Assess for the presence of major risk factors

- The most common risk factor for ARDS is sepsis.
- Direct lung injury, systemic illnesses, and injuries.
  - The most common direct lung injury associated with ARDS is aspiration of gastric contents.
  - Viral and bacterial pneumonias, near drowning, and toxic inhalations
- Indirect injury:
  - Trauma with or without massive transfusion, acute pancreatitis, drug overdose, and long bone fracture.
- Increase risk of ARDS after an inciting event, including advanced age, female sex (noted only in trauma cases), cigarette smoking, and alcohol use.

Source: Emedicine ARDS at http://www.emedicine.com/med/TOPIC70.HTM#section~Introduction

Are Risk Factors Present?

YES

Acute dyspnea and hypoxemia within hours to days of an insult
- Dyspnea with exertion.
- Severe dyspnea at rest.
- Tachypnea, anxiety, agitation
- Hypoxemia in spite of increasing O2 supplementation

NO

Are positive findings present?

YES

Initiate the plan of care for a Risk for Ineffective Therapeutic Regimen management:
- Assist client in strategies to reduce modifiable risk factors
- Treat factors that contribute to risk such direct/indirect lung injury
- Monitor for s/s of complication of ARDS

NO

Follow plan of care for PC: ARDS/MODS

Initiate client education for Health Seeking Behaviors to identify:
- Instruct client in s/s of risk factors to report
- Teach lifestyle modifications; no smoking, limit alcohol, avoid recreational drugs use
- Provide anticipatory guidance to young adults at greatest risk for trauma
- Teach s/s of respiratory infection
- Encourage flu vaccine/pneumococcal vaccine to minimize likelihood of respiratory infection
### PC: ARDS/MODS

#### ASSESS s/s of ARDS/MODS

Acute dyspnea and hypoxemia within hours to days of an insult
- Dyspnea with exertion.
- Severe dyspnea at rest.
- Tachypnea, anxiety, agitation.
- Hypoxemia in spite of increasing O2 supplementation.

Assess for contributing factors:
- Sepsis.
- Direct lung injury, systemic illnesses, and injuries.
- Indirect lung injury:
  - Advanced age, female sex (noted only in trauma cases), cigarette smoking, and alcohol use.

#### Monitor

- Pulse oximetry in response to supplemental oxygen and consult with MD regarding ABG analysis to isolate worsening hypoxemia and acid base imbalance (respiratory alkalosis early/ respiratory acidosis during progression).
- Monitor chest X-ray results for ground glass appearance.
- Monitor for PAWP reading from right heart catheter that support a noncardiogenic pulmonary edema.

- Monitor baseline labs for contributing factors; sepsis, infection, hemorrhage, drug toxicity screens.

#### Monitor for complications

Assess for renal failure, hepatic failure, thrombocytenopenia and DIC.
- Perform electrolyte analysis, BUN creatinine ratio, GFR calculation, liver function tests, D-Dimer levels, bleeding times.

#### DO

**Stop injury process:**
No drug has proved beneficial in the prevention or management of ARDS.
Administer corticosteroids, if prescribed. Treat the underlying cause.

**Restore ventilation perfusion**
Initiate assist ventilation using ventilator protocol developed by ARDS.net. Maintain oxygen saturations in the range of 85-90%.

**Ensure adequate fluid/hydration and tissue perfusion**
Provide hydration, vasoactive medication or diuresis using the fluid algorithm developed by ARDS.net.

- Implement prone positioning according to institution guidelines.
- Institution of nutritional support after 48-72 hours of mechanical ventilation usually is recommended.
- Prepare client and family for rehabilitation facility once stabilized.

#### CALL

Worsening hypoxemia, Hemodynamic instability unresponsive to prescribed regimen, s/s of MODS, DIC, hepatorenal failure.
Initiate shock management and call MD.