RAPID RESPONSE TEAM

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E-ICU ROBOT

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The American Association of Nurse Attorneys
A Rapid Response Team (RRT) is a team of clinicians who bring critical care expertise to the patient’s bedside.

Goal: To prevent deaths in patients who are failing outside of the intensive care setting.

- “ICU without the walls”
Fundamental System Problems

- Failure in planning
  - assessments, treatments and goals.
- Failure to communicate
  - patient-to-staff, staff-to-staff, staff-to-physician, etc.
- Failure to recognize deteriorating patient condition
- FAILURE TO RESCUE
Clinical Instability Prior to Arrest

- 100k Lives Campaign Initiative:
  - Deploy Rapid Response Team.

- Studies indicate signs and symptoms of physiological instability for some period of time prior to a cardiac arrest.

- 70% (45/64) of patients show evidence of respiratory deterioration within 8 hours of arrest. (Schein, Hazday, Pena et al, Chest)

- 66% (99/150) of patients show abnormal signs and symptoms within 6 hours of arrest and MD is notified in 25% (25/99) of cases. (Franklin, Mathew, Crit Care Med)
Code Blue v. RRT

- RRT acts when warning signs are first recognized.
- Several warning signs present within six hours of arrest:
  - MAP < 70, > 130 mmHg
  - Heart rate < 45, > 125 per minute
  - Respiratory rate < 10, > 30 per minute
  - Chest pain
  - Altered mental status
Who Is The Rapid Response Team?

Different Options are…

- ICU RN and Respiratory Therapist (RT)
- ICU RN, RT, Intensivist, Resident
- ICU RN, RT, Intensivist or Hospitalist
- ICU, RN, RT, Physician Assistant
- Code Team
What is the Role of the Rapid Response Team

- Assess
- Stabilize
- Assist with Communication
- Educate and Support
- Assist with Transfer, if necessary
Criteria for Calling the RRT

- Acute change in heart rate < 40 or > 130 bpm
- Acute change in systolic BP < 90 mmHg
- Acute change in RR < 8 or > 28 per min
- Acute change in saturation < 90% despite 02
- Acute onset of neurological symptoms
- Acute mental status changes - unexplained seizure/ agitation
- Acute change in conscious state
- Acute change in urine output to < 50 ml in 4 hours
- Uncontrolled pain
- Uncontrolled bleeding
- Sudden dislodgement of tubes (chest, tracheal)
What Difference Can A Rapid Response Team Make?

<table>
<thead>
<tr>
<th>Measure</th>
<th>Before</th>
<th>After</th>
<th>RRR</th>
<th>P-value</th>
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</thead>
<tbody>
<tr>
<td>No. of cardiac arrests</td>
<td>63</td>
<td>22</td>
<td>65%</td>
<td>0.001</td>
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<tr>
<td>Deaths from cardiac arrest</td>
<td>37</td>
<td>16</td>
<td>56%</td>
<td>0.005</td>
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<tr>
<td>No. of days in ICU post arrest</td>
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<td>33</td>
<td>80%</td>
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<tr>
<td>No. of days in hospital after arrest</td>
<td>1363</td>
<td>159</td>
<td>88%</td>
<td>0.001</td>
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<tr>
<td>Inpatient deaths</td>
<td>302</td>
<td>222</td>
<td>26%</td>
<td>0.004</td>
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</tbody>
</table>

MJA 2003: 179-7
What Difference Can A Rapid Response Team Make?

- **50% reduction in non-ICU arrests**
  

- **Reduced post-operative emergency ICU transfers (58%) and deaths (37%)**
  

- **Reduction in arrest prior to ICU transfer (4 % v 30 %)**
  
What Difference Can A Rapid Response Team Make?

- Better outcomes
- Improved relationships
- Improved satisfaction
  - Patient
  - Nursing
    - Impact on nursing retention
  - Physician
- Financial benefits
Team Composition

Initial RRT Responders

- STAT Nurse – (House Nursing Supervisor, ER Charge, depends on location)
- Respiratory Therapist
- e-ICU Intensivist/RoboDoc per CCU Tech
Key Process Elements

- Simultaneous contact made by the bedside nurse to:
  - Charge nurse
  - Rapid Response Team
  - Attending physician

- Attending physician directs case and makes decisions.
  - E-ICU robot

- Data collection tools and RRT evaluation forms are completed to facilitate continuous improvement.
Video
RRT Statistics

- Change in heart rate and blood pressure are the top two reasons the RRT has been called.
- The patient has been transferred to another room in 63% of the RRT calls.
- The e-ICU has issued orders in 57% of the RRT calls.
- RoboDoc has responded to 66% of the RRT calls.
- The RRT spends over 51 minutes per call.
RRT Evaluation

- Nurse who activated RRT is asked to evaluate the experience.

- A 1-5 (strongly disagree – strongly agree) scale is used to assess team members, communication, improvement in patient outcome, and collaboration with attending physician.

- Average scores range from 4.78 – 4.96.

- Comments include: “Can’t believe we didn’t do this 15 years ago. STAT nurses are great – this is one better.” “Excellent resource.”
Cost of a RRT with eICU Robot

- Stat nurse
- E-ICU
- Robot
Reimbursement Issues

- **Rapid Response Team**
  - Similar to Code Team
  - Bill for equipment utilized during response
  - Physician on Rapid Response Team or use of E-ICU Robot
E-ICU/Telehealth

- Medicare Coverage
  - Benefits Improvement and Protection Act 2000 ("BIPA") – expanded coverage

- Telehealth Service Defined: professional consultations, office visits, and office psychiatry services

- Medicare Requirements (42 USC § 1834M, 42 CFR § 40.78)
  - Must use real time, interactive audio and video telecommunications
  - Physician/Practitioner Reimbursement: an amount equal to what he/she would have received if not using telecommunications
  - Originating Site (where pt. is located) reimbursed for facility fee
Medicare Continued

- **Location**
  - Rural HPSA
  - Rural county not included in a MSA
  - Entity participating in a Federal telemedicine demonstration project

- **Facility**
  - Physician or practitioner office
  - Critical access hospital
  - Rural health clinic
  - Federally qualified health center
  - Hospital
Medicare Continued

- **CPT Codes** (CMS Medicare Claims Processing Manual):
  - Consultations 99241-99275
  - Office/Outpatient Visits 99201-99215
  - Individual psychotherapy 90804-90809
  - Pharmacologic management 90862
  - Psychiatric diagnostic interview exam 90801
Medicaid/Private Payors

- Medicaid
  - CMS has not defined telehealth

- Private Payors
  - Some States have passed laws requiring private payors to reimburse
    - ATA & AMD Telemedicine have a directory of providers at [http://www.amdtelemedicine.com/private_payer/index.cfm](http://www.amdtelemedicine.com/private_payer/index.cfm)
HIPAA Privacy/Security

- Uniform Policies and Procedures
- Patient notification and consent
- Knowledge of State privacy laws if practicing across state lines
- Signals to alert staff and patient when E-ICU is monitoring patient
- Only view patient as necessary
- No temporary or permanent recording of patient
- PHI transferred to E-ICU over secured telephone lines
- E-ICU Robot volume
HIPAA Privacy/Security Continued

- Appropriate security
  - E-ICU Robot secured when not in use
  - e-PHI disaster contingency plan
  - e-PHI backed up and stored

- Limited access
  - Off-site E-ICU locked - only authorized personnel have access
  - Secure passwords for E-ICU computers
  - E-ICU personnel - ID badge at all times
  - Terminated personnel access amended immediately

- Technical Support
  - BAA if outside contractor
  - Same PHI protection responsibilities
  - Immediately available
Credentialing/Privileges

- JCAHO Standard MS.4.120: LIPs who provide care via telemedicine link are subject to the credentialing and privileging processes of the originating site.

- Full medical staff privileges and individual ICU credentialing
  - Rotation as off-site E-ICU

- Special telemedicine/E-ICU privileges and individual ICU credentialing
  - Off-site E-ICU only
  - Amend bylaws
  - Draft policy and procedure
Licensure

- Licensed in state where practice occurs
  - Where the patient is located
- FSMB Model Legislative Act – 9 states have passed similar legislation
  - Shortened licensure process
- NCSBN Interstate Compact – 20 states have adopted
  - Mutual recognition
- Federal/National Model
Medical Malpractice/Products Liability

- Will a hospital that implements a rapid response team and/or an E-ICU be held to a higher standard of care?
- Will a physician or other health care practitioner be held to the same standard of care as one who is at the bedside?
- What happens if the E-ICU Robot malfunctions?
- What happens if the E-ICU monitoring equipment malfunctions?
Fraud and Abuse

- Must pay FMV for E-ICU robot and other E-ICU equipment
- Arrangements where more than one hospital share a remote E-ICU
- Not billing for services
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