RR and oxygen saturation are entered at 1030 and temperature and ACVPU are entered at 0800, the temperature and ACVPU values will be included in the 1030 NEWS calculation and the NEWS Status will be categorized as “complete”

Protocol

Assessment

1. VS assessment and NEWS scoring is completed at the time of admission (on arrival to unit) or on initial assessment (Initially in ED on the ED-Adult Triage PowerForm, for surgical patients on the Surgical Assessment PowerForm) and with every subsequent set of VS.
2. Assess patient’s VS and document National Early Warning Score (NEWS)

- a. **Activate** the NEWS score calculation by double clicking the blue band under the current time column in iView Adult Quick View/MH Adult Quick View / ED adult Systems Assessment/Periop Systems Assessment. Document the VS and neurological assessment (ACVPU) in the NEWS section. The VS entered will also flow to the VS section below.



Find Item	<input type="checkbox"/> Critical	<input type="checkbox"/> High	<input type="checkbox"/> Low	<input type="checkbox"/> Abnormal	<input type="checkbox"/> U
National Early Warning Score					
Temperature					
Temperature Axillary					
Temperature Oral				38.1	↑
NEWS Temperature Score					1
Pulse					
Apical Heart Rate					
Peripheral Pulse Rate					
NEWS Heart Rate Score					1
Respirations					
Respiratory Rate					
NEWS Respirations Score					0
Oxygen Saturation					
SpO2					
SpO2 Scale					
NEWS Oxygen Saturation Score					1
Air or Oxygen					
Oxygen Flow Rate					
Measured O2% (FIO2)					
NEWS Supplemental O2 Score					0
Blood Pressure					
SBP/DBP Cuff					
SBP/DBP Supine					
SBP/DBP Sitting					
SBP/DBP Standing					
NEWS Systolic Blood Pressure Score					0
ACVPU					
ACVPU					
NEWS ACVPU Score					3
NEWS Total Score					6
NEWS Total Score					4
NEWS Status					Complete

When activated in iView, the NEWS score will then calculate from the VS and ACVPU entered.

NOTE: If an incomplete set of parameters is entered, the score will still calculate as long as the blue band has been double-clicked.

Alerts and Notification in the Cerner Electronic Health Record

1. NEWS alerts are only received when a nurse has an 'established relationship' with a patient. Physicians and other providers do **not** see NEWS alerts
2. The NEWS discern alerts will show colour-coded instructions for escalation of care (yellow, orange, red) that correspond to the patient's NEWS score. The instruction includes two tasks to document against – "Action Taken" and "Provider Notification"
3. A NEWS alert will be triggered for any single parameter scoring greater than or equal to 3 (e.g. a score of 3 for a HR 131) OR any multi-parameter score equal to or greater than 5 (e.g. a score of 1

for systolic BP + score of 2 for HR + score of 2 for RR). A NEWS score of 3 or higher will generate a “high risk” notification on CareCompass and Clinical Leader Organizer.

4. Nurses will only receive a repeat alert if the score is 3 or above AND is higher than the previous score. For a score that is the same or lower, alerts are suppressed for the next 4 hours.
5. Use the total NEWS score, in combination with clinical judgement, to escalate patient care as per [Table 2](#)
6. The NEWS score will flow to the Handoff Tool (Vital Signs and Measurement component) and the EWS/Sepsis Dashboard and the Early Warning Alerts Flowsheet.

Table 1. NEWS Scoring

National Early Warning Score Criteria							
Physiological Parameter	Score						
	3	2	1	0	1	2	3
Respiratory Rate (per minute)	8 or less		9 to 11	12 to 20		21 to 24	25 or more
SpO ₂ Scale 1 (%)	91 or less	92 to 93	94 to 95	96 or more			
SpO ₂ Scale 2 (%)	83 or less	84 to 85	86 to 87	88 to 92 More than 93 on air	93 to 94 on oxygen	95 to 96 on oxygen	97 or more on oxygen
Air or oxygen?		oxygen		air			
Systolic Blood Pressure (mmHg)	90 or less	91 to 100	101 to 110	111 to 219			220 or more
Pulse (HR) (per minute)	40 or less		41 to 50	51 to 90	91 to 110	111 to 130	131 or more
Consciousness				alert			CVPU
Temperature (C°)	35 or less		35.1 to 36	36.1 to 38	38.1 to 39	39.1 or more	

Interventions

1. Determine the urgency and type of clinical response required:

The total NEWS score in combination with clinical judgement will determine the urgency and type of clinical response required. [Table 2](#) provides a guide to clinical interventions.

2. Escalation of clinical concern continues until the clinical issue is resolved on the unit, the patient is transferred to a higher level of care, or the most responsible provider has determined another plan of care. **Communication with the provider is not complete** until the nurse understands the plan and the goals of care.
3. The most responsible provider (MRP) or designate will:
 - a. Determine the initial treatment and ensure the patient is assessed in person, in a timely manner.
 - b. Based on assessment – update or place orders and/or complete interventions
 - c. Document any interventions and care provided
 - d. Evaluate the outcomes of care/intervention provided
 - e. Escalate care (e.g. consult Critical Care) or reassess goals of care, in discussion with patient, family and healthcare team.
4. Nurses/clinicians will:
 - a. Review tasks and notifications and complete orders received
 - b. Document assessments, interventions and care provided
 - c. Evaluate care and interventions and continue to escalate care as needed
 - d. Consult with additional resources as needed e.g. Critical Care Outreach Team (CCOT), Clinical Site Coordinator, Patient Care Coordinator/Patient Care Supervisor etc.

Recommendation: Consider Sepsis if the NEWS alert was triggered by either a single parameter score of 3 or an aggregate score of 5 or more

Table 2. NEWS Care Escalation Aid

National Early Warning Score	NEWS Score	Response	Frequency of Monitoring	Clinical Response
	Total Score 0	No alert, no task	Minimum 12 hourly	<ul style="list-style-type: none"> Continue NEWS monitoring and documentation
	Total Score 1 to 4	Ward-based response	Minimum 4 to 6 hourly	<ul style="list-style-type: none"> Discuss with nursing leader Decide whether increased frequency of monitoring and/or escalation of care is required
	Single Parameter 3	Urgent ward-based response	Minimum 1 hourly	<ul style="list-style-type: none"> Discuss with nursing leader Inform Most Responsible Provider or delegate, who will review and decide whether escalation of care is necessary. Consider consulting Rapid Response Team or Clinical Resource Team (e.g. CCOT/NAR)
	Total Score 5 or more	Urgent Response	Minimum 1 hourly	<ul style="list-style-type: none"> Inform the Most Responsible Provider for urgent assessment Activate Rapid Response Team or Clinical Resource Team (e.g. CCOT/NAR) Discuss with nursing leader: <ul style="list-style-type: none"> Nurse / Patient ratio Location Care provider skill mix Equipment Medications Resources available Consideration of internal or external transfer to higher level of care
	Total Score 7 or more	Urgent or Emergency Response	Continuous Monitoring of Vital Signs	<ul style="list-style-type: none"> Immediately Inform Most Responsible Provider for emergency assessment Activate Rapid Response Team or Clinical Resource Team (E.g. CCOT/NAR) Discuss with nursing leader: <ul style="list-style-type: none"> Increase nursing (1:1) Internal or external transfer to higher level of care

Documentation

- Document all assessments and interventions including escalation of care in the Cerner Electronic Health Record or paper downtime tools
- Complete Action Taken and Provider Notification tasks

Patient and Family Education

1. Ensure the patient and family understand:
 - a. That they need to report any new or unusual symptoms or worsening symptoms, or care concerns
 - b. That monitoring frequency may increase if there are any concerns (elevated NEWS score or clinical judgement, etc.)
 - c. Providers and other teams (e.g. CCOT) may come to see them
 - d. Sometimes a change in condition may mean that a transfer to a higher level of care is needed (ICU, another site, etc.) and
 - e. Staff will keep the patient and family advised of what is happening

Related Documents

- [Pediatric Early Warning System \(PEWS\) Protocol](#)
- [Sepsis Early Identification and Treatment Using Cerner EHR Protocol](#)
- CST Cerner Help Topics
 - [National Early Warning Score \(NEWS\)](#)
 - [Modify National Early Warning Score \(NEWS\) Documentation](#)
 - [Unchart National Early Warning Score \(NEWS\) Documentation](#)

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Definitions

“Clinician” refers to Nurses (RN, RPN, LPN) and Allied Health Professionals

“Provider” refers to Physicians, Dentists, Nurse Practitioners and Midwives.

“Patient Deterioration” is determined by a single change or a set of changes in physiologic signs/symptoms, vital signs which suggest a worsening state in condition or function

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