Objectives

- State criteria for calling a rapid response
- Verbalize the significance of alterations in assessment parameters and how to communicate changes in patient condition
- Verbalize how to incorporate a one-minute patient assessment into any patient situation, including bedside report
- Verbalize the role of the med surg nurse in a rapid response situation—before, during, and after
- Verbalize the importance of early recognition and treatment of sepsis

Why were Rapid Response Teams created?

- Every year, there are thousands of preventable hospital deaths
- Those deaths are due to things such as failure to rescue, medication error, medical errors, etc.
- In 2006, the Institute for Healthcare Improvement (IHI) encouraged hospitals to implement Rapid Response Teams to curb preventable hospital deaths
- In 2009, The Joint Commission added “Improving recognition and response to changes in patients’ conditions” as National Patient Safety Goal #16

Goals of Rapid Response Teams

- Bring critical care expertise to an ailing patient’s bedside
- Assist the staff nurse in assessing and stabilizing an ailing patient
- Assist with communication to a physician
- To provide early intervention for potential adverse effects
- Decrease or facilitate transfers to ICU
- Prevent deaths outside of ICU
- Facilitate DNR orders
- Staff education

Failure to rescue

**Definition:**
Failure of caregivers to recognize or respond to a pt who is suffering from complications of an illness or medical care

**Examples:**
- Not recognizing early s/s of deterioration (i.e. not recognizing that a patient who is somnolent and having tremors is actually having seizures and is in status epilepticus)
- Acting too late to prevent a cardiac arrest

Failure to rescue

**What contributes to failure to rescue?**

- Breakdown of communication
  - Nurse to nurse, nurse to physician, physician to patient, physician to nurse
- Failure to recognize deterioration
  - This is nursing and physician
- Incomplete assessments or inadequate treatments
  - This is nursing AND physician
Did you know????

• **Early changes:**
  Pt baseline condition begins to deteriorate an average of 6.5-8 hours before an adverse event or cardiopulmonary arrest in 80% of pts

• **Preventable:**
  As many as 70% of the adverse events are preventable if cared for in an appropriate clinical area

---

**Warning signs**

Acute change(s) in:

★ **Heart rate**
★ **Respiratory rate**
★ **Mental status/level of consciousness**
  - Blood pressure
  - SpO₂ despite oxygen therapy
  - Urine output
  - Temperature

---

**Criteria for calling rapid response**

Other reasons:

• Worried about patient
• Acute hemorrhage
• New onset delirium, seizures
• New onset cold extremity
• EKG changes
• Chest pain
• Suspected stroke

---

**Most frequent reasons for calling a Rapid response**

1. Hypotension
2. Respiratory distress

---

**The hidden dangers of decreased mental status**

• **Fact:** delays in response to acute changes in mental status have resulted in lower survival rates compared with any other symptom preceding code blue activations

• **Why?**
  Brain tissue is profoundly sensitive to hypoxia, and mental status changes are often the first sign of hypoxia. The longer the signs of hypoxia are left untreated, the more difficult it is to reverse the physiologic changes of cellular hypoxia, and the greater risk of mortality.

---

**One Minute Assessment**

• **Color**
  - Color = perfusion

• **Effort**
  - How hard is the patient working to breathe? Similar work = trouble getting. Can the patient speak in sentences or string words together? If so, tidal volume is good. Strong voice = good

• **Skin**
  - Diaphoresis = untimed sympathetic stimulation. This is a 100% late sign that something is wrong

• **Mentation**
  - Poor mentation = poor oxygenation

• **Increased HR, RR**
  - Indicators of sympathetic nervous system stimulation... the fight or flight response is intact

• **Frightened**
  - The patient often knows when something isn’t right, but doesn’t know what’s wrong. Believe them when they are scared.
Role of the bedside Nurse

- **Before:**
  - Stay with the patient
  - Contact physician
  - Collect supportive information
  - Remember your ABCs

- **During**
  - Assist team
  - Answer questions
  - Provide comfort to patient
  - Maintain contact with physician; may need to call family

- **After**
  - Depends on patient disposition
  - May need to transfer to a higher level of care
  - May need to maintain monitoring on unit
  - Support pt and family

Communication is key: examples of communication tools

- **SBAR:**
  - Situation: What is happening now? What acute changes have occurred?
  - Background: What factors led up to the event? Give any pertinent history.
  - Assessment: What are the current vital signs? What is your assessment? What do you see?
  - Recommendation: What do you need from the licensed independent practitioner (LIP)? What is next? What is the timeframe? Note—be careful with your request…nursing cannot prescribe and sometimes LIPs do not take kindly to you recommending how they do their job; however if you feel that your patient needs something that the LIP is not ordering, advocate for your patient

- **CUS:**
  - Concerned: “I am concerned about Mrs. X.”
  - Uncomfortable: “I am uncomfortable because she has shortness of air, is diaphoretic, has a respiratory rate of 30, and an O2 sat of 90% on 6L O2/NC”
  - Safety at risk: “I am afraid that her safety is at risk because she appears to be having an acute respiratory event”

Sepsis

**Definition:**
Whole body inflammatory state (2 SIRS criteria) and a documented OR suspected infection

Often originates from the urinary or respiratory system but can start anywhere, even IV sites

Early identification and treatment make a difference in survival of sepsis

SIRS: Systemic Inflammatory Response Syndrome

**Clinically:**
- HR > 90
- Temp < 96.8F or > 101F
- RR > 20 or PCO2 < 32 mmHg
- WBC <4,000 or >12,000; or >10% bands

**Cause:** a clinical inflammatory response to a nonspecific insult, whether infectious or not
Examples: dehydration, inflammatory disease, massive tissue injury, upper GI bleed, seizure, infection, diabetic foot ulcer, the list is endless…

**Treatment:** treat the cause…antibiotics are not always the answer

What Happens in Sepsis?

1. Bacteria enters the bloodstream thus triggering complex immunologic reactions
2. Blood vessels dilate due to chemical mediators and the endothelium of the blood vessels erodes
3. Capillary leakage begins and causes fluid to accumulate in the organs
4. The vasodilation and capillary leakage result in decreased tissue perfusion
5. The damage to the blood vessels also triggers the coagulation cascade and microthrombi form, ultimately resulting in DIC

Sepsis

**Definition:**
Whole body inflammatory state (2 SIRS criteria) AND a documented OR suspected infection

Often originates from the urinary or respiratory system but can start anywhere, even IV sites

Early identification and treatment make a difference in survival of sepsis
Sepsis

**DETECT AND TREAT EARLY!**

Treatment should begin within THREE hours (updated 4/2015)

Mortality is decreased when treatment is started early

**Mortality rates 30-60%**

Sepsis causes more deaths than breast, lung, and colon cancer combined

Sepsis is the leading cause of hospital death

**Treatment goal:**

- tissue perfusion

### Identification of Sepsis

**Identification:**

- Identify SIRS criteria and notify licensed independent practitioner
- Treatment needs to begin within 3 hours of criteria identification
- Draw blood cultures before starting broad-spectrum antibiotics (per orders)
  - May also culture other sources to identify infection site and organism—urine, sputum, CSF, wound, etc.
- Check lactate within 3 hours of identification (per orders)
  - Elevated lactate is due to anaerobic metabolism from hypoperfusion
  - If lactate is greater than 2 mmol/L, the patient needs to be aggressively treated which includes administration of 50 to 100 mL of fluids, patient may receive more than one fluid bolus depending on blood pressure and lactate 6 hours after lactate was measured
  - A low hemoglobin means that there is less oxygen available for delivery of oxygen to the organs and tissues

**Top 3 body systems affected by sepsis:** respiratory, cardiovascular, and renal

### Treatment of sepsis: Begin within 3 hours

- Oxygen
- Broad-spectrum antibiotics (after cultures drawn)
- Fluid resuscitation (patients become hypovolemic because the proinflammatory mediators cause blood vessels to leak fluid into the extravascular space)
- Maintain glucose levels < 150 (high glucose can contribute to the additional release of proinflammatory mediators)
- Remove source of infection if possible

### Goal of sepsis resuscitation is tissue perfusion

- Monitoring parameters:
  - Mean arterial pressure greater than or equal to 65
  - Urine output greater than or equal to 0.5 mL/kg/hr
  - Central venous pressure 8–12 mmHg (this requires ICU monitoring)
  - Normalizing lactate level—if lactate was elevated, it needs to be measured again within 6 hours of meeting criteria

### Severe Sepsis

**SIRS +**

**Infection +**

**Organ dysfunction**

- Altered mental status
- SBP <90 or MAP <70 or SBP decrease of 40
- PeG > 140
- UOP <5mL/kgx2 hours
- Creatinine increase 0.5mg/dL above baseline
- Platelets < 100
- INR >1.5 or aPTT > 60
- Mottled skin or delayed capillary refill

### Septic shock

Persistent hypotension and hypoperfusion of organs despite fluid resuscitation

50% mortality rate
Which of these patients has Sepsis?

1. A 35-year old male with signs of a sinus infection, WBC 13K, & T 102°F
2. A 72-year old female with an UTI, RR 22, & HR 95
3. A 16-year old football player with a boil on his leg, T 101.5°F, & WBC 8K with 12% bands
4. A 56-year old female with right lower lobe pneumonia, pCO₂ 31, & WBC 3K
5. A 36-year old patient with endocarditis, positive blood cultures, WBC 15K, & T 101°F

Answer: All of them!

Hold it! Patient 1 might be sent home with antibiotics… How can that be Sepsis? Patient 2 doesn’t sound that sick…maybe keep her as an observation overnight. Only Patient 5 sounds that serious… How can they ALL be diagnosed with Sepsis?

The diagnosis of Sepsis requires:
1. Systemic Inflammatory Response Syndrome (SIRS)
2. Documented or Suspicion of an infection

Sepsis in summation…

DETECT AND TREAT EARLY!

THE END

2016 REFERENCES