LOS ANGELES COUNTY DEPARTMENT OF HEALTH SERVICES
HARBOR-UCLA MEDICAL CENTER

SUBJECT: RAPID RECOGNITION AND RESPONSE TO CHANGES IN PATIENT CONDITION

POLICY NO. 351A

CATEGORY: Provision of Care	**EFFECTIVE DATE:** 9/09
POLICY CONTACT: Susan Stein, MD	**UPDATE/REVISION DATE:**
REVIEWED BY COMMITTEE(S): Inpatient Services	

PURPOSE:
The Rapid Response Team (RRT) program is designed to improve staff's ability to recognize and respond quickly and appropriately to a deteriorating patient.

POLICY:
At Harbor-UCLA Medical Center, patient care staff will be trained to recognize signs of clinical deterioration. Any staff member who recognizes these signs should initiate a rapid response by notifying a specially trained team. The team will be responsible for responding immediately to the patient's bedside, performing initial assessment and intervention, notifying the patient's existing care team (if they are not already part of the team or aware of the response), and transferring patient to a higher level of care as needed.

The RRT does not need to be activated for Comfort Care patients. The primary inpatient attending may also write a "No RRT" order for any primary patient. The RRT will only respond for admitted patients in non-ICU areas of the hospital.

BACKGROUND:
Patients who are initially stable can deteriorate clinically within a short period of time. The most extreme form of clinical deterioration is a respiratory or cardiac arrest. The hospital has created Code Blue and Code White teams to provide immediate response in these cases. In recognition that many patients who have a Code Blue/Code White response actually begin to show signs of deterioration many hours before the Code Blue/Code White, the hospital also has Rapid Response Teams to provide immediate assessment and stabilization, long before a Code Blue/Code White occurs.

DEFINITIONS:
I. Potential Signs of Clinical Deterioration:
   A. Acute change in heart rate.

REVISED: 4/10, 2/17, 9/18, 6/22
REVIEWED: 11/10, 5/14, 2/17, 9/18, 6/22

APPROVED BY:

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B. Acute change in systolic blood pressure.
C. Acute change in respiratory rate or effort.
D. Acute change in oxygen saturation.
E. Acute change in mental status.
F. Severe, uncontrolled bleeding.
G. Narcan administration
H. Concerning of rapidly changing early warning score, e.g. National Early Warning Score (NEWS)
H. New or worsening neurological deficit including, but not limited to:
   1. Hemiparesis or hemisensory loss
   2. Receptive or expressive aphasia
   3. Hemianopia or complete bilateral visual loss
   4. Gait ataxia with or without subjective dizziness
I. Any staff member is worried that the patient is deteriorating even in the absence of any of the above criteria.

In the event that any of the symptoms above in letter H (1-4), RRT can activate a Code Stroke.

In the event that an individual is unsure about activating an RRT for a non-responsive patient, consider calling a Code Blue.

II. Age-specific vital sign parameters are summarized in the table below and the RRT should be activated for **acute** changes and must be activated when parameters do not improve rapidly despite simple interventions, e.g. small rapid fluid bolus, suctioning, small changes in FiO2, etc..:

Age	Heart Rate	Respiratory Rate	Systolic Blood Pressure	Oxygen Saturation
Adult	Less than 40 More than 130	Less than 8 More than 28	Less than 90	Less than 90%*
Pre-teen/Adolescent (over 10 years)	Less than 50 More than 100	Less than 5 More than 25	Less than 90 More than 140	Less than 94%†
School Age (6-10 years)	Less than 60 More than 120	Less than 8 More than 25	Less than 90 More than 120	
Toddler/Preschooler (1-5 years)	Less than 60 More than 180	Less than 10 More than 30	Less than 90 More than 110	
Infant (30 days-1 year)	Less than 70 More than 180	Less than 15 More than 50	Less than 80 More than 110	
Neonate (0-30 days)	Less than 80 More than 200	Less than 20 More than 60	Less than 60 More than 90	

Despite oxygen.
† Despite supplemental oxygen therapy or the patient requires a non-rebreather mask.

III. Rapid Response Team Composition
A. There are four different rapid response teams covering the different clinical services in the hospital:

Rapid Response Team Covering	Clinical Service	TEAM COMPOSITION
Medical RRT	Medicine Family Medicine Hospitalist Neurology Psychiatry OB/GYN	Physician RRT Nurse Nurse Manager and/or House Supervisor Respiratory Services EKG Technician X-Ray Technician
Surgical RRT	Trauma Surgery Colorectal Surgery GI/Oncology Surgery Vascular Surgery Cardiothoracic Surgery Endovascular Surgery Orthopedic Surgery Head and Neck Surgery (ENT) Oral/Maxillofacial Surgery (OMFS) Plastic Surgery Urology Neurosurgery	Physician RRT Nurse Nurse Manager and/or House Supervisor Respiratory Services EKG Technician X-Ray Technician
Pediatric RRT	Pediatrics	Physician RRT Nurse (from PICU or NICU) Nurse Manager and/or House Supervisor Respiratory Services (from PICU or NICU) EKG Technician X-Ray Technician
Neonatal RRT	L&D Unit and Mother/Baby Unit (MBU)/Level 1 Nursery.	Neonatal RRT Team • Physicians • NICU Respiratory Therapist • NICU RN

B. Medical RRT:

1. During the 7:30 am-5:00 pm period, this team will consist of the primary team resident and intern, Medical Intensive Care Unit (MICU) resident and intern, the 3rd call resident, a respiratory care practitioner, an electrocardiogram (EKG) technician, and an Intensive Care Unit (ICU) nurse. The first physician on scene will assume the role of team leader using an Incident Command System (ICS) model, and then transition to the following planned role structure when the appropriate providers arrive on-scene: primary team

resident as the team leader, MICU resident as co-manager, 3rd call resident as backup leader. The MICU intern will scribe orders in the Electronic Health Record (EHR).

2. During the 5:00 pm-7:30 am period, this team will consist of the MICU resident and intern, night float intern, 3rd call resident, a respiratory care practitioner, an EKG technician, and an ICU nurse. The first physician on scene will assume the role of team leader using an Incident Command System (ICS) model, and then transition to the following planned role structure when the appropriate providers arrive on-scene: MICU resident at the team leader, MICU intern as the scribe for orders in the EHR, 3rd call resident as backup leader. If the primary team is still in-house, then the team structure should be as in III.B.1 above.
3. When the Medical RRT is called for a patient with OB/GYN as the primary service, the OB/GYN resident and intern caring for the patient will also respond, to provide handoff communication to the medical RRT about the patient's medical background, events leading up to the RRT, and expertise about special risks associated with peri-operative and peri-partum issues.
4. When the Medical RRT is called for a patient with active hemorrhage, the RRT nurse should also activate the Surgical RRT.
5. RRT may apply hemostatic gauze (quikclot) to any visible bleeding sites.

C. Surgical RRT: This team will consist of the Trauma surgery junior resident on call, a respiratory care practitioner, and an ICU nurse. During the 5:00 pm -7:30 am period, the physicians in the medical RRT team above will also respond to surgical RRTs to serve as a backup leader and assist with electronic order entry. (See item B. 4. above regarding Surgical RRT activation for active hemorrhage on medical services).

D. Pediatric RRT: This team will consist of the Pediatric Intensive Care Unit (PICU) resident or designee, PICU or Neonatal Intensive Care Unit (NICU) Respiratory Care Practitioner and a Registered Nurse. The Pediatric RRT team will respond to all pediatric RRTs except the areas describe in the section E.

E. Neonatal RRT: This team will consist of the team members as delineated in the attached "Newborn Rapid Response on L&D and Level I Nursery" algorithm (attachment A). The Neonatal RRT team will respond to RRTs located in 7E Labor & Delivery and 7W (MBU/Level I Nursery).

F. The Patient Flow Facilitator will also respond to all RRT activations to help coordinate any needed transfers or resources.

PROCEDURE:

I. Activation

A. Any staff member who recognizes clinical deterioration in an admitted non-ICU patient should notify that patient's bedside nurse at once. Patients and families will also be told as part of unit orientation that they should notify the patient's nurse if they think the patient is getting worse. The bedside nurse will then assess the patient and determine if RRT activation is needed for clinical deterioration. Any staff member may activate the Rapid Response Team by calling the page Operator's stat paging line (x111).

B. The bedside nurse will tell the page operator which type of RRT they wish to activate based on the patient's clinical service. If the bedside nurse is unsure, the Medical RRT will be activated.

II. Response

A. Upon notification of a rapid response, the RRT members will respond to the patient's bedside. The first job of the RRT responders will be to assess the situation and provide immediate stabilizing treatment.
   1. Clinicians (RN, RT) may provide immediate stabilizing treatment without a provider's order, to include O2 administration by cannula, face mask, or bag-valve-mask, IV placement, positioning, suction, and placing patient on a cardiopulmonary monitor.

B. RRT RN and RRT MD team leader must call out their name and role upon arrival. Ancillary RRT team members should make their presence known to the RRT RN and MD.

C. The primary nurse will notify the primary provider on duty for the patient at the time of the RRT.

D. The bedside nurse should obtain a Finger Stick Blood glucose for all RRT's and call out the POC glucose results to the RRT RN as soon as available.

III. Role-Specific Dismissal and Crowd Control

E. Staffing and roles for RRT members will be per an Incident Command System (ICS) model. Staff will assume leadership as needed upon arrival at bedside. Staff assigned positions are returned to their normal work functions once their position is no longer needed for the incident response. Additional staff who respond to the RRT may be retained for task assistance until no longer needed. Charge Nurse, Nurse Manager and House Supervisor, when present are expected to assist with crowd control.
   1. Physicians:
      i. The first R2 or above physician on scene will assume the role of team leader and then transition to the planned role structure above (in definitions) when the appropriate providers arrive on-scene.
      ii. The RRT physician team leader may be dismissed when care is handed off to another R2 or higher. This handoff may also include delegation of required physician documentation (see Documentation below).
      iii. Other RRT physician team members may be dismissed by the physician team leader before completion of the RRT as appropriate for crowd control, fulfillment of other clinical duties, etc.

   2. Nurses:
      i. The RRT ICU RN and the bedside RN may be dismissed when they are relieved by another qualified RN.
      ii. The bedside RN and other RN responders to the RRT may be dismissed by the ICU RN before completion of the RRT as appropriate for crowd control, fulfillment of other clinical duties, etc.
      iii. For the purposes of the RRT, the bedside RN will receive their assignments from the RRT RN. The RRT RN is the RRT team leader.

iv. The charge nurse/house supervisor will obtain any needed medications that are not in the RRT bag or crash cart from the closest appropriate Pyxis, including ICU Pyxis using the override status.

3. Respiratory Therapist:
   i. The respiratory therapist responding to the RRT may be dismissed when the RRT physician team leader determines that s/he is not needed and/or they are relieved by another respiratory therapist.
4. EKG technician:
   i. The EKG technician responding to the RRT may be dismissed when the RRT physician team leader determines that they are not needed and/or they are relieved by another EKG technician.

IV. Documentation

A. Each inpatient unit will assign a RN-RRT documenter q shift.
B. During the RRT, the RN-RRT nurse will document on the paper Rapid Response Record .
C. If the patient stays on the floor at the conclusion of the RRT, the bedside nurse will continue routine documentation in the EHR. The RRT ICU RN will write a progress note in the EHR.
D. If the decision is made by the RRT physician team leader to upgrade the patient to an ICU bed, the RRT ICU RN will assume responsibility for documentation in the EHR at the time of the upgrade decision.
E. The physician team leader will document a free text description of the RRT in the EHR using the RRT Note title.
F. Charge Nurse must scan RRT record to EDL-Harbor-EmergencyCodes@dhs.lacounty.gov.

V. Disposition

A. The RRT is not concluded until *the disposition has been determined by the physician team leader, with input from nursing* on the patient's acute nursing needs.
B. The RRT nurse should initiate a debriefing after the conclusion of the RRT.

Reviewed and Approved by:
Medical Executive Committee – 06/2022

Beverley A. Petrie

Beverley A. Petrie, M.D.
President, Professional Staff Association

Appendix A: RRT Medication Box Procedure

Purpose:
To improve timely access to vasoactive, respiratory, and anaphylactic treatment medications commonly used by Rapid Response Teams (RRT) to resuscitate unstable patients.

1. RRT Medication boxes to contain:
    a. Adenosine 6 mg/2mL (5)
    b. Albuterol 2.5 mg/3mL (3)
    c. Amiodarone 150 mg/3mL (1)
    d. Dopamine 800 mg/250mL (1)
    e. D50 (2 amps)
    f. Diphenhydramine 50 mg/mL (1)
    g. Epipen 0.3mg/0.3mL(2)
    h. Furosemide 100mg/10mL (1)
    i. Hydralazine 20mg/mL (3)
    j. Labetalol 100 mg/20mL (1)
    k. Methylprednisolone 125 mg/2mL (1)
    l. Metoprolol 5 mg/5mL (3)
    m. Naloxone 4 mg/10mL (3)
    n. Nitroglycerin 0.4mg SL (1 bottle, 25 tablets)
    o. Norepinephrine 8 mg/250mL D5W (1)
    p. Ondansetron 4 mg (2)
2. RRT medication box to be co-located with the RRT RN supply backpack in the medication room of the ICU where the scheduled RRT RN is assigned, i.e. in the 5W ICU medication room when the RRT RN is part of the 5W ICU staff for that shift, except for Pediatric and Neonatal RRTs.
    a. RRT RN coming on shift responsible for picking up RRT medication box from previous shift's unit if necessary.
3. Pharmacy to maintain at least 3 stocked RRT medication boxes at a time, 2 to be kept in the relevant ICU medication room and one in the Pharmacy to be ready for exchange. When RRT is activated, the RRT RN to bring the RRT medication box and the RRT RN supply backpack to the bedside of the patient requiring RRT.
4. After the RRT:
    a. The RRT RN to mark off used medications on the inventory list contained in the RRT medication box.
    b. The RRT RN to bring used RRT medication box back to his/her unit's medication room
    c. The RRT RN (or designee) to call Basement Pharmacy for notification of exchange
    d. Pharmacy technician to bring refreshed RRT medication box to appropriate ICU med room for exchange.

ATTACHMENT B

Newborn Rapid Response on L&D and Level I Nursery

Criteria for Neonatal Rapid Response

Resp: RR <20 **OR** > 60 persistently or with other clinical changes/abnormal vital signs
O2 < 94% with supplemental Oxygen
Cardiac: HR < 80 or >200 persistently or other clinical changes/abnormal vital signs
Neuro: Acute change or lethargy
Decreased or abnormal tone
Other: Any fall or drop event

Activate Rapid Response Team

- L&D/Level 1 nurse/clerk sends message to the Delivery Pager group (310-236-6733) and indicates RRT, Floor, and Room #

AND

- Stat Page Line (x111) → Neonatal Rapid Response Team, Floor and Room #

RN Intervention

- Transport to Room equipped with Warmer Bed
  7W: (Rooms 4, 5, 6)
  7E: (Rooms 8, 9, 14, **OR2, OR3, 0R4**)
- Initiate Blow-By Oxygen
- Put on pulse oximeter and cardiac leads
- Check Blood Glucose Level

Rapid Response Dayshift Team

- Level I Intern
- Level I Senior Pediatric Resident or Hospitalist
- NICU Respiratory Therapist
- NICU RN

Rapid Response Nightshift Team

- NICU Intern
- NICU Senior Pediatric Resident
- NICU Respiratory Therapist
- NICU RN

Neonatal Rapid Response Team Arrival

- Provider to determine further intervention
- Notify L1 Hospitalist of event and if patient is being transferred notify NICU Fellow or Attending

Created: 2/15/2022
Approved: 04/28/2022
Approved by Dr Tanesha Moss and Dr. Virender Rehan