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- physicians, nurses, and other health care professional and provider organizations;
- health plans, health systems, health care organizations, hospitals and integrated health care delivery systems;
- health care teaching institutions;
- health care information service departments;
- health care teaching institutions;
- health care information technology departments;
- medical specialty and professional societies;
- researchers;
- federal, state and local government health care policy makers and specialists; and
- employee benefit managers.

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Health Care Protocol: Rapid Response Team

Recognition that an individual is experiencing a worrisome/acute clinical change

- Is the individual experiencing a behavioral health emergency? (A)
  - yes: Out of protocol scope
  - no: Continue

- Activate cardiopulmonary arrest team (A)
  - yes: Continue
  - no: Proceed to next step

- Contact appropriate provider and/or implement orders (A)
  - no: Continue
  - yes: Proceed to next step

- Does the individual meet criteria for rapid response team or demonstrate an elevated early warning score? (A)
  - yes: Activate rapid response team
  - no: Continue

Rapid response team assesses and initiates appropriate interventions, consults with appropriate provider and develops a continuing plan of care (A)

- Is the individual of concern an inpatient? (A)
  - yes: Does the patient require transfer to higher level of care? (A)
    - yes: Rapid response team member accompanies individual to emergency department, completes hand-over and documents
    - no: Complete documentation and provide education as appropriate
  - no: Complete documentation and provide education as appropriate

Follow-up (A)

All algorithm boxes with an "A" and those that refer to other algorithm boxes link to annotation content.

Text in blue throughout the document also provides links.

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Disclosure of Potential Conflict of Interest

In the interest of full disclosure, ICSI has adopted a policy of revealing relationships work group members have with companies that sell products or services that are relevant to this guideline topic. It is not assumed that these financial interests will have an adverse impact on content. They are simply noted here to fully inform users of the guideline.

Jeffrey Dichter does consulting for Cogent Healthcare related to critical care practice.

No other work group members have potential conflicts of interest to disclose.

Evidence Grading

A consistent and defined process is used for literature search and review for the development and revision of ICSI guidelines. Literature search terms for the current revision of this document include rapid response team, medical emergency team, early warning score, SBAR, behavioral health emergency team – January 2009 – December 2010.

Individual research reports are assigned a letter indicating the class of report based on design type: A, B, C, D, M, R, X.

Evidence citations are listed in the document utilizing this format: (Author, YYYY [report class]; Author, YYYY [report class] – in chronological order, most recent date first). A full explanation of ICSI’s Evidence Grading System can be found on the ICSI Web site at http://www.icsi.org.

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Foreword

Introduction

The purpose of a rapid response team protocol is to provide a suitable method that enables health care staff, patients and families to directly request additional assistance from a specially trained group of individuals known as a rapid response team.

The fundamental purpose of a rapid response team (RRT) is to decrease non-intensive care unit cardiopulmonary arrests by early recognition of a patient's deterioration and intervening before the patient either arrests or requires transfer to a critical care unit (Chan, 2010 [M]; Lighthall, 2010 [D]; Chen, 2009 [A]; McGaughey, 2009 [M]; Hueckel, 2008 [C]; Halvorsen, 2007 [X]; Offner, 2007 [C]; Peberdy, 2007 [R]; Thomas, 2007 [X]). In addition to reducing non-ICU cardiopulmonary arrests, rapid response teams have been shown to reduce inpatient mortality in the pediatric population (Lobos, 2010 [R]; Sharek, 2007 [C]). Studies have shown that adult patients often exhibit detectible physiological changes up to eight hours before a cardiopulmonary arrest (Chan, 2008 [C]; Tee, 2008 [R]; Thomas, 2007 [X]; Zenker, 2007 [C]). This deterioration may be subtle and may be difficult for novice nurses to detect (Benner's stages of clinical competence, 2009 [X]; Bertaut, 2008 [C]). In addition to decreasing inpatient mortality, rapid response teams have been shown to decrease unplanned intensive care unit admissions, decrease inpatient lengths of stay, decrease cardiopulmonary arrests, and increase staff satisfaction (Chen, 2009 [A]; Bertaut, 2008 [C]; Dacey, 2007 [C]; Halvorsen, 2007 [X]; Sharek, 2007 [C]; Thomas, 2007 [X]; Zenker, 2007 [C]; Merit Study Investigators, 2005 [A]; Bellomo, 2003 [C]; Buist, 2002 [C]).

The rapid response team, traditionally comprising a critical care registered nurse, respiratory therapy practitioner and physician, can be summoned by any staff member at any time to assess and treat adult or pediatric patients in non-critical care units (Bertaut, 2008 [C]; Halvorsen, 2007 [X]; Thomas, 2007 [X]). Each organization must choose its team members based upon available resources and specific needs (Dacey, 2007 [C]). When selecting team members, the organization should consider the following individual's technical skills:

- Adult and/or pediatric advanced cardiac life support certification
- Assessment and diagnostic abilities
- Ability to communicate concisely and clearly

The attitude of the team members toward the bedside staff, patient and families has a direct link to the overall success of the rapid response team program. If the bedside staff member does not feel respected and appreciated, or is intimidated by the responding staff, he/she may be reluctant to call the rapid response team in the future (Lobos, 2010 [R]).

While originally intended for inpatients, hospital-based rapid response teams have also been utilized to assess and treat outpatients, visitors, staff, volunteers and students. Many hospitals have created mechanisms that allow patients, visitors or families to independently summon the rapid response team (Dean, 2008 [X]).

Increasingly, patients with mental health or behavior-based problems who also have complex medical needs are being hospitalized on non-behavioral units. These patients can create challenges for staff who are inexperienced in handling acute psychiatric disorders and/or assaultive behavior. As a result, some hospitals are creating behavioral emergency response teams (BERT) (Loucks, 2010 [R]). The work group acknowledges that there is some initial evidence that BERTs are effective; however, the development and implementation of such teams is outside the scope of the group's expertise and the protocol.

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Scope and Target Population

This protocol is intended for use in an acute care setting and applies to all individuals within that care setting including inpatients, outpatients, volunteers, visitors, students, employees, etc.

This protocol includes key elements of the rapid response team process:

- A flow diagram of the process that includes criteria for activation
- An example of an order set for clinical interventions during the response team activation
- Tools for documentation and evaluation of the response

The rapid response team may be summoned any time to assist in the care of an individual who appears acutely ill, before he/she has a cardiopulmonary arrest or other life-threatening event.

Aims

1. Increase early intervention and stabilization to prevent clinical deterioration of any individual prior to cardiopulmonary arrest or other life-threatening event.  
   (Annotations #1, 6, 9)

2. Decrease the number of cardiopulmonary arrests that occur outside of the intensive care unit and emergency department.  
   (Annotations #6, 9)

3. Increase patient, family and staff satisfaction.  
   (Annotation #8)

4. Decrease hospital mortality.  
   (Annotation #1)

Clinical Highlights

1. When choosing rapid response team members, consider skill set, communication skills, attitude and behavior.  
   (Introduction; Aim #1)

2. It is recommended that the cardiopulmonary arrest team be activated (versus the rapid response team) if a non-licensed employee is the initial recognizer and is unable to determine if the individual of concern has experienced a true cardiopulmonary arrest.  
   (Annotation #4; Aim #4)

3. Family members should be encouraged to activate the rapid response team without regard to distinguishing cardiopulmonary arrest.  
   (Annotations #1, 6, 8; Aim #4)

4. The facility should have a process for educating patients and families on how to activate the rapid response team.  
   (Annotation #8, Aim #1)

5. Situation, Background, Assessment, Recommendation (SBAR) communication should be the framework used for communication among members of the health care team.  
   (Annotations #7, 13, 15; Aim #1)
Implementation Recommendation Highlights

The following system changes were identified by the protocol work group as key strategies for health care systems to incorporate in support of the implementation of this protocol.

1. Implementation of a rapid response team involves active support from administrative and medical leadership.

2. Items that need to be considered prior to implementation include:
   a. Team composition
   b. Criteria for calling the rapid response team
   c. The mechanism for calling the team (e.g., team pagers, overhead page)
   d. Education and training to senior leaders, physicians, team members, health care facility staff members, patients, visitors and families
   e. Documentation tools/forms
   f. Communication and feedback processes

3. A long-term, multifaceted, ongoing marketing strategy should be developed. The first phase is for the initial rollout of the team and involves building the case for the team's existence. The second phase is focused on sustaining awareness and is best rolled out over an extended period of time. Sharing success stories, reviewing lessons learned and using simulation and drills can accomplish maintaining the momentum of the team.

4. Establish a process for ongoing training, education, measurement and feedback for patients, families and staff. Identifying opportunities for improvement using quality improvement methodologies (such as data collection and analysis) should be incorporated into the process.

5. If the hospital has multiple patient care units, piloting the process of activating and responding to rapid response team calls is recommended. Test the process for either a specific period of time or number of calls.

6. There may be institution-specific needs for other forms of rapid response teams to respond to specialized populations that may be present. Examples may include teams that respond to behavioral or obstetric emergencies.

7. Provide a mechanism for patients and/or families to directly activate the rapid response team in accordance with The Joint Commission. When contemplating such a process, it is recommended that the following be taken into consideration:
   • Upon admission or transfer to a unit that is covered by the rapid response team, the patient/family orientation to the unit should include information about patient/family activation of the rapid response team.
   • Develop a brochure as well as posted material that describe the rapid response team, the reasons they would utilize the rapid response team and how to activate the team. Ensure material is available in other languages for non-English speaking patients/families.
   • Expect the team to "check in" with the charge nurse or patient's nurse before entering the patient's room.
   • Surveys of patients/families regarding their knowledge of activating the rapid response team should be performed periodically to ensure that the information is being provided appropriately.
Definition of Terms

**Cardiopulmonary Arrest:** The sudden cessation of the heart's pumping action or pulmonary function, resulting in failure of circulation of blood throughout the body, breathing and other body functions that require cardiopulmonary resuscitation or intubation.

**Code:** The process for responding to a cardiopulmonary arrest.

**Code Team:** The team identified by the organization as responsible for responding to an individual requiring cardiopulmonary resuscitation or intubation.

**Early Warning Score (EWS):** A bedside scoring system used to identify patients at risk for clinical deterioration.

**Rapid Response Team (RRT):** A team of health care professionals who bring critical care expertise to an individual. Also known as a medical emergency team (MET).

**Situation, Background, Assessment, Recommendation (SBAR):** A framework for structured communication among members of the health care team about a patient's condition.

Special Considerations

When designing and implementing a rapid response team, take into consideration the uniqueness of your organization and the situations that may arise in your hospital. A rapid response team can bring the extra help that is needed when performing an emergency Caesarean section on the night shift or when a patient arrests in a cardiac catheterization lab. You can customize the rapid response team to meet the needs of your organization.
Protocol

Recognition that an individual is experiencing a worrisome/acute clinical change (Annotation #1)

- The individual may be anyone in the health care facility.

Is the individual experiencing a behavioral health emergency? (Annotation #2)

- Each organization should consider developing a behavioral emergency response team (BERT) to assist staff in proactively de-escalating patients who may be exhibiting potentially violent behaviors.

Is the individual progressing toward or experiencing a cardiopulmonary arrest? (Annotation #4)

- If the recognizer is a licensed health care professional, a quick assessment should be made to determine if the individual is in cardiopulmonary arrest.
- If the recognizer is a family member, he/she should activate the rapid response team regardless of the individual's status.

Does the individual meet criteria for rapid response team or demonstrate an elevated early warning score? (Annotation #6)

- The health care professional should also determine if the individual's status meets the criteria for activating the rapid response team.

Activate rapid response team (Annotation #8)

- Each organization should consider a communication system that notifies the appropriate rapid response team personnel.
- Each organization should use a communication system that is efficient and reliable.
- Each organization must determine when the patient's primary provider will be contacted.
- Organizations should consider establishing a mechanism for patients and families to directly activate the rapid response team.

Rapid response team assesses and initiates appropriate interventions, consults with appropriate provider and develops a continuing plan of care (Annotation #9)

- A response time of less than five minutes is expected.
- Team members should be selected based on their clinical skills.
- Good communication skills and use of Situation, Background, Assessment, Recommendation (SBAR) format is recommended.
- A positive attitude and respectful and supportive behavior are recommended.
- The composition of the rapid response team is based on the institution's resources and needs.
- The rapid response team record must be initiated and included as part of the patient's permanent medical record.
- Rapid response team members should be trained to initiate interventions needed to stabilize the patient.
- If the patient is not currently an inpatient, the patient may need transfer to the emergency department.
- An order set may be helpful in initiating treatment.
Once the patient is assessed and/or stabilized, it is recommended that the patient's primary provider be contacted and given an update, unless the primary provider has already been contacted and/or is present.

The update to the primary provider should be given using the Situation, Background, Assessment, Recommendation (SBAR) format.

Determine with the primary provider if the inpatient needs to be transferred to a higher level of care.

Follow-up (Annotation #17)

A member of the rapid response team may follow up in person with the patient to assess his or her status and his or her response to the interventions.

Complete documentation of the rapid response team record.

Provide education when appropriate to the staff and patient at the event.

Review plan of care with bedside nurse and patient.

Provide rapid response team evaluation form to the initiator of the call.

Conduct rapid response team debrief of the event.

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Algorithm Annotations

1. Recognition that an Individual Is Experiencing a Worrisome/Acute Clinical Change

Any individual within a hospital or acute care facility may experience a health-related event, including outpatients, inpatients, and non-patients (family members or visitors and staff members or volunteers).

Non-ICU/ED Inpatients

For non-ICU/ED inpatients, the intent of a rapid response team (RRT) process is to detect any significant clinical deterioration at the earliest opportunity, in order to quickly address the issue(s) and prevent further deterioration. In distinction from a hospital code team, the rapid response team process specifically includes all hospital outpatients and inpatients, including those who may have DNAR (do not attempt resuscitation) status. Though DNAR patients will not be coded, they may greatly benefit from relatively simple clinical interventions if made before clinical deterioration has occurred.

- Activation of an RRT call may be made at any time based on judgment regarding the potential clinical deterioration of a patient.

- The early warning score (see Annotation #6, "Does the Individual Meet Criteria for Rapid Response Team or Demonstrate an Elevated Early Warning Score?") is a further means of assessing potential inpatient deterioration. The early warning score is intended as a tool for the bedside nurse to either help identify a patient who may be deteriorating, or help corroborate his/her clinical impression of deterioration. The early warning score can be calculated by a bedside nurse, and both the score and its trend over time are intended to provide guidance and support for when to initiate a rapid response team call. Though the early warning score complements the judgment of an experienced nurse, it may provide especially important guidance to less experienced nurses.

There are other ways to perform early identification of patients who may be at risk of clinical deterioration:

- A designated qualified individual might receive notification of all ICU transfers to one of the medical or surgical wards. He/she could then later check on that patient's status within a set amount of time and review the ongoing plan of care with the bedside nurse.

- A designated qualified individual could also (or alternatively) make routine rounds of the medical/surgical wards to assist and provide support to bedside nurses who may already have concerns regarding either deteriorating patients or those felt to be at risk of doing so. It is suggested that the rapid response team nurse meet with the charge nurse and bedside nurse(s) to help identify, discuss and review these patients. Additionally, this type of rounding is also a tool to help educate and support medical and surgical ward staff, particularly when done in a professional and supportive manner.

Non-Inpatients

For non-inpatients, the intent of a rapid response team process and team is to assess, provide support and facilitate the provision of care if they are indeed having a health event. This includes any non-inpatient who has significant symptoms of a health event, or frank evidence of one (such as evidence of severe respiratory distress, or a full arrest).

Return to Algorithm Return to Table of Contents
2. **Is the Individual Experiencing a Behavioral Health Emergency?**

The work group recognizes that responding, assessing and implementing care for an individual experiencing a behavioral health emergency in a non-behavioral health unit is outside of the scope of the protocol. However, hospitals may want to consider developing a behavioral emergency response team (BERT) to assist staff in proactively de-escalating patients who may be exhibiting potentially violent behaviors. The BERT may consist of staff members (RNs, social workers, security staff, psychiatrists, etc.) from behavioral health units who are experienced in caring for patients with acute psychiatric disorders and management of assaultive behaviors.

4. **Is the Individual Progressing Toward or Experiencing a Cardiopulmonary Arrest?**

Patients who are experiencing a cardiopulmonary arrest should have a code team response. Patients who are rapidly deteriorating and will likely need emergent interventions to prevent a cardiopulmonary arrest should also have a code team response. There should be an understanding among patient care staff that a rapid response team may take up to five minutes to respond and does not typically carry with it a full complement of medical expertise (i.e., pharmacy, anesthesia).

6. **Does the Individual Meet Criteria for Rapid Response Team or Demonstrate an Elevated Early Warning Score?**

Below are suggested criteria to activate the rapid response team. Each organization should tailor these to its own needs.

Employee/and or family member concerned – Acute significant change in vital signs or status. He/she does not "look right." The licensed medical provider may have a "gut" feeling that something is not quite right with their patient. This may be based upon previous experience with the same patient or a similar incident with another patient.

**Pediatric Criteria for Rapid Response Team Activation**

Health care provider worried about clinical status

Airway: airway threat

Breathing

- Apnea
- Hypoxemia (on any amount of oxygen)
  - \( \text{SpO}_2 < 90\% \)
  - \( \text{SpO}_2 < 60\% \) for children with cyanotic heart disease
- Moderate to severe respiratory distress
- Tachypnea
  - 0-3 months > 60
  - 3-12 months > 50
  - 1-4 years > 40
  - > 5 years > 30
Circulation

- Heart Rate
  - < 1 year < 100 or > 180
  - 1-4 years < 90 or > 160
  - 5-12 years < 80 or > 140
  - > 12 years < 60 or > 130

- Hypotension (systolic BP, mmHg)
  - < 3 months < 50
  - 4-12 months < 60
  - 1-4 years < 70
  - 5-12 years < 80
  - > 12 years < 90

Neurological changes

- Acute change in mental status
- Seizure

(Lobos 2010 [R]; Tibballs 2008 [R])

Adult Criteria for Rapid Response Team Activation

Health care provider worried about clinical status

Respiratory status

Acute significant change in patient's baseline respiratory rate

OR

- Consider rate less than 8 or greater than 28 breaths per minute
- Consider pulse oximeter unexpected reading less than 85-90% for more than five minutes
- Increasing oxygen demands to maintain baseline oxygen saturation

Heart Rate

Acute significant change in patient's baseline heart rate or rhythm (awake status)

- Consider range of less than 40 or greater than 160 beats per minute
- Greater than 140 beats per minute with symptoms

Blood Pressure

Acute significant change in patient's baseline blood pressure

- Consider range of less than 80 or greater than 180 systolic
- Greater than 100 diastolic
Neurological Changes

Acute significant change in patient's baseline neurological status
- Alteration in level of consciousness
- Acute mental status change
- Unexplained onset of lethargy and/or agitation
- Seizure
- Symptoms of stroke:
  - Sudden loss or change in speech
  - Sudden loss of movement (or weakness) of face, arms or legs
  - Numbness and tingling

Chest Pain

- Unresponsive to nitroglycerin
- Acute new onset of pain

Significant acute change in:
- Pain
- Fluid status
- Skin color (pale, dusky, blue)

Uncontrolled bleeding

Early Warning Score

The use of early warning scores to trigger rapid response teams has not been well validated, but this process is being utilized by many organizations as another method of initiating a rapid response team (Akre, 2010 [C]; Maupin, 2009 [R]; Parshuram, 2009 [D]) and may be of further benefit in the identification of at-risk patients earlier in their hospitalization. The early warning scores can be calculated by the bedside nurse utilizing vital sign parameters and physical exam findings.

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<td>&gt; 800</td>
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Initiate a rapid response team if the score is 3 or more.
7. **Contact Appropriate Provider and/or Implement Orders**

It is recommended that the patient's primary provider be contacted and an update provided with a patient's change in condition. The update should be provided using the Situation, Background, Assessment, Recommendation (SBAR) format. Orders should be implemented as appropriate.

8. **Activate Rapid Response Team**

Each organization should use a communication process and system that is efficient and reliable, and that has a minimum number of steps.

Consideration should be given to the communication system that notifies the appropriate personnel (rapid response team) to respond. Include a plan for clear identification of the event location.

Each organization must determine when the patient's primary provider will be contacted. Points to consider in making this determination include:

- primary provider preference,
- primary provider availability, and
- composition of the rapid response team.

Provide a mechanism for patients and/or families to directly activate the rapid response team in accordance with The Joint Commission. When contemplating such a process, it is recommended that the following be taken into consideration (Ray, 2009 [R]).

- Upon admission or transfer to a unit that is covered by the rapid response team, the patient/family orientation to the unit should include information about patient/family activation of the rapid response team.
- Develop a brochure as well as posted material that describe the rapid response team, the reasons they would utilize the rapid response team and how to activate the team. Ensure material is available in other languages for non-English speaking patients/families.
- Expect the team to "check in" with the charge nurse or patient's nurse before entering the patient's room.
- Surveys of patients/families regarding their knowledge of activating the rapid response team should be performed periodically to ensure that the information is being provided appropriately.

9. **Rapid Response Team Assesses and Initiates Appropriate Interventions, Consults with Appropriate Provider and Develops a Continuing Plan of Care**

The ability to quickly assess a patient's condition and implement appropriate interventions is the cornerstone of the value of the rapid response team (Halvorsen, 2007 [X]). Since the team is often unfamiliar with the patient, it is critical that the individual that activated the team be available to provide background information and answer questions (Briefings on Patient Safety, 2008 [X]). When the patient is an inpatient, the bedside nurse becomes an integral member of the rapid response team and as such is expected to remain at the patient's bedside during assessment and treatment. In particular the bedside nurse will do the following:

- Provide patient's medical history, medications, lab values and acute medical changes
- Provide reason(s) for activating the call
- Assist other members of the rapid response team
The charge nurse should be made aware of the initiation of the RRT in order to ensure the bedside nurse's other patients' care interruption is kept to a minimum and provide assistance to the team as needed. Other staff on the nursing unit may be required to temporarily take over responsibility of the bedside nurse's other patients.

In order to rapidly and appropriately assess the patient's condition, it may be necessary to conduct diagnostic laboratory or radiology tests such as an arterial blood gas analysis, electrocardiogram or chest x-ray. In addition, the team members may initiate interventions utilizing an order set as appropriate. If the team does not include a physician, a protocol may be used by the rapid response team, which may facilitate gathering information to be interpreted by the appropriate provider (Bertaut, 2008 [C]; Halvorsen, 2007 [X]; Thomas, 2007 [X]). This protocol should be unique to the facility and the skill set of the members of the team. See Appendix A, "Rapid Response Team Order Sets," for an example.

Interventions designed to stabilize the patient and prevent further deterioration of the patient's condition may also be included in an order set used by the team. Some common interventions include oxygen therapy, intravenous fluid administration, Narcan® or D50 (Pebrdy, 2007 [R]). If the rapid response team members are Advanced Cardiac Life Support or Pediatric Advanced Life Support certified and the patient's condition deteriorates to a cardiopulmonary arrest, they may initiate resuscitation protocols prior to the code team's arrival.

Information gathered and interventions provided should be documented on either a paper or electronic form designed for that purpose (Halvorson, 2007 [X]; Thomas, 2007 [X]). The form should become a permanent part of the medical record. Fields that may be included on the rapid response team form include but are not limited to:

- patient demographics;
- patient location;
- date and time of call;
- team's arrival and departure times;
- reason for the call, including past medical history, events leading up to the team's activation, current vital signs and pertinent lab values;
- diagnostic tests performed during assessment, and test results;
- interventions;
- patient disposition at end of the call;
- event note;
- time and details of report to the patient's physician;
- name of the person who contacted the patient's physician;
- names and titles of all RRT members;
- name of the person completing the form; and
- follow-up assessment of the patient, additional interventions if appropriate, the time of the follow-up and the signature of the person completing the follow-up.

Additional elements may also be captured by individual facilities to aid in the detection of process improvement opportunities. See Appendix B, "Sample Documentation Forms," for an example.
Continuing Plan of Care

It is recommended that the patient's primary provider be contacted and an update provided. Based on the organization's preference, the patient's primary provider may or may not know the team has been called until the patient has been assessed and stabilized.

The update should be provided using the Situation, Background, Assessment, Recommendation (SBAR) format and include the team's recommendation for next steps. The plan may or may not include transferring the patient to another unit within the hospital or to another facility. During this consultation there should be a discussion about contacting the patient's family and/or significant other and who will be performing that role. This may also be an appropriate time to start dialogue of end-of-life care for the terminally ill patients (Chan, 2008 [C]).

The agreed-upon plan of care must be documented in the patient's medical record.

Physician Support to the Rapid Response Team

Larger hospitals or organizations may have a physician as part of the RRT, who would then help provide the assessment and appropriate treatment, and help plan for appropriate transfer, if necessary.

If an RRT does not have a designated physician member and inpatient physicians are not immediately available, it is highly recommended that a physician/physician group be designated as being on-call to the RRT when needed. The physician groups that would typically be included are hospitalist, intensivist, and/or emergency medicine specialists. In environments where there are no designated inpatient physicians available to the RRT, the RRT relies upon the attending or on-call physician for help and support.

13. Rapid Response Team Member Accompanies Individual to Emergency Department, Completes Hand-Over and Documents

Once the non-inpatient has been assessed and stabilized by the rapid response team, further evaluation should be offered. In cases requiring emergency department evaluation, the following activities should be completed:

- As quickly as possible, the rapid response team transports the individual by wheelchair or cart to the emergency department.
- Rapid response team gives verbal report using the Situation, Background, Assessment, Recommendation (SBAR) format.
- Rapid response team completes documentation (paper or electronic).
- Rapid response team later checks to see if the individual was admitted. If yes, the team then completes a 24-hour follow-up and documents.

15. Rapid Response Team Member Accompanies Inpatient to Receiving Unit, Completes Hand-Over and Documents

Following a rapid response team intervention, the inpatient may require transfer to an alternative level of care. The following activities should be complete in conjunction with a transfer:

- Rapid response team assesses patient to determine appropriate equipment (cart, oxygen, etc.) and personnel necessary to safety transport patient to higher level of care.
17. Follow-Up

Consideration should be given to having a member of the rapid response team follow up in person with patients to assess their status and their response to the initial interventions, to review the plan of care, and to assist in the determination if additional interventions should be implemented.

An in-person follow-up with inpatients, as well as those patients who were evaluated in the emergency department (and possibly admitted), at two to four hours following a rapid response team and again at 12-24 hours (if they were not discharged) should be considered. If a patient declines treatment or transport to the emergency department, a follow-up is not necessary.

The follow-up evaluation should be conducted in person rather than with a telephone call. This allows an opportunity to have a conversation directly with the patient and/or the family, as well as the bedside nurse. It may also be a chance to provide education to the bedside nurse or other patients.

An evaluation tool or satisfaction survey about the rapid response team call may be provided to the activator of the call. This tool can provide feedback in order to improve the rapid response team if needed. See Appendix C, "Sample Evaluation/Satisfaction Survey."

Return to Algorithm  Return to Table of Contents
This section provides resources, strategies and measurement for use in closing the gap between current clinical practice and the recommendations set forth in the guideline.

The subdivisions of this section are:

- Aims and Measures
  - Measurement Specifications
- Implementation Recommendations
- Resources
- Resources Table
Aims and Measures

1. Increase early intervention and stabilization to prevent clinical deterioration of any individual prior to the event of cardiopulmonary arrest or other life-threatening health event. *(Annotations #1, 6, 9)*

   Measures for accomplishing this aim:
   a. Number of calls to the rapid response team
   b. Number of unplanned transfers to a higher level of care
   c. Number of preventable cardiopulmonary arrests (failure to rescue)

2. Decrease the number of cardiopulmonary arrests that occur outside of the intensive care unit and emergency department. *(Annotations #6, 9)*

   Measures for accomplishing this aim:
   a. Number of cardiopulmonary arrests that occur outside of the intensive care unit and emergency department
   b. Number of days elapsed between cardiopulmonary arrests

3. Increase patient, family and staff satisfaction. *(Annotation #8)*

   Measures for accomplishing this aim:
   a. Patient satisfaction
   b. Staff satisfaction
   c. Staff turnover rate

4. Decrease hospital mortality rate. *(Annotation #1)*

   NOTE: There are several available methods for measuring hospital mortality. The work group acknowledges the complexity of measuring hospital mortality and recommends that each organization selects the method for measurement that is appropriate to its situation and/or currently in use.

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Measurement Specifications

Measurement #1a
Number of calls to the rapid response team.

Data of Interest
Number of calls to the rapid response team.

Measurement Period and Method of Data Collection
Monthly. Medical records can be reviewed to collect this data.

The rapid response teams could track internally the weekly number of calls to the rapid response team. The weekly numbers can be aggregated to a monthly number.

Measurement #1b
Number of unplanned transfers to a higher level of care.

Data of Interest
Number of unplanned transfers to higher level of care.

Measurement Period and Method of Data Collection
Monthly. Medical records can be reviewed to collect this data.

Measurement #1c
Number of preventable cardiopulmonary arrests (failure to rescue).

Data of Interest
Number of preventable cardiopulmonary arrests (failure to rescue).

Measurement Period and Method of Data Collection
Monthly. Medical records can be reviewed to collect this data.

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**Measurement #2a**

Number of cardiopulmonary arrests that occur outside of the intensive care unit and emergency department.

**Population Definition**

All patients experiencing a cardiopulmonary arrest who are not in the intensive care unit or emergency department.

**Measurement Period and Method of Data Collection**

Monthly. Medical records can be reviewed to collect this data.

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Measurement #2b

Number of days elapsed between cardiopulmonary arrests.

Population Definition

All patients who experienced a cardiopulmonary arrest, excluding those in the intensive care unit or the emergency department.

Data of Interest

Number of days elapsed between cardiopulmonary arrests.

Measurement Period and Method of Data Collection

Daily. Data for this measure can be collected through hospital logs.

Notes

The purpose of the measure is to assess whether the time period between the occurrences of cardiopulmonary arrests increases with the implementation of a rapid response team.
Measurement #3a
Patient satisfaction.

Method of Data Collection
This measure can be collected through HCAHPS or other patient satisfaction surveys devised by the hospital quality team.

Measurement #3b
Staff satisfaction.

Method of Data Collection
This measure can be collected through staff satisfaction surveys devised by the hospital quality team.

Measurement #3c
Staff turnover rate.

Method of Data Collection
This data should be part of the hospital human resources tracking.

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Measurement #4

There are several available methods for measuring hospital mortality. The work group acknowledges the complexity of measuring hospital mortality and recommends that each organization selects the method for measurement that is appropriate to its situation and/or currently in use.

One suggestion is to use mortality measures available via Centers for Medicare and Medicaid Services Hospital Compare Web site: http://www.hospitalcompare.hhs.gov/

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Implementation Recommendations

Prior to implementation, it is important to consider current organizational infrastructure that address the following:

- System and process design
- Training and education
- Culture and the need to shift values, beliefs and behaviors of the organization

The following system changes were identified by the guideline work group as key strategies for health care systems to incorporate in support of the implementation of this guideline.

1. Implementation of a rapid response team involves active support from administrative and medical leadership.

2. Items that need to be considered prior to implementation include:
   a. Team composition
   b. Criteria for calling the rapid response team
   c. The mechanism for calling the team (e.g., team pagers, overhead page)
   d. Education and training to senior leaders, physicians, team members, health care facility staff members, patients, visitors and families
   e. Documentation tools/forms
   f. Communication and feedback processes

3. A long-term, multifaceted, ongoing marketing strategy should be developed. The first phase is for the initial rollout of the team and involves building the case for the team's existence. The second phase is focused on sustaining awareness and is best rolled out over an extended period of time. Sharing success stories, reviewing lessons learned and using simulation and drills can accomplish maintaining the momentum of the team.

4. Establish a process for ongoing training, education, measurement and feedback for patients, families and staff. Identifying opportunities for improvement using quality improvement methodologies (such as data collection and analysis) should be incorporated into the process.

5. If the hospital has multiple patient care units, piloting the process of activating and responding to rapid response team calls is recommended. Test the process for either a specific period of time or number of calls.

6. There may be institution specific needs for other forms of rapid response teams to respond to specialized populations that may be present. Examples may include teams that respond to behavioral or obstetric emergencies.
7. Provide a mechanism for patients and/or families to directly activate the rapid response team in accordance with The Joint Commission. When contemplating such a process, it is recommended that the following be taken into consideration:

- Upon admission or transfer to a unit that is covered by the rapid response team, the patient/family orientation to the unit should include information about patient/family activation of the rapid response team.

- Develop a brochure as well as posted material that describe the rapid response team, the reasons they would utilize the rapid response team and how to activate the team. Ensure material is available in other languages for non-English speaking patients/families.

- Expect the team to "check in" with the charge nurse or patient's nurse before entering the patient's room.

- Surveys of patients/families regarding their knowledge of activating the rapid response team should be performed periodically to ensure that the information is being provided appropriately.

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Resources

Criteria for Selecting Resources

The following resources were selected by the guideline work group as additional resources for providers and/or patients. The following criteria were considered in selecting these resources.

- The site contains information specific to the topic of the guideline.
- The content is supported by evidence-based research.
- The content includes the source/author and contact information.
- The content clearly states revision dates or the date the information was published.
- The content is clear about potential biases, noting conflict of interest and/or disclaimers as appropriate.

Resources Available to ICSI Members Only

ICSI has knowledge resources that are only available to ICSI members (these are indicated with an asterisk in far left-hand column of the Resources Table). In addition to the resources listed in the table, ICSI members have access to a broad range of materials including tool kits on Continuous Quality Improvement processes and Rapid Cycling that can be helpful. To obtain copies of these or other Resources, go to Education and Quality Improvement on the ICSI Web site. To access these materials on the Web site, you must be logged in as an ICSI member.

The resources in the table on the next page that are not reserved for ICSI members are available to the public free-of-charge unless otherwise indicated.

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## Resources Table

<table>
<thead>
<tr>
<th></th>
<th>Author/Organization</th>
<th>Title/Description</th>
<th>Audience</th>
<th>Web Sites/Order Information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Children's Hospitals and Clinics of Minnesota</td>
<td>Rapid response team parent brochure encouraging families to let their nurse know of any concerns so that a rapid response team may be called.</td>
<td>Patients and Families</td>
<td><a href="http://www.childrensmn.org/web/forparents/101671.pdf">http://www.childrensmn.org/web/forparents/101671.pdf</a></td>
</tr>
<tr>
<td></td>
<td>Children's Hospitals and Clinics of Minnesota</td>
<td>&quot;Pediatric Early Warning Score and Algorithm&quot; training to consider using a pediatric early warning scoring system and algorithm to identify deterioration in patient's clinical status faster, improving communication between various care providers to change plans of care based on patient clinical status, and can provide indications for calling an RRT or code blue.</td>
<td>Patients and Families</td>
<td><a href="http://childrensmn.org/training/cap/nextflav/138052.htm">http://childrensmn.org/training/cap/nextflav/138052.htm</a></td>
</tr>
<tr>
<td></td>
<td>HealthPartners Simulation Center for Patient Safety at Regions Hospital</td>
<td>Rapid response teams practice in &quot;real-life&quot; scenarios designed to fit the patient populations served.</td>
<td>Health Care Professionals</td>
<td>Simulation Center  700 East Seventh Street  St. Paul, MN  55106  651-793-1393  <a href="http://www.hpsimcenter.com">http://www.hpsimcenter.com</a></td>
</tr>
</tbody>
</table>

* Available to ICSI members only.

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The subdivisions of this section are:

- References
- Appendices
References


Early warning system to be surveyed in January: changing staff mind-set may be toughest component to implementation. November 2008. (Class X)


Hueckel RM, Turi JL, Cheifetz IM, et al. Beyond rapid response teams: instituting a "rover team" improves the management of at-risk patients, facilitates proactive interventions, and improves outcome. 2008. (Class C)

Lighthall GK, Parast LM, Rapoport L, Wagner TH. Introduction of a rapid response system at a United States veterans affairs hospital reduced cardiac arrests. *Anesth Analg* 2010;111:679-86. (Class D)


Maupin JM, Roth DJ, Krapes JM. Use of the modified early warning scores decreases code blue events. *Jt Comm J Qual Patient Saf* 2009;35:598-603. (Class R)


Peberdy MA, Cretikos M, Abella BS, et al. Recommended guidelines for monitoring, reporting, and conducting research on medical emergency team, outreach, and rapid response systems: an utstein-style scientific statement. A scientific statement from the international liaison committee on resuscitation; the American heart association emergency cardiovascular care committee; the council on cardiopulmonary, perioperative, and critical care; and the interdisciplinary working group on quality of care and outcomes research. *Resuscitation* 2007;75:412-33. (Class R)


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Appendix A – Sample Rapid Response Team Order Sets

Adults

Scope: This order set pertains to those orders initiated by the rapid response team and does not include orders that pertain to the patient’s condition outside of the interventions of the rapid response team.

Patient Information (Two identifiers required.)

<table>
<thead>
<tr>
<th>Last Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name:</td>
</tr>
<tr>
<td>Date of Birth: / /</td>
</tr>
<tr>
<td>Age:</td>
</tr>
<tr>
<td>ID#:</td>
</tr>
</tbody>
</table>

Vital Signs (initially and as indicated)

- Blood pressure, heart rate, respiratory rate, temperature
- Oxygen saturation

Nursing Orders

- Blood glucose P.O.C.
- Cardiac monitor

Respiratory

- Clear and maintain airway
- Oxygen therapy to stabilize patient and maintain oxygen of ________% oxygen saturation via
  - nasal cannula
  - mask
- Ventilation assistance with positive pressure ventilation

IV

- Patent IV access
  - IV fluid:
    - Normal saline at ________ mL/hour

Medications (per health institution’s protocol)

- Albuterol _____mg nebulizer as needed for respiratory distress
- Nitroglycerin 0.4 mg sublingual for chest pain. May repeat every 5 minutes for total of 3 doses
- Naloxone (for narcotic reversal) (0.2-0.4 mg) IV IM or subcutaneously as needed for respiratory depression
- Flumazenil (benzodiazepine reversal) 0.2 mg IV; may dose every 60 seconds for a total of 4 doses as needed for respiratory depression (maximum is 1 mg)
- D50 IV or other hypoglycemic agents
- Metoprolol 5 mg IV once for arrhythmia or HTN
- Morphine sulfate 1-2 mg IV PRN for respiratory distress
- Furosemide 40 mg IV once for fluid overload
- Lorazepam 0.5-1.0 mg IV PRN for anxiety or seizures
- Other: ________________________________________________________________

Legend:

- Open boxes are orders that a clinician will need to order by checking the box.
- Pre-checked boxes are those orders with strong supporting evidence and/or regulatory requirements that require documentation if not done.
Lab/Diagnostic Tests

☐ Chest x-ray (AP Portable) indication ______________________
☐ Other imaging studies indication ______________________
☐ EKG
☐ HGB/HCT
☐ CBC
☐ Glucose
☐ Electrolytes ($Na^+$, $K^+$, $Cl^-$, $CO_2$)
☐ BUN/Creatinine
☐ Arterial ☐ Venous blood gases
☐ PT/INR STAT
☐ PTT STAT
☐ Basic metabolic profile STAT
☐ Serum lactate STAT
☐ Blood cultures STAT
☐ Urinalysis and urine culture STAT
☐ Cardiac marker profile STAT
☐ Type and screen STAT

Authorized Prescriber Signature: ____________________________________________________________

Printed Name: __________________________________________________________________________

Date: ______________________  Time: ___ :____

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Rapid Evaluation Team – Standard Orders

Indicate appropriate orders by placing an “X” in the box □

1. DIAGNOSTIC TESTS (Lab, X-ray):
   - [ ] Hgb STAT for RET (Rapid Evaluation Team)
   - [ ] CBC STAT for RET
   - [ ] Electrolytes STAT for RET
   - [ ] Creatinine STAT for RET
   - [ ] BUN STAT for RET
   - [ ] PT/INR STAT for RET
   - [ ] PTT STAT for RET
   - [ ] Blood Glucose Screen (bedside blood glucose) STAT for RET
   - [ ] Basic Metabolic Profile STAT for RET
   - [ ] Serum Lactate STAT for RET
   - [ ] Blood Culture x 2 sets STAT for RET
   - [ ] Urinalysis STAT for RET
   - [ ] Urine Culture STAT for RET
   - [ ] Type and Screen STAT for RET
   - [ ] Cardiac Marker Profile STAT for RET
   - [ ] Arterial Blood Gas STAT for RET
   - [ ] EKG STAT Reason: ________________________________
   - [ ] CXR AP portable STAT Reason: ________________________________
     (physician signature is required for radiology tests)

2. IVs:
   - [ ] INT
   - [ ] 0.9% NaCl 500 ml IV Bolus over 1 hour
   - [ ] 0.9% NaCl 1,000 ml Bolus over 1 hour

3. NURSING ORDERS:
   - [ ] Insert Foley STAT

4. RESPIRATORY THERAPY:
   - [ ] RT Oxygen daily per protocol (Note, this order gives the RT the ability to adjust the amount of
     oxygen as well as the delivery device to meet the patient’s needs)
   - [ ] Continuous Pulse Oximetry
   - [ ] RT NPPV (BIPAP Mask Ventilation) Protocol

5. MEDICATIONS:
   - [ ] Albuterol 2.5 mg neb STAT and as needed for respiratory distress
   - [ ] Nitroglycerin 0.4 mg sublingually STAT; May repeat every 5 minutes for a total of 3 doses.
     Hold for systolic blood pressure less than 100
   - [ ] Naxolene (Narcan) 0.2-0.4 mg IV/IM/subcutaneously as needed for respiratory depression
   - [ ] Metoprolol (Lopressor) 5 mg IV x ONCE for arrhythmia or hypertension
   - [ ] Furosemide (Lasix) 40 mg IV STAT x ONCE
   - [ ] Morphine Sulfate 1-2 mg IV as needed for respiratory distress
   - [ ] Lorazepam (Ativan) 0.5-1 mg IV as needed for shortness of breath, anxiety or seizure

Clinician Signature: ________________________________

Sample documentation provided courtesy of Methodist Hospital.

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## Pediatric

**ALLERGIES/SENSITIVITIES:**  
Med:  
Dietary:  
Environmental:  

**PRECAUTIONS/CONTRAINDICATIONS:**  

**Primary Dx:**  

**Reason for Treatment/Intervention:**  

<table>
<thead>
<tr>
<th>Non-Medication Orders Only:</th>
<th>Medication Orders Only:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring:</td>
<td>Reference(s): Pediatric Dosage Handbook</td>
</tr>
<tr>
<td>- Cardiorespiratory monitor</td>
<td>Respiratory:</td>
</tr>
<tr>
<td>- Pulse Oximeter</td>
<td>- Albuterol neb 1.25mg 2.5mg prn respiratory distress, shortness of breath, wheezing</td>
</tr>
<tr>
<td>- 12 lead ECG</td>
<td>- Racemic epi neb 0.25mL or 0.5mL</td>
</tr>
<tr>
<td>Respiratory Management:</td>
<td>Opioid Reversal Medication:</td>
</tr>
<tr>
<td>- FiO2 by NC, high flow NC, mask, blow by to maintain sats &gt; _______</td>
<td></td>
</tr>
<tr>
<td>- Consider CXR</td>
<td></td>
</tr>
<tr>
<td>- Tracheostomy Care/Replacement as needed</td>
<td></td>
</tr>
<tr>
<td>Vascular Access:</td>
<td>Benzodiazepine Reversal Medication:</td>
</tr>
<tr>
<td>- Start peripheral IV of:</td>
<td></td>
</tr>
<tr>
<td>Lab/Diagnostic Tests:</td>
<td></td>
</tr>
<tr>
<td>- Glucose point of care</td>
<td>Glucose:</td>
</tr>
<tr>
<td>- Basic Metabolic Profile</td>
<td>- Dextrose 25% 2 mL/kg for glucose &lt; __________</td>
</tr>
<tr>
<td>- CBC/PLT/DIFF</td>
<td></td>
</tr>
<tr>
<td>- ABG/VBG/CBG</td>
<td></td>
</tr>
<tr>
<td>Dispensation:</td>
<td>Other Medication Orders:</td>
</tr>
<tr>
<td>- Remain on current inpatient unit</td>
<td></td>
</tr>
<tr>
<td>- Transfer to PICU</td>
<td></td>
</tr>
<tr>
<td>- Transfer to ER</td>
<td></td>
</tr>
<tr>
<td>- Other:</td>
<td></td>
</tr>
</tbody>
</table>

**Other Non-Medication Orders Only:**

**Res / L.I.P.:** ____________________________  
Signature: ____________________________  
Beeper Number: ____________________________  
Date: ____________  Time: ____________

Sample documentation provided courtesy of Gillette Children's Specialty Healthcare.

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Appendix B – Sample Documentation Forms

(RRT) Rapid Response Team Care Record

<table>
<thead>
<tr>
<th>Event Date</th>
<th>Admit Date</th>
<th>Time Called</th>
<th>Code Status</th>
<th>Arrival Time</th>
<th>Primary MD</th>
<th>End Time</th>
<th>Staff Responding:</th>
</tr>
</thead>
</table>

Indicators for RRT Call (Circle all those that apply)

<table>
<thead>
<tr>
<th>Respiratory</th>
<th>Heart Rate</th>
<th>Neurological Status</th>
<th>Blood Pressure</th>
<th>Chest Pain</th>
<th>Fluid Status</th>
<th>Staff/Family Concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td>New dyspnea oxygen sat. ___ New requirement for (oxygen)</td>
<td>Rhythm:</td>
<td>Lethargic Confused Unresponsive Agitated/restless</td>
<td></td>
<td>New Recurring</td>
<td>Intake &gt; output Lasix needed Wet lung Urine output</td>
<td>Not looking right color/appearance New pain</td>
</tr>
</tbody>
</table>

History: □ COPD □ CHF □ Diabetes □ HTN □ Cardiac □ Recent Surgery □ Neuro □ Other

Situation:

Background:

Assessment:

Recommendations/Interventions:

Patient Outcome: □ Stayed on floor □ Transfer to ICU □ Code called □ Transferred to higher level of care □ Expired

□ Physician notified (Initials) ______________ Date/Time _____/_____/_____ ___:___

Follow-Up:
(2-4 hrs.)
_____________________________________________________________________________
_____________________________________________________________________________
(12-24 hrs.)
_____________________________________________________________________________
_____________________________________________________________________________

Last Name: __________________________ First Name: __________________________
Date of Birth: / / Age: __________
ID# __________________________

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### Appendix B – Sample Documentation Forms

<table>
<thead>
<tr>
<th>Date:</th>
<th>Location:</th>
<th>Time called:</th>
<th>Arrival Time:</th>
<th>Event Ended:</th>
</tr>
</thead>
</table>

**Situation:**

**Primary Reason for Call:**

- [ ] Staff concerned/worried about patient
  - Specify: 
- [ ] Acute change in heart rate
- [ ] Acute change in systolic BP
- [ ] Acute change in respiratory rate
- [ ] Acute change in respiratory effort
- [ ] Acute change in neurological status
- [ ] Sustained SpO₂ < 90%
- [ ] Failure to respond to treatment

**Background:**

**Medication(s) given at episode:**

**Assessment:**

- [ ] PCA/EPI/PAIN CONTROL

<table>
<thead>
<tr>
<th>Temp</th>
<th>BP</th>
<th>HR</th>
<th>RR</th>
<th>SpO₂</th>
<th>GCS</th>
</tr>
</thead>
</table>

**Other Interventions (specify):**

**Outcome:**

- [ ] Stayed in Room
- [ ] Transferred to ICU
- [ ] Code II
- [ ] Other: 

**Signature:**

**Date/Time:**

- [ ] Notified Physician: 
  - Name

**Recommendations/Interventions:**

- [ ] Oral/nasal airway
- [ ] Suction
- [ ] Nebulizer Treatment
- [ ] BiPap
- [ ] Bag/Mask
- [ ] IV Bolus Fluids/Access
- [ ] No intervention

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>RN</td>
</tr>
<tr>
<td>2.</td>
<td>RN</td>
</tr>
<tr>
<td>3.</td>
<td>RRT/RN</td>
</tr>
<tr>
<td>4.</td>
<td>RRT/RCP</td>
</tr>
<tr>
<td>5.</td>
<td>MD</td>
</tr>
</tbody>
</table>

**Follow-Up Report (within 24 hours):**

**Signature:**

**Date/Time:**

---

Sample documentation provided courtesy of Gillette Children's Specialty Healthcare.

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### Appendix B – Sample Documentation Forms

Sample documentation provided courtesy of Ridges Hospital.

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## PEDIATRIC RAPID RESPONSE TEAM (RRT) CALL RECORD

<table>
<thead>
<tr>
<th>Date</th>
<th>Location (Unit, Room, Bed)</th>
<th>Code Status</th>
<th>Time RRT Called</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team Requestor &amp; Title: □ RN □ Resident □ RT □ Attending □ Family □ Other:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attending/Primary/Covering MD:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Pre-Event Information
- Was pt discharged from the PICU prior to this RRT call? □ Yes □ No
- If yes, date admitted to non-ICU unit (after ICU discharge): / / (mm/dd/yy)
- Was pt discharged from a Post Anesthesia Care Unit (PACU) within 24 hours prior to the RRT call? □ Yes □ No
- Was pt in the ED within 24 hours prior to the RRT call? □ Yes □ No
- Did the pt receive conscious/procedural sedation or general anesthesia with 24 hours prior to this RRT call? □ Yes □ No

### Primary Reason for Call (check all that apply)
- Staff/Family Concerned about patient
- Concerned Care Plan Cannot Be Sustained at Current Level of Care

### What variables triggered the call? (check all that apply)

#### Increased work of breathing along with any of the following:
- □ Significant change in respiratory rate
- □ Worsening retractions
- □ Saturation less than 90% (or >10% change in baseline saturations)
- □ Supplemental O2
- □ Abnormal coloring: □ Pale, □ gray, □ cyanotic, □ mottling
- □ Agitation
- □ Decreased level of consciousness

#### Neurological Changes associated with the following:
- □ Seizures
- □ Altered level of consciousness

#### Abnormal pupil reaction:
- □ Dilated
- □ Sluggish
- □ Unequal
- □ Unresponsive

#### Poor perfusion associated with the following: (check all that apply)
- □ Decreased urine output
  (less than 1 ml/kg/hr or 30 ml/hr on patients >50 kg)
- □ Significant change in Heart Rate unresponsive to interventions
- □ Decreased level of consciousness
- □ Significant change in baseline BP or unable to obtain
- □ Cool extremities
- □ Prolonged capillary refill that is unresponsive to interventions

### Altered Lab Values: (check all that apply)
- □ Persistent acidosis
- □ Sodium or potassium abnormalities unresponsive to therapy

### Initial Vital Signs:
- HR
- RR
- BP
- PO2
- Temp

### Situation:

### Background:
- □ DMT
- □ SOT
- □ CHD Pre-Repair
- □ CHD Post-Repair
- □ Renal Insufficiency
- □ EA
- □ Leukemia
- □ Liver Failure
- □ Other:

---

Sample documentation provided courtesy of University of Minnesota Children's Hospital, Fairview.

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## PEDIATRIC RAPID RESPONSE TEAM (RRT) CALL RECORD

### Assessment:
- Hypotension
- Hypoxia
- Acidosis-Metabolic
- Acidosis-Respiratory
- Hemorrhage-general
- Hemorrhage-pulmonary
- Significant Electrolyte Abnormalities
- Respiratory Abnormalities
- Arrhythmia
- Seizures
- Mental Status Changes
- Other:

### Drug Interventions:
- Anti-epileptic
- Diuretic (IV)
- Glucose Bolus
- Insulin/Glucose
- Calcium
- Fluid Bolus (IV)
- Inhaled Bronchodilator
- Reversal agent (naloxone/thamazenil/neostigmine)
- Other:

### Non-Drug Interventions:
- None

### Respiratory Management:
- Supplemental O2
- Suctioning
- Tracheostomy Care/Replacement
- Ventilation (Advanced)

### Monitoring:
- ECG
- 12-lead ECG

### Vascular Access:
- Peripheral Vein

### Transfusion:
- Albumin
- Fresh Frozen Plasma
- Packed Red Blood Cells
- Other:  

### Stat Consult:
- Cardiology
- Critical Care
- Neurology
- Pulmonary
- Surgery
- Other:  

### Recommendations:

### Patient outcome at conclusion of RRT visit:
- Advice given to unit team
- Remained on unit
- Transferred to ICU care
- Pediatric Code Team called
- Patient Expired

### Name and Signatures of Responding Team Members

#### RN Name (please print)  
RN signature: 

#### Resident Name (please print)  
Pager #:  
Resident Signature: 

#### Respiratory Therapist Name (please print)  
Respiratory Therapist Signature: 

### Patient Status 2-4 Hours After RRT Visit:
- Stable/Improved
- Worsened
- Brought to Surgery
- Transferred to ICU Care
- Code Blue Called
- Code Status Altered
- Discharged
- Expired
- Other: 

### Patient Status 8-10 Hours After RRT Visit:
- Stable/Improved
- Worsened
- Brought to Surgery
- Transferred to ICU Care
- Code Blue Called
- Code Status Changes
- Discharged
- Expired
- Other: 

### Notes:

Nurses Signature:  
Date/Time:  

---

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Institute for Clinical Systems Improvement
Appendix C – Sample Evaluation/Satisfaction Survey

Rapid Response Team Interaction Satisfaction Survey

For Statements 1-5, check the appropriate box next to the question.

<table>
<thead>
<tr>
<th></th>
<th>Disagree</th>
<th>Disagree Slightly</th>
<th>Neither Agree nor Disagree</th>
<th>Agree Slightly</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.  The rapid response team arrived in a timely manner.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.  The rapid response team was respectful and helpful.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.  My needs and the needs of the patient were met by the rapid response team.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.  I would recommend calling the rapid response team to my peers.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.  It felt “safe” calling the rapid response team.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. The one thing I would like to change about the team would be:

7. A compliment for the team would be:

8. Other comments/observations I would like you to know about:

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Rapid Response Team Evaluation

Please answer the following questions with respect to your specific unit. Circle your response using the scale:

1 – Disagree strongly
2 – Disagree slightly
3 – Neutral
4 – Agree slightly
5 – Agree strongly

1. The RRT arrived in a timely manner.  
2. The RRT RN was knowledgeable and efficient in assessing and implementing care needs.  
3. The RRT RCP was knowledgeable and efficient in assessing and implementing care needs.  
4. The RRT MD was knowledgeable and efficient in assessing and implementing care needs.  
5. Communications to and from the RRT staff were effective in facilitating the delivery of care.  
6. The RRT was courteous and respectful.  
7. The patient outcome was improved because of the RRT assistance.
8. I worked collaboratively with the RRT and the Attending Physician.  
9. In working with the RRT I feel more comfortable and confident in managing patients in crisis.

Comments: ________________________________

_______________________________

The next scheduled revision will occur within 24 months.

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Online at http://www.ICSI.org
ICSI Document Development and Revision Process

Overview

Since 1993, the Institute for Clinical Systems Improvement (ICSI) has developed more than 60 evidence-based health care documents that support best practices for the prevention, diagnosis, treatment or management of a given symptom, disease or condition for patients.

Document Development and Revision Process

The development process is based on a number of long-proven approaches. ICSI staff first conducts a literature search to identify pertinent clinical trials, meta-analysis, systematic reviews, regulatory statements and other professional protocols. The literature is reviewed and graded based on the ICSI Evidence Grading System.

ICSI facilitators identify gaps between current and optimal practices. The work group uses this information to develop or revise the clinical flow and algorithm, drafting of annotations and identification of the literature citations. ICSI staff reviews existing regulatory and standard measures and drafts outcome and process measures for work group consideration. The work group gives consideration to the importance of changing systems and physician behavior so that outcomes such as health status, patient and provider satisfaction, and cost/utilization are maximized.

Medical groups, who are members of ICSI, review each protocol as part of the revision process. The medical groups provide feedback on new literature, identify areas needing clarification, offer recommended changes, outline successful implementation strategies and list barriers to implementation. A summary of the feedback from all medical groups is provided to the protocol work group for use in the revision of the protocol.

Implementation Recommendations and Measures

Each protocol includes implementation strategies related to key clinical recommendations. In addition, ICSI offers protocol-derived measures. Assisted by measurement consultants on the protocol development work group, ICSI's measures flow from each protocol's clinical recommendations and implementation strategies. Most regulatory and publicly reported measures are included but, more importantly, measures are recommended to assist medical groups with implementation; thus, both process and outcomes measures are offered.

Document Revision Cycle

Scientific documents are revised every 12-24 months as indicated by changes in clinical practice and literature. Each ICSI staff monitors major peer-reviewed journals every month for the protocols for which they are responsible. Work group members are also asked to provide any pertinent literature through check-ins with the work group mid-cycle and annually to determine if there have been changes in the evidence significant enough to warrant document revision earlier than scheduled. This process complements the exhaustive literature search that is done on the subject prior to development of the first version of a protocol.

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Acknowledgements

ICSI Patient Advisory Council

The work group would like to acknowledge the work done by the ICSI Patient Advisory Council in reviewing the Rapid Response Team protocol and thank them for their suggestion to improve the methods used to instruct patients and families on how and when to initiate a rapid response team.

The ICSI Patient Advisory Council meets regularly to respond to any scientific document review requests put forth by ICSI facilitators and work groups. Patient advisors who serve on the council consistently share their experiences and perspectives in either a comprehensive or partial review of a document, and engaging in discussion and answering questions. In alignment with the Institute of Medicine's triple aims, ICSI and its member groups are committed to improving the patient experience when developing health care recommendations.

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