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Guideline of Adult Critical Care Rapid Response Team

Introduction

Rapid response systems (RRS) are designed to identify and respond to deteriorating patients by moving critical personnel, diagnostics, and interventions to the bedside. It improve the safety of hospitalized patients whose condition is deteriorating quickly by identifying them by timely notification upon early signs of deterioration, bring the expertise (team of responders) capable of providing critical care resources and interventions at the patient's current location in timely manner, leading to preventing deterioration leading to life threatening events, prompt therapy and resuscitation as needed and transfer to higher level of care while promoting education and higher patient safety culture. Introduction of a RRS resulted in an overall reduced rate of unexpected cardiac arrest outside ICU, unscheduled critical care admissions and hospital mortality. Similarly, delay in activation of the RRS for decompensating patients is independently associated with increased mortality. The aim of this guideline is establishing a high quality RRT service for in-patients in the hospitals which will improve patient safety, decrease in-hospital serious events and death by ensure timely evaluation/intervention for the critical ill in-patients outside the critical care areas by bringing the expertise to the in-patient bedside in timely manner.

Definitions:

- Rapid Response Team – is a group of health care professionals that can be activated in response to clinical criteria activation. A system of early recognition and intervention for inpatients at risk for decompensation or deterioration.
- RRT Patient:
  Patient with early warning signs based on EWS, MEOWS,
- Early Warning System (EWS): is a guide used by hospital nursing and medical staff to quickly and easily assess the degree of illness of adult patients. It is based on data derived from four physiological readings (Systolic blood pressure, heart rate, respiratory rate, body temperature) and one observation (Level of consciousness, AVPU). It is also being applied to gynecological patients.
- Modified Early Obstetric Warning Score (MEOWS): a system of scoring to allow early recognition of physical deterioration in parturiated women by monitoring their physiological parameters
- SBAR: is an acronym of Situation, Background, Assessment, Recommendation, a standard framework of communication used by the team to endorse patient status during the time of RRT activation.
- DNR: Do-Not-Resuscitate.
- ICU: Intensive care unit.

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Purpose

- Responds to consultations outside the ICU for patients that may have a condition that if not immediately addressed may deteriorate critically
- Provide necessary urgent resuscitative measures as required, recommend treatment/ investigation & or referral to other specialties if required.
- Reduce the number of unplanned admissions to critical care
- Monitors the post discharge status of the patients who are transferred to the wards from ICU once every shift (12 hours) for 48 hours and refer accordingly for any deterioration.

Policy statement

1. The hospital has a rapid response committee chaired by a qualified ICU physician, meets regularly, and reports directly to the CEO.
2. The Rapid Response System structure will be in four (4) components:
   a. Administration/Design Team: Oversees all functions. (Organizers)
   b. Afferent (Caller): Responsible for Event detection and triggering (activating the system).
   c. Efferent-RRT- (Responder): Responds to system activation
   d. Quality Assurance: Data collection and analysis for process improvement.
3. The Rapid Response team will be comprised of (according to each hospital's need and availability):
   a. RRT Nurse
   b. Respiratory Therapist
   c. ICU physician
4. Equipment, consumables and forms
   - Response Team Activation Form
   - Early Warning System Score
   - Modified Early Obstetric Warning Score (MEOWS)
   - Patient Assessment Form.
   - Emergency Bag Checklist
   - Rapid Response Equipment/forms:
     a. Emergency Bag/Jump kit.
     b. Transport vehicle.
     c. Spinal board, C-collar.
     d. Arm & Leg splints.
     e. Communication tools.
5. RRT will be activated for any patients with early warning signs based on EWS or MEOWS. (Appendix 1)
6. The team will be available 24 hours/day/7 days a week.
7. RRT determines the allocation of every patient after assessing their triage level, immediate needs, and conditions severity
8. Patients should be transported in accordance with their illness severity and lifesaving risk, as determined by the rapid response rescuer.
9. If the patient is not transferred to ICU, a 24-hour follow-up before sign-off as indicated by the patient's condition.

10. The patient's family members could accompany him/ her during the rescue and while being transported.

11. All hospital healthcare providers and staff receive education and training for rapid response activation, their roles, responsibilities, and awareness of no retaliation policies for activation.

Procedures

1. When the concerned health care provider (eg. Primary Nurse) notices that a patient is showing signs of instability, quickly assesses the patient according to the activation criteria to validate the score and will activate the RRT based on the Criteria of patient EWS or MEOWS.
2. Typical Rapid Response System Calling Criteria

Any staff member may call the team if one of the following criteria is met:

- Heart rate over 140/min or less than 40/min
- Respiratory rate is over 28/min or less than 8/min
- Systolic blood pressure is greater than 180 mmHg or less than 90 mmHg
- Oxygen saturation is less than 90% despite supplementation
- Acute change in mental status
- Urine output is less than 50 cc over 4 hours
- Staff member has significant concern about the patient's condition

Additional criteria used at some institutions:

- Chest pain unrelieved by nitroglycerin
- Threatened airway, stridor, respiratory distress
- Seizure
- Uncontrolled pain

3. Getting the crash cart at the bedside and connecting it to the patient.
4. Any staff can activate the rapid response/RRT in any patient location in the hospital, even if the patient does not meet the EWS criteria, based solely on staff's concern or clinical judgement without any negative consequences or retaliation.
5. The activating party will activate the Rapid Response Team by Phone / Bravo call ect…
6. The Responder will need the following information
   a) Caller name
   b) Location
   c) Extension
   d) Reason for referral Ex: Rapid Response Team is needed in (Ward Room Number, Patient's Name with patient's number and the reason that the patient is currently…)
7. The operator will be responsible in disseminating the call received from the caller to the concerned RRT as soon as possible, to adhere to the 15 minutes.
8. Once the RRT is activated the primary nurse and the charge nurse will remain at the bedside.
9. In response to the activation the RRT should arrive within 15. The RRT will:
10. Assist the staff member in assessing and stabilizing the patient's condition.

11. Assist the staff member in organizing information to be relayed to the patient's physician.
12. RRT is not intended to replace care provided by the patient's physician and primary nurse or to replace the code blue team/ CPR Team
13. RRT should not be activated for patients with DNR Status
14. The RRT assesses, diagnoses, and stabilizes clinical situations, including, sepsis, septic shock, stroke ACS/MI, and VTE, per standards of care and regulations, initiating emergency care and transfer to a higher level of care, as indicated.
15. RRT physician will recommend investigations, diagnostic procedures, medications (including high alert medications) referral to other specialties if indicated. The primary team physician is responsible for relaying these recommendations to the MRP, and carrying out all the agreed recommendations, follow up their implementation and update RRT as regard to patient condition, progress & results of investigations.
16. Clinical staff responsible for the care of the patient shall provide education to the patient and / or family on how to call immediately for help if they start feeling worried about themselves or their patients.
17. The RRT will document the assessment, recommendation and patient response to treatment on the RRT Form and multi-disciplinary progress note.
18. Rapid response committee collects, analyses, evaluates, and disseminates rapid response-specific measures benchmarked with internal and external data.
19. Required rapid response KPIs include rates of activation per 1000 hospital admissions, response times, percentage transfer to ICU, transfer time, decision-to-intervention time, patient outcome(s), CPR rates with and without rapid response activation, and clinician documentation compliance.

Responsibilities

1. Ward charge nurse
   - Activates RRT
   - Notifies the primary physician on the ward to be present at the bedside and to attend the team during activation
   - Communicate with the RRT members about the patient's condition using SBAR (RRT Referral form).
2. Ward bedside nurse
   - Notifies nursing station that RRT was activated to his/her patient.
   - Starts filling in the SBAR form
   - Remains in the bedside during the time of activation and provide needed information regarding the patient
   - Carries out the recommended plan of care by the RRT
3. Primary team physician
   - Activates RRT
   - The MRP resident must be present at the bedside during RRT response
   - Communicate with the RRT members about patient condition using SBAR
   - Carry out the agreed recommendation of RRT (e.g Entering Medications, Radiologic investigations request)
   - Must be available at the bedside until RRT arrival and during RRT assessment to provide any needed information and collaborate with the team regarding patient plan of care.

4. Respiratory therapist
    - Assesses the patient, prepares and assists in intubation
    - ABG if needed
    - Administers oxygen requirement and initiates NIV or HFNC if needed
    - Maintains airway.
5. Quality department
    - Analyses, evaluates, and disseminates rapid response-specific measures benchmarked with internal and external data.
    - Monitor KPIs include rates of activation per 1000 hospital admissions, response times, percentage transfer to ICU, transfer time, decision-to-intervention time, patient outcome(s), CPR rates with and without rapid response activation, and clinician documentation compliance.

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Appendices 1

Physiological Parameters	3	2	1	0	1	2	3
Temperature		≤35.0	35.1 - 36.0	36.1 - 38.0	38.1 - 39.0	≥39.1	
Systolic BP	≤90	91 - 100	101-110	111-200		201-219	≥220
Heart Rate	≤40		41 - 50	51 - 100	101 - 110	111-129	≥130
Respiratory Rate	≤8		9 - 11	12 - 20		21 - 29	≥30
Oxygen Saturation	≤91	92 - 93	94 - 95	≥96			
Any Supplemental Oxygen		Yes		No			
Level of Consciousness				A	V	P	U

MEOWS ≥ 5 for Obstetrics

Physiological Parameters		3	2	1	0	1	2	3
Respiratory rate per minute		>30	26-29	21-25	16-20		11-15	≤10
SPO2					95-100			≤ 94
Temperature (oC)		>38		37.6-37.9	36.1-37.5	35.1-36.0		≤ 35
Maternal Heart Rate		>120	101-119	91-100	61-90	51-60	41-50	≤ 40
Systolic BP (mmHg)		>160	151-159		101-150	91-100	71-90	≤ 70
Diastolic BP (mmHg)		>110	101-109	91-100	41-90			≤ 40
Neuro Response (AVPU)		P, U		V	A			
Urine	Protein			1+				
	Output		<30					≤10
Maternal Agitation/Confusion		Yes			No			
Pain Score		3 to 4			0 to 2			
Nausea				Yes	No			
Looks Unwell		Yes			No			

Clinical Response to MEOWS triggers

TOTAL MEOWS SCORE	FREQUENCY OF MONITORING	CLINICAL RESPONSE
0	4 Hourly	ROUTINE Minimum 4 hourly observations
1-3 (Aggregate)	4 Hourly	LOW Minimum 4 hourly observations Alert nurse in charge
3-4 (aggregate)	1 Hourly	Medium Urgent call to Section Doctor (Obstetrician/Gynecologist)-Resident/On call Registrar for review
≥ 5 (aggregate)	Continuous monitoring of vital signs	High Continuous monitoring of vital signs Activate Maternity Rapid response Team Consider transfer of patient to MICU