



The Kids' Campaign

How-to-guide Pediatric supplement

Rapid Response Team

Pediatric Affinity Group



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National Initiative for
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Working in concert with the following leadership hospitals: Arkansas Children's Hospital, Cincinnati Children's Hospital Medical Center, Johns Hopkins Children's Center, Children's Hospitals and Clinics of Minnesota, Children's Hospital of Philadelphia, Lucile Packard Children's Hospital at Stanford, UMass Memorial Health Care, and Mayo Clinic.

Pediatric Rapid Response Teams

Summary of Evidence:

Patients, who experience a “Code Blue” or cardiac arrest, are often noted, in retrospect, to have manifested signs and symptoms of clinical instability for some time. The most common manifestations are abnormal vital signs and/or hypoxia. One study of adult patients reported a period of clinical instability that averaged 6.5 hours¹. A second study of adult patients determined that 66% of patients show abnormal signs and symptoms within 6 hours of arrest, but the patient’s physician was only notified 25% of the time².

A Rapid Response Team (RRT) is a group of health care professionals with critical care expertise that is prepared to respond to patients at the first signs of clinical deterioration. decline. This team is meant to stabilize a patient’s condition before a cardiac or respiratory arrest, or other adverse event occurs. The RRT has several models, ranging from an ICU MD/RN team to an ICU RN/Respiratory Therapist. The physician may be a senior resident, fellow, or staff physician.

One study of adult patients reported a reduction of 79% for respiratory failure, 78% for stroke, 74% for severe sepsis, and 88% for acute renal failure following the implementation of a RRT³. A study in an Australian pediatric hospital⁴ found that after implementing an RRT, cardiac arrests decreased from 0.19 to 0.11 per 1000 discharges. Deaths decreased from 0.12 to 0.06 per 1000 discharges, while admits to the ICU increased from 20 to 24 per month.

Recommendations from 100K Lives Campaign:

Deploy Rapid Response Teams (RRT) at the first sign of a patient’s decline. The (RRT) may be summoned at any time by anyone in the hospital to assist in the care of a patient who appears acutely ill, before the patient has a cardiac arrest or other adverse event.

Criteria for calling the RRT may include the following:

Acute change in vital signs (pulse, blood pressure, respiratory rate)

Acute drop in blood oxygen level (O2 saturation)

Decreased urine output

Altered mental function

Any staff member concern about the patient

Pediatric Specific Considerations:

Activation Criteria Vital Sign reference ranges change as children mature. In contrast to adults, a single threshold for RRT activation per vital sign does not exist. Attachment 1 an example of the threshold limits that staff at one pediatric hospital use to trigger RRT activation. The most important criteria for activation remain “staff intuition or concern”.

¹ Buist MD, et al. Recognising clinical instability in hospital patients before cardiac arrest or unplanned admission to intensive care: A pilot study in a tertiary-care hospital. *Med J Aust.* 1999 Jul 5; 171(1):22-5

² Franklin C. Matthew J. Developing strategies to prevent in hospital cardiac arrest: analyzing responses of physicians and nurses in the hours before the event. *Critical Care Medicine.* 1994; 22(2): 244-247.

³ Bellomo R, et al. Prospective controlled trial of effect of medical emergency team on postoperative morbidity and mortality rates. *Critical Care Medicine.* 2004 April; 32(4):916-921.

⁴ Tibballs J, et al. Reduction of paediatric in-patient cardiac arrest and death with a medical emergency team: preliminary results. *Arch Dis Child* 2005; 90: 1148-1152

Parent and Family Engagement:

Parents and Families are an important source of patient information and may assist in the early recognition signs and symptoms of deterioration. Attachment 2 is an example of the information that one pediatric organization uses to educate its families about the availability and activation of RRT's.

Additional Tools:

Rapid Response Team Frequently Asked Questions

Rapid Response Team Flow Diagram

Rapid Response Team Consultation Record

Rapid Response Team Sample Policy

Rapid Response Team Evaluation – Caller perspective

Rapid Response Team Evaluation – RRT perspective

Condition H

Rapid Response Team Introduction and Purpose (Power point presentation)

Rapid Response Team Recognition of Need (Power point presentation)

Attachment 1

AGE	Abnormal Heart Rate (Beats/Minute)	Abnormal Resp Rate (Breaths/min)	Abnormal Systolic BP (mm Hg)
Neonate	<80 >200	<20 >75	<50
Infant (6 months)	<80 >200	<20 >70	<60
Toddler (2 years)	<65 >180	<16 >60	<65
Pre-school (5 yrs)	<50 >160	>50	<70
School age (7 yrs)	<50 >150	>45	<75
Adolescent	<40 >140	>40	<85

Attachment 2

Partnering with families for safe and effective health care

How you can help make sure your child's health care needs are met, including how to ask for the Rapid Response Team.

At Children's, we are committed to ensuring that your child receives the best possible care. Families are our partners in that care. It is essential to the entire health care team that you tell us what is out of the ordinary for your child.

You are the expert in caring for your child and you are your child's advocate. You know your child better than anyone.

Children can't always tell us when something is wrong or when they are feeling worse. That is why it is so important for you to speak up or take action if you feel your child's needs are not being met.

Communication is the key for providing the best care

Talk to the nurse who is assigned to care for your child. Tell the nurse what you are noticing about your child, what is out of the ordinary or unusual, and what has you concerned.

In addition:

- ask questions.
- talk to your doctor about your concerns.
- use the call light to alert staff about your concern.
- ask any staff member to alert your child's nurse that you need help.
- talk with the charge nurse about your concerns with your child's condition.

What you can do if you are worried about a change in your child's condition

Talking with the staff who are taking care of child is the first step to ensure the best care.

However, if you feel your child's condition is getting worse or you have a feeling something is wrong that has not been addressed, we want to know.

Tell any staff member to call the Rapid Response Team.

The Rapid Response Team will immediately help your child's nurse assess your child's condition. The team includes a registered nurse and respiratory therapist from the pediatric intensive care unit (PICU). They also consult with critical care doctors, who are in the hospital at all times.

Children's staff will coordinate changes in your child's care needs with your primary care doctor.

For more information

For more information about the Rapid Response Team or about how you can help with your child's care, talk with your child's nurse.


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Important References:

- 1) Buist MD, et al. Recognising clinical instability in hospital patients before cardiac arrest or unplanned admission to intensive care: A pilot study in a tertiary-care hospital. *Med J Aust.* 1999 Jul 5; 171(1):22-5
- 2) Franklin C. Matthew J. Developing strategies to prevent in hospital cardiac arrest: analyzing responses of physicians and nurses in the hours before the event. *Critical Care Medicine.* 1994; 22(2): 244-247.
- 3) Bellomo R, et al. Prospective controlled trial of effect of medical emergency team on postoperative morbidity and mortality rates. *Critical Care Medicine.* 2004 April; 32(4):916-921.
- 4) Tibballs J, et al. Reduction of paediatric in-patient cardiac arrest and death with a medical emergency team: preliminary results. *Arch Dis Child* 2005; 90: 1148-1152