Neonatal Sepsis - PICU Phase

**Inclusion Criteria:**
- Suspected infection with organ dysfunction
- OR
- Positive screen with LIP-initiated resuscitation

**Consider alternate diagnoses:**
- Ductal dependent congenital heart disease
- Congenital adrenal hypoplasia
- Inborn errors in metabolism
- Arrhythmias
- CMS-P

**Time Zero = Flagged for critical sepsis**

- Add supplemental oxygen regardless of SpO₂
- Evaluate IV access; additional IV/IO access rapidly as needed
- Administer 20 mL/kg boluses (first within 20 minutes and evaluate clinically after each bolus)
- Order labs and medications per PICU CRITICAL SEPSIS ORDER SET
- ADMINISTER ANTIBIOTICS WITHIN 1 HOUR

**Monitor clinical response**
- Vital signs
- Frequent reassessment

**Infection source control**
- Administer antibiotics in FIRST HOUR

**Repeat fluid boluses** (monitor clinical response with each fluid bolus)

**FLUID REFRACTORY SHOCK**
- Consider CVL, arterial line, foley catheter
- Consider ECHO, PRBCs if Hgb <10 g/dL

**WARM SHOCK**
- Titrated norepinephrine
- Consider epinephrine, vasopressin

**COLD SHOCK/LOW BP**
- Titrated epinephrine
- Consider norepinephrine

**COLD SHOCK/NORMAL BP**
- Titrated epinephrine
- Consider milrinone

**CATECHOLAMINE RESISTANT SHOCK**
- Consider stress dose hydrocortisone
- Consider other causes
  - Pneumothorax
  - Pericardial effusion
  - Intra-abdominal hypertension
  - Primary cardiac dysfunction

**CONSIDER ECMO**
- Obtain vessel ultrasound
- Consult Surgery

**RESPIRATORY SUPPORT**
- Consider intubation with continued acidosis and/or worsening hypoxia or hypercapnia
- Ensure adequate resuscitation prior to intubation
- See CRITICAL SEPSIS ORDER SET for intubation drugs

**ADJUNCT THERAPIES**
- Diuresis for fluid overload (ensure hemodynamic stability)
- Renal replacement therapy: consider with oliguria/anuria and fluid overload unresponsive to diuretics
- Plasma exchange; consider EARLY with thrombocytopenia and MODS

**CLINICAL GOALS**
1. Shock reversal: normal cap refill, normal UOP, resolution of altered mental status, normal mean arterial BP, SPO₂ 92-97
2. Antibiotics within 60 minutes
3. Ensure adequate and ongoing fluid resuscitation

**Signs & Symptoms of Critical Sepsis**
- Hypotension (MAP <40 mmHg)
- Poor perfusion
- Reduced urine output
- Tachypnea/new oxygen requirement
- Mental status changes