**Disclosure**

- No planner, presenter, or speaker has any vested interest in the content to be discussed in this presentation.
- Your participation in this presentation will not guarantee that you will pass Certification exam.
- To receive CE Credits:
  - Sign the attendance sheet
  - Attend 80% of the course
  - Complete course evaluation

**Neurological**

- Level of Consciousness
- Glasgow Coma Scale:
  - Eye opening (1-4)
  - Verbal Response (1-5)
  - Best motor response(1-6)
- Pain (scoring)
- RASS (-5 to +4)
  - Un-arousable, sedation, agitation, combative

**Perfusion**

- Blood Pressure--trending
- Mean Arterial Pressure (MAP)\
  \[ [(2XDBP) + SBP] \times \frac{1}{3} \]
- Skin Color
- Skin temperature
- Heart Rate (pulse)
  - High HR
    - Sympathetic stimulation--stress
    - Pain, infection, anxiety, dehydration, thyroid, anemia
  - Low HR

**Objectives**

- Describe signs & Symptoms of Hemodynamic instability in PCU setting.
- Identify relevant nursing interventions to cardio-pulmonary emergencies.
Heart Rate Myths

• Myth #1: An erratic heartbeat means you’re having a heart attack
• Myth #2: A fast pulse means you’re stressed out.
• Myth #3: A healthy resting heart rate is between 50 and 90 beats per minute
• Myth #4: A slow heart rate means a weak heart.
• Myth #5: Since my heart rate is normal, my blood pressure must be normal too.

Respiratory

• Respiratory Rate
  – Fast, slow, change in rate?
• Respiratory Rhythm
  – Irregular pattern, how?
• Respiratory Quality
  – Depth of breathing = vital capacity
  – Smoothness of inspiratory, expiratory
  – Problem exhaling air out?

Cardiac Tamponade

– Goal: Hemodynamic stability
– Cause: pericardial effusion leading to cardiac compression
– Determining factor: rate of fluid accumulation in the sac.
– Consequence: PEA & Cardiogenic Shock
– Needle decompression:

Fluid Status

– Weight gain—trend of changes
– 24 hour intake & output—balance
– Skin turgor—trend
– Neck vein distention/ JVD
  • Degree of change
– Respiratory sound
  • Crackles, sputum, color

Cardiac Tamponade

– Signs & Symptoms:
  – Anxiety
  – Low BP, tachycardia
  – Chest pain radiating to back, shoulder, neck
  – Trouble breathing (deep breath)
  – Discomfort—relieved by sitting forward
  – Fainting, dizziness, Lost of LOC
**Cardiac Tamponade**
- **Diagnosis:**
  - Low BP, weak pulse
  - Distended neck vein
  - Rapid heart rate
  - Muffled heart sound
  - Chest CT
  - Chest x-ray
  - Echocardiogram

**Dissecting Aortic Aneurysm**
- **Signs & Symptoms:**
  - Sudden onset of “ripping or tearing” pain during the onset of dissection
  - Pain in shoulder, neck, arms, back
  - Pain can be difficult to separate from angina or heart attack
  - Numbness & inability to move leg
  - No pulse, pale skin, swelling

**Cardiac Tamponade**
- **Treatments:**
  - Pericardiocentesis
  - Thoracotomy
  - Oxygen
  - Fluid resuscitation
  - Pain Medication
  - Vasopressors to support BP

**Dissecting Aortic Aneurysm**
- **Diagnosis:**
  - Chest x-ray
  - Angiogram
  - CT scan
  - MRI
  - Echo/ TEE
  - Ultrasound

**Dissecting Aortic Aneurysm**
- **Cause:**
  - Trauma, shearing in the integrity of aorta
  - Atherosclerosis
  - Hypertension
  - Connective Tissue Disease

**Dissecting Aortic Aneurysm**
- **Treatment:**
  - Nitroprusside (goal MAP 60–70)
  - Beta-blockers (keeps HR low)
  - Pain Management
  - Surgery
Atrial Fibrillation/Flutter

- **Goal:** hemodynamic stability
- **Treatment:** Rate Control
  - Beta-blockers: lopressor
  - Anti-coagulation
  - Cardizem infusion
  - Cardioversion for unstable A Fib/flutter
- **Assessment:** BP, MAP, HR, perfusion

Medical Early Warning Signs

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<td>&lt; 70</td>
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<td>HR</td>
<td>&lt; 40</td>
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<td>RR</td>
<td>&lt; 9</td>
<td>9-14</td>
<td>15-20</td>
<td>21-29</td>
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<tr>
<td>Temp</td>
<td>&lt; 95</td>
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<td>RASS</td>
<td>0-3</td>
<td>Alert to Combative</td>
<td>Drowsy to Moderate sedation</td>
<td>Deep Sedation</td>
<td>Unarousable</td>
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Acute Lung Injury

- **Goal:** Hemodynamic stability
- ALI is a precursor of ARDS
- Oxygenation support
- Ventilatory support
- Early broad spectrum antibiotics
- Hemodynamic support
- Close monitoring

APACHE III

**Acute Physiology, Age, Chronic Health Evaluation**

- Pulse rate
- MAP
- Temp
- RR, PaO2/P(A-a)O2
- Hct
- WBC
- CR
- UO
- BUN
- Sodium
- Albumin
- Bilirubin
- Glucose
- Acid-Base
- Neurologic

Sepsis

- At least 2 SIRS criteria & suspected infection (HR, RR, temp, WBC)
- Culture & Antibiotics
- Fluids (CVP = 8-12) or MAP > 65
- Norepinephrine infusion
- If responds to fluid → good sign

Summary

- Describe signs & Symptoms of Hemodynamic instability in PCU setting
- Identify relevant nursing interventions to cardio-pulmonary emergencies
References