## **Pediatric Sepsis/ Meningitis**

**ABCs** Oxygen 100% Assist ventilations, intubate prn Secure IV Signs of NS 20 mL/kg IVP over 5 minutes inadequate May repeat 3 times, prn(2)(3)perfusion Yes No Dopamine 5-10 mcg/kg/min IV Improvement Epinephrine 0.05-0.3 mcg/kg/min IV No Norepinephrine 0.03-0.05 mcg/kg/min IV Yes Vancomycin 15 mg/kg max of 2 gms IV **Antibiotic** ▶ and given No Ceftriaxone 75 mg/kg max of 2 gms IV(4) Yes

and/or

Assessment of Perfusion:

- LOC
- Capillary refill
- Urine output
- Heart rate
- Color
- Pulses (inward to outward)

Check for signs of fluid overload:

- Hepatomegaly
- Rales
- Reassess for adequate perfusion prior to each fluid bolus

**Vasopressor Guidelines** 

Fluid - Ketractory Snock: vasoactive drugs are recommended in children with septic shock who have not improved after 40 to 60 mL/kg of NS. Fluid administration is continued and vasoactive agents are guided by physical findings.

Cold Shock: (poor perfusion, delayed cap refill, cold extremities) that do not respond to initial fluid bolus' should receive dopamine 5 - 10 mcg/ kg/min. If resistant add epinephrine 0.05- 0.3 mcg/kg/min.

Warm Shock: (bounding pulses, pink extremities, and "flash" capillary refill) give norepinephrine 0.03 to 0.05 mcg/kg/min.

If Bacterial Meningitis Suspected:

Age > 2 months give:

Dexamethasone 0.15 mg/kg IV (Preferably to start prior to or with first dose of antibiotic

- Ensure Airway control (5)
- Foley (6)

**Temperature** 

- Monitor glucose and temperature
- Be aggressive with ensuring perfusion (7)

Yes

1. See Pediatric Intubation Protocol

- 2. Repeated 20 mL/kg Normal Saline boluses should be given rapid IV push, until tissue perfusion, oxygen delivery, and blood pressure are adequate, or signs of fluid overload develop. Patients may need 60 mL/kg or more in the first hour and up to 120 mL/kg or more during the first several hours of fluid administration.
- 3. Do not wait for low BP before starting Vasopressors. Look at "Assessment of Perfusion". BP in children is a late finding.
- 4. Ceftriaxone may be given IM. Do not delay antibiotics for procedures (ie Lumbar Puncture)

Tylenol 15 mg/kg po or pr q 4 hr

Motrin 10 mg/kg po q 6 hr

- 5. Consider work of breathing when assessing airway
- 6. Normal Urine Output: Infant 2 mL/kg/hr, Child 1 -2 mL/kg/hr, Adolescent 0.5-1 ml/kg/hr.
- 7. Children with Septic Shock have very large fluid needs due to systemic vasodilation and capillary leak. Aggressive fluid management within the first hour is correlated with increased survival rates.