



HEALTH HOLDING

HAFER ALBATIN HEALTH
CLUSTER
MATERNITY AND
CHILDREN HOSPITAL

Department:	Provision of Care		
Document:	Multidisciplinary Policy and Procedure		
Title:	Pediatric Rapid Response System		
Applies To:	All Paediatric Medical, Nursing and Respiratory Therapy Staff		
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1. PURPOSE:

- 1.1 Provide a structure to mobilize resources and deliver a prompt clinical support that reduces the risk of cardiopulmonary arrest and improve outcomes in paediatric patients who are progressively deteriorating or exhibiting clinical instability in the non-invasive care areas of the hospital by providing a dedicated multidisciplinary team that rapidly assesses and intervenes for each patient.
- 1.2 To outline Pediatric Rapid Response Team's (PRRT) duties, and define the role of each team member

2. DEFINITIONS:

- 2.1 Rapid Response System - the system that focuses on the prediction, detection and management of clinical deterioration in non-invasive care areas known as rapid response systems (RRSs). Rapid response systems identify deteriorating hospitalized patients prospectively and seek to alter their clinical trajectory through increasing the clinical resources directed to them.
- 2.2 Pediatric Rapid Response Team — a multidisciplinary team of designated and trained healthcare professionals who respond to concerns about the change or substantive deterioration in a paediatric patient's condition, in non-PICU areas, with the primary focus of assisting with rapid assessment, communication and stabilization of the patient and assist with transfer to a higher level of care as necessary.
- 2.3 SBAR — a structured form to expedite/facilitate communication incorporating the patient situation (S), background (B), assessment (A), and recommendations (R).
- 2.4 Attending/ Primary Nurse — nurse in charge of the patient.
- 2.5 MRP — Most responsible physician - consultant in charge of the patient.

3. POLICY:

- 3.1 The purpose of this policy is to provide a consistent and evidence-based standard of care to patients who are in a potentially critical outcome.
- 3.2 The Paediatric Rapid Response Team (PRRT) is comprised of PICU physician, PICU nurse, Respiratory Therapist and bedside nurse.
- 3.3 The PRRT may be called for at any time by anyone in the hospital if there is a question or concern regarding the patient's condition.
- 3.4 The Paediatric Early Warning Score (PEWS) will be used as PRRT activation criteria.
- 3.5 Activation of the PRRT does not require a physician's order.
- 3.6 There is a designated PRRT (for every shift) that will respond to any PRRT activation.
- 3.7 Patients will be assessed, stabilized and transferred to a higher level of care as necessary when exhibiting signs and symptoms of physiological instability.
- 3.8 The MRP remains in charge of the patient's care unless it is delegated to another physician.
- 3.9 Activation of the PRRT does not in any way replace immediate consultation with the patient's MRP.
- 3.10 If the physician has a standing 'DO NOT RESUSCITATE' order, then a code blue will not be initiated, but PRRT can be called for if needed.

- 3.11 For PRRT communication the Situation, Background, assessment and Recommendation(SBAR)tool will be utilized. The staff may be trained in initial orientation on the use of SBAR and in an ongoing basis as required.
- 3.12 Documentation of the rapid response will be done on a formal re-printed rapid response form.
- 3.13 Outcome Data and review of the Paediatric Rapid Response calls will be conducted to assess opportunities for process improvement.
- 3.14 PRRT is not a Code Blue Team
- 3.15 PRRT is a consultative service and unless emergent treatment is required, all therapies and recommendations should be discussed with the patients' most responsible team.
- 3.16 A member of the patient's most responsible team (staff, resident and registrar) should be present during the PRRT activation. If they are not, then the most responsible staff should be paged immediately after PRRT arrival to the bedside.
- 3.17 If the PRRT team recommends a significant change in the plan of care for the patient based on their clinical status, the patient's attending physician **MUST** be notified by the PRRT MD. Otherwise, communication with the attending physician can occur through the most responsible resident at the discretion of the PRRT team.
- 3.18 PRRT will cover admitted patients in non-critical care areas i.e.; Paediatric Medical ward, Paediatric Surgical Ward and OPD
- 3.19 For non-admitted patients in ER or other areas official PICU consultation should be used if needed.
- 3.20 All patients that are transferred to the step down unit will be monitored by the PRRT for forty-eight (48)

4. PROCEDURE:

- 4.1 Guidelines to call the Paediatric Rapid Response Team:
 - 4.1.1 Activation Calling Criteria: PEWS will be used by bedside nurse to evaluate the patient's deteriorating condition and PRRT should be called if $PWES \geq 7$.
 - 4.1.2 The PRRT can be activated if there is staff (MD, RN, RT) or family concern about a significant change or deterioration in a patient's condition regardless of PEWS status.
 - 4.1.3 The PEWS does not replace the clinical judgement. If a child is deteriorating acutely or in peri-arrest, PRRT or code blue should be activated as appropriate.
- 4.2 Mechanism for calling PRRT:
 - 4.2.1 The activation will be made by overhead paging system, dial 2222, RRT, location(department) room number, and bed number. (e.g0, RRT, Pedia Ward, Room Number 5, Bed Number 2)
 - 4.2.2 The announcement will be repeated a total of three times to ensure that PRRT members get the right location, room number and bed number.
 - 4.2.3 The MRP/Consultant on call will be notified by the paediatric registrar/residents simultaneously with the activation call.
- 4.3 PRRT response:
 - 4.3.1 Once activated PRRT is expected to respond within 10 minutes
 - 4.3.2 Upon arrival of the Paediatric rapid response Team, the patient's primary nurse will be the Rapid Respond Team members a report on the patient in SBAR format.
 - 4.3.3 Paediatric Rapid Response team members will review and assess the patient condition, provide necessary interventions and formulate a plan of action.
 - 4.3.4 Additionally, the Paediatric Rapid Response Team member will provide mentoring and coaching to the primary nurse to develop advance assessment and critical thinking skills.
- 4.4 Role of the PRRT members:
 - 4.4.1 Attending/Primary Nurse:
 - 4.4.1.1 Upon arrival of the PRRT, the patient's primary nurse will stay with the patient and will be part of PRRT.
 - 4.4.1.2 She will give patient's history, the events leading up the rapid response, pertinent laboratory results, ongoing treatment and code status in SBAR format.
 - 4.4.1.3 Notify the treating physician of the patients' deteriorating condition and the a rapid response has been activated

- 4.4.1.4 Assist the PRRT with monitoring, interventions and treatment
- 4.4.1.5 Provide supplies and medications requested by PRRT.
- 4.4.1.6 Document the symptoms of deteriorations that lead to activation of PRRT.
- 4.4.1.7 Document the event, interventions and outcome in the patient record.
- 4.4.1.8 Assist with transfer of patient to higher level of care as necessary
- 4.4.1.9 Provide support for the patient's family
- 4.4.2 PICU Physician:
 - 4.4.2.1 The PRRT MD acts as the PRRT team leader during new activations and rounds with PRRT RN on patients requiring PRRT follow-up.
 - 4.4.2.2 The physician in charge of PRRT will review the SBAR report from the patient's nurse to include pertinent history and the immediate problem at the given time.
 - 4.4.2.3 The physician will do a detailed assessment and give appropriate orders for treatment and reassess once those orders are carried out.
 - 4.4.2.4 Communicate with the primary attending physician the patient's condition and needs.
 - 4.4.2.5 Decide about resolution or escalation of the rapid response.
- 4.4.3 PRRT Nurse:
 - 4.4.3.1 Communicate with the bedside nurse about concerns regarding the patient. Receive the SBAR report of the patient from patient's /initiating nurse.
 - 4.4.3.2 Assess the patient to include most recent vital signs, most recent labs, medications that was given, blood glucose just to name few, and communicate findings with bedside nurse.
 - 4.4.3.3 Put the patient on cardiac monitor to keep track on the patient's rhythm.
 - 4.4.3.4 Identify necessary actions based on the assessment
 - 4.4.3.5 Initiate rescue interventions as per physician's order and /or protocol.
 - 4.4.3.6 Ensure that there is appropriate intravenous access, and gives intravenous medications per physician order/protocol.
 - 4.4.3.7 Receive and carry out orders from rapid response physician.
 - 4.4.3.8 Reassess the patient once those orders are carried out.
 - 4.4.3.9 Consult with the PICU physician if required
 - 4.4.3.10 Communicate with the primary attending physician regarding the patient's condition and needs
 - 4.4.3.11 Coordinate event during the PRRT's presence
 - 4.4.3.12 Facilitate the timely transfer of the patient to higher level of care as necessary.
 - 4.4.3.13 Complete the rapid response record, keep the original from in the patients file and keeps a copy for PRRT debriefing and data tracking purposes.
 - 4.4.3.14 Debrief and evaluate the event with the initiating/bedside nurse.
 - 4.4.3.15 Provide education to colleague.
- 4.4.4 Respiratory Therapist
 - 4.4.4.1 Assess the respiratory status of the patient which includes a respiratory history
 - 4.4.4.2 Assess the respiratory therapy being provided to the patient
 - 4.4.4.3 Assess the respiratory rate, pattern, lung sounds and SPO₂ of the patient.
 - 4.4.4.4 Assess the patient's ability to clear his or her airway by themselves
 - 4.4.4.5 Assist with ventilation and perform arterial blood gas analysis of patient if warranted and ordered from the physician.
 - 4.4.4.6 Administer treatments such as oxygen if not done and respiratory treatments such as Albuterol nebulization
 - 4.4.4.7 Reassess the respiratory status of the patient when treatments are completed.
 - 4.4.4.8 Monitor the effectiveness of respiratory therapy and changes in therapy.
 - 4.4.4.9 Prepare for endotracheal intubation and assist the physician with the endotracheal intubation if required
 - 4.4.4.10 Document respiratory therapy care in patient record.
 - 4.4.4.10.1 Patient's outcome and disposition
 - 4.4.4.10.2 Physician order on the order sheet
 - 4.4.4.10.3 Signature of the patient's nurse(s), respiratory therapist, physician.

- 4.5 After completion of the rapid response record, distribute the original to the patient file and keep a copy for debriefing and data tracking purposes.
- 4.6 All orders by PRRT should be written as suggestions in order sheet and must be signed by MRP or his designee for it to be valid.
- 4.7 Resolution or Escalation of the Paediatric Rapid Response: once the rapid response has begun and treatment is ensured, there are usually few things to consider in a rapid response situation.
 - 4.7.1 The patient is stable enough to the point that he or she will be kept on the same nursing unit and continue on the same nursing care; even though a little close monitoring is needed.
 - 4.7.2 The patient will be transferred to a designated place in PMW for closer monitoring and a slight increase in patient care is needed.
 - 4.7.3 The patient may need to be transferred to PICU.
 - 4.7.4 The patient either experiences a complete cardiopulmonary arrest or does not survive.
 - 4.7.5 In case of DNR status the management will focus on comfort care and end of life care.
 - 4.7.6 The patient's MRP will be notified of the change in the patient's condition as well as the rapid response, treatments given and the patient's outcome.
 - 4.7.7 A rapid response that has been called to a non-inpatient, such as the one who is there for an outpatient check-up or a visitor will be taken to the emergency room department and be managed by the PRRT.
- 4.8 Follow-up of PICU Discharge Patients:
 - 4.8.1 All patients discharged from the PICU to an inpatient area will be followed up by the PRRT for forty-eight (48) hours. The PRRT RN (Registered Nurse) on duty that day should update the list of active patients by screening the PICU admission/discharge logs for patients who are discharged over the preceding twenty-four (24) hours.
 - 4.8.2 The minimum expectations for follow-up of patients who were discharged from the PICU should be seen once a day over the 2-day period.
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- 4.9 Documentation:
 - 4.9.1 Documentation of the rapid response will be done during the actual event by a recorder usually a registered nurse. The information will be transferred on a formal pre-printed rapid response treatment form with signature of the recorder and rapid response physician after the situation has calmed down to allow for documentation to occur.
 - 4.9.2 Documentation to the patient's medical record and PRRT form will include:
 - 4.9.3.1 Time of activation
 - 4.9.3.2 Physician notification
 - 4.9.3.3 Primary reason for activation (include PEWS, patient's clinical condition signs and symptoms, etc.)
 - 4.9.3.4 Interventions that were initiated, including medications.
 - 4.9.3.5 Patient's response to interventions.

5. MATERIAL AND EQUIPMENT:

- 5.1 Rapid Response Team Record

6. RESPONSIBILITIES:

- 6.1 Physician
- 6.2 Nurse
- 6.3 Respiratory Therapist




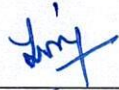



7. APPENDICES:

- 7.1 Bedside Paediatric Early Warning System

8. REFERENCES:

- 8.1 RRT ministry of health protocol
- 8.2 Kingdom of Saudi Arabia, Ministry of Health Basih General Hospital, 2018
- 8.3 Kingdom of Saudi Arabia, Ministry of health, Maternity and Children Hospital – Buraidah, 2019
- 8.4 Institute of Clinical Systems Improvement: Rapid Response team Healthcare Protocol
- 8.5 Institute of Healthcare Improvement
- 8.6 <http://www.update.com/contents/rapid-response-systems>
- 8.7 Carondelet Health Network Patient Care Services Policy and Procedure
- 8.9 King Faisal Specialist Hospital and research Center- Riyadh

9. APPROVALS:

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Age from 0 to < 3 month

If PEWS Score is ≥ 7 \longrightarrow Activate PRRT

	0	1	2	4
Heart Rate (bpm)	> 110 and < 150	≥ 150 or ≤ 110	≥ 180 or ≤ 90	≥ 190 or ≤ 80
Systolic BP (mmHg)	> 60 and < 80	≥ 80 or ≤ 60	≥ 100 or ≤ 50	≥ 130 or ≤ 45
Respiratory Rate (breath/min)	> 29 and < 61	≥ 61 or ≤ 29	≥ 81 or ≤ 19	≥ 91 or ≤ 15
Capillary Refill Time	< 3 Seconds			≥ 3 Seconds
Respiratory Effort	Normal	Mild Increase	Moderate Increase	Severe Increase / Apnea
Oxygen Saturation %	> 94 %	91 % to 94 %	< 90 %	
Oxygen Therapy	Room Air		< 4 L/min or < 50%	≥ 4 L/min or $\geq 50\%$

Age from 3 – 12 months

If PEWS Score is ≥ 7 \longrightarrow Activate PRRT

	0	1	2	4
Heart Rate (bpm)	> 110 and < 150	≥ 150 or ≤ 100	≥ 170 or ≤ 80	≥ 180 or ≤ 70
Systolic BP (mmHg)	> 80 and < 100	≥ 100 or ≤ 80	≥ 120 or ≤ 70	≥ 150 or ≤ 60
Respiratory Rate (breath/min)	> 24 and < 51	≥ 51 or ≤ 24	≥ 71 or ≤ 19	≥ 81 or ≤ 15
Capillary Refill Time	< 3 Seconds			≥ 3 Seconds
Respiratory Effort	Normal	Mild Increase	Moderate Increase	Severe Increase / Apnea
Oxygen Saturation %	> 94 %	91 % to 94 %	< 90 %	
Oxygen Therapy	Room Air		< 4 L/min or < 50%	≥ 4 L/min or $\geq 50\%$

Age from 1 – 4 years

If PEWS Score is ≥ 7 \longrightarrow Activate PRRT

	0	1	2	4
Heart Rate (bpm)	> 90 and < 120	≥ 120 or ≤ 90	≥ 150 or ≤ 70	≥ 170 or ≤ 60
Systolic BP (mmHg)	> 90 and < 110	≥ 110 or ≤ 90	≥ 125 or ≤ 75	≥ 160 or ≤ 65
Respiratory Rate (breath/min)	> 19 and < 41	≥ 41 or ≤ 19	≥ 61 or ≤ 15	≥ 71 or ≤ 12
Capillary Refill Time	< 3 Seconds			≥ 3 Seconds
Respiratory Effort	Normal	Mild Increase	Moderate Increase	Severe Increase / Apnea
Oxygen Saturation %	> 94 %	91 % to 94 %	< 90 %	
Oxygen Therapy	Room Air		< 4 L/min or < 50%	≥ 4 L/min or $\geq 50\%$

Age > 4 years to 12 years

If PEWS Score is ≥ 7 \longrightarrow Activate PRRT

	0	1	2	4
Heart Rate (bpm)	> 70 and < 110	≥ 110 or ≤ 70	≥ 130 or ≤ 60	≥ 150 or ≤ 50
Systolic BP (mmHg)	> 90 and < 120	≥ 120 or ≤ 90	≥ 140 or ≤ 80	≥ 170 or ≤ 70
Respiratory Rate (breath/min)	> 19 and < 31	≥ 31 or ≤ 19	≥ 41 or ≤ 14	≥ 51 or ≤ 10
Capillary Refill Time	< 3 Seconds			≥ 3 Seconds
Respiratory Effort	Normal	Mild Increase	Moderate Increase	Severe Increase / Apnea
Oxygen Saturation %	> 94 %	91 % to 94 %	< 90 %	
Oxygen Therapy	Room Air		< 4 L/min or < 50%	≥ 4 L/min or $\geq 50\%$

Age > 12 years - 14 years

If PEWS Score is ≥ 7 \longrightarrow Activate PRRT

	0	1	2	4
Heart Rate (bpm)	> 60 and < 100	≥ 100 or ≤ 60	≥ 120 or ≤ 50	≥ 140 or ≤ 40
Systolic BP (mmHg)	> 100 and < 130	≥ 130 or ≤ 100	≥ 150 or ≤ 85	≥ 190 or ≤ 75
Respiratory Rate (breath/min)	> 11 and < 17	≥ 17 or ≤ 11	≥ 23 or ≤ 10	≥ 30 or ≤ 9
Capillary Refill Time	< 3 Seconds			≥ 3 Seconds
Respiratory Effort	Normal	Mild Increase	Moderate Increase	Severe Increase / Apnea
Oxygen Saturation %	> 94 %	91 % to 94 %	< 90 %	
Oxygen Therapy	Room Air		< 4 L/min or < 50%	≥ 4 L/min or $\geq 50\%$

Pediatric Early Warning Signs Scoring PEWS

If PEWS Score is ≥ 7 \longrightarrow Activate PRRT

Age	Item	Item Sub score			
		0	1	2	4
0 to < 3 month	Heart Rate (bpm)	> 110 and < 150	≥ 150 or ≤ 110	≥ 180 or ≤ 90	≥ 190 or ≤ 80
	Systolic BP (mmHg)	> 60 and < 80	≥ 80 or ≤ 60	≥ 100 or ≤ 50	≥ 130 or ≤ 45
	Respiratory Rate (b/m)	> 29 and < 61	≥ 61 or ≤ 29	≥ 81 or ≤ 19	≥ 91 or ≤ 15
3 – 12 month	Heart Rate (bpm)	> 110 and < 150	≥ 150 or ≤ 100	≥ 170 or ≤ 80	≥ 180 or ≤ 70
	Systolic BP (mmHg)	> 80 and < 100	≥ 100 or ≤ 80	≥ 120 or ≤ 70	≥ 150 or ≤ 60
	Respiratory Rate (b/m)	> 24 and < 51	≥ 51 or ≤ 24	≥ 71 or ≤ 19	≥ 81 or ≤ 15
1 – 4 years	Heart Rate (bpm)	> 90 and < 120	≥ 120 or ≤ 90	≥ 150 or ≤ 70	≥ 170 or ≤ 60
	Systolic BP (mmHg)	> 90 and < 110	≥ 110 or ≤ 90	≥ 125 or ≤ 75	≥ 160 or ≤ 65
	Respiratory Rate (b/m)	> 19 and < 41	≥ 41 or ≤ 19	≥ 61 or ≤ 15	≥ 71 or ≤ 12
> 4 -12 years	Heart Rate (bpm)	> 70 and < 110	≥ 110 or ≤ 70	≥ 130 or ≤ 60	≥ 150 or ≤ 50
	Systolic BP (mmHg)	> 90 and < 120	≥ 120 or ≤ 90	≥ 140 or ≤ 80	≥ 170 or ≤ 70
	Respiratory Rate (b/m)	> 19 and < 31	≥ 31 or ≤ 19	≥ 41 or ≤ 14	≥ 51 or ≤ 10
>12 to 14 year	Heart Rate (bpm)	> 60 and < 100	≥ 100 or ≤ 60	≥ 120 or ≤ 50	≥ 140 or ≤ 40
	Systolic BP (mmHg)	> 100 and < 130	≥ 130 or ≤ 100	≥ 150 or ≤ 85	≥ 190 or ≤ 75
	Respiratory Rate (b/m)	> 11 and < 17	≥ 17 or ≤ 11	≥ 23 or ≤ 10	≥ 30 or ≤ 9
0 to 14 Years	Capillary Refill Time	< 3 Seconds			≥ 3 Seconds
	Respiratory Effort	Normal	Mild Increase	Moderate Increase	Severe Increase / Apnea
	Oxygen Saturation %	> 94 %	91 % to 94 %	< 90 %	
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