Rapid Response Systems

The Efferent Arm

Components of a Rapid Response System

- **Afferent arm**: Event detection and trigger
- **Efferent arm**: Event response – the ‘Team’
- **Administrative arm**: Supervision, design, and infrastructure
- **QI arm**: Review the circumstances prior to the event and take corrective actions post-event

‘Chain-of-Command’

Medical Education Model

- Nurses contact least experienced (i.e., intern)
- Least experienced member of care team will attempt to diagnose and fix the problem.
- When that person perceives lack of knowledge or skills, s/he contacts next least experienced.
- Second person will attempt to diagnose and fix the problem…and so on….

This results in “delegation to the dumbest”.

In a crisis, this can lead to delays and disaster.

Traditional hierarchical referral model of care is inefficient for the sick patient.

‘Chain-of-Command’

Medical Education Model

- **Advantages**
  - Least experienced person will become experienced quickly.
- **Disadvantages**
  - Least experienced person may not know when to call for help.
  - Inappropriate care – untrained, uncoordinated
  - Delay in access to appropriate care
  - If more help is needed, the act of calling for help wastes valuable patient care time.
  - The result is “serial stat pages”.

Roles of the Rapid Response Team

- Support bedside nursing
- Assess
- Stabilize/treat
- Assist with communication
- Educate
- Assist with transfer, if necessary
Team members – who are they and who should they be?

Considering ~ Type of Hospital
- Community
- Teaching
- Academic

Considering ~ Personnel
- Available
- Accessible
- Able

What is the Model for a Rapid Response System Team?

- RRT: Rapid Response Team
  - Usually an ICU nurse as the first responder
- MET: Medical Emergency Team
  - Usually an MD as the first responder
- CCOT: Critical Care Outreach Team
  - Usually with an ICU nurse doing surveillance

Generic vs. Specific Teams

- ‘Code Blue’ or Medical Crisis Team
- Disease-Specific Response Teams
  - Chest pain team
  - Stroke team
  - Trauma team
  - Shock team
  - Obstetrical crisis team

Multiple Models of Rapid Response Teams

- ICU RN, Respiratory Therapist (RT)
- ICU RN, RT, Intensivist
- ICU RN, RT, ED Physician
- ICU RN, RT, Hospitalist
- ICU RN, RT, Housestaff
- ICU RN, RT, Physician Assistant
- NP, RT

Others:
- Pharmacists, lab personnel, EKG tech, transporters, administrative clinicians

Rapid Response Team Members

- Attending/trainee intensivist
- Attending/trainee anesthesiologist
- Attending internist or surgeon/trainee
- Hospitalist
- Family Practice/ED physicians
- Physician ‘moonlighter’
- ICU nurse
- ACLS-trained staff nurse
- FCCS-trained staff nurse
- CRNA, CRNP, PA, EMT
- Respiratory Therapist

Composition of the RN-Model Team

- RN as the first responder for conventional MET criteria.
- RN responder follows protocolized initial assessment and therapy.
- Protocolized therapy designed by intensivists/hospitalists, etc. specific to disease states, i.e., primary respiratory failure vs. primary change in mental status vs. primary shock.
University of Pittsburgh Medical Crisis Team

- Resource Intensivist (24/7 attending coverage)
- Critical Care Medicine 1st year fellow trainee or Pulmonary fellow
- Attending or trainee anesthesiologist
- ICU nurse
- Medical resident
- AOD (Administrator on Duty/RN)
- Patient’s staff nurse
- Nurse Manager of the patient floor
- Respiratory therapist
- Security officer

Magee-Womens Hospital Obstetrical Crisis Team Members

- Critical Care Medicine physician
- Maternal Fetal Medicine attending or fellow and/or OB Hospitalist
- 4th year OB/Gyn Resident
- Staff anesthesiologist
- Labor suite nurse assigned to the patient
- Labor suite charge nurse or designee
- Administrative Clinician (AOD)

Final Design of the Team

- What works best for your institution?
  - Community vs. academic institutions
  - Internal politics
  - Administration
  - Resources
  - Finances
- Who is available? Who is the most capable?
  - Who is accessible? Who wants the job?