UBC Department of Emergency Medicine Grand Rounds

**Pediatric Sepsis 2020 Update:**

Reviewing Surviving Sepsis Campaign International Guidelines for the Management of Septic Shock and Sepsis-Associated Organ Dysfunction in Children

October 2020

Nathan Stefani PGY4

**Summary Points/SSC Recommendations:**

1. Pediatric shock is a CLINICAL diagnosis, requiring focused exam (pediatric assessment triangle), not just blood pressure, which can be normal in septic shock.
2. Altered LOC and early kidney injury are early warning signs of shock.
3. Be wary of unexplained tachycardia or tachypnea.
4. Blood cultures strongly recommended before empiric antibiotics are started.
5. Ceftriaxone (i.e. 100mg/kg) is sufficient monotherapy in majority of peds sepsis/septic shock
6. Consider adding Vancomycin if MRSA or meningitis suspected (i.e. cephalosporin-resistant pneumococcus). Consider Ampicillin/Gentamicin/Acyclovir for neonates (<1mo old)
7. Fluid boluses should be 20ml/kg using pull/push method in kids <20kg with small gauge IVs (optime administration speed). Up to 60ml in first hour (strongest evidence if in well-resourced center that can manage any respiratory compromise from fluid overload).
8. Assess for fluid overload with each bolus: liver edge drop, lung crackles, increased resp efforts.
9. Epinephrine infusion considered after 2nd bolus (epi first line > norepi especially in cold shock)
10. Consider early intubation for fluid-refractory, catecholamine-resistant septic shock even *without* respiratory failure.
11. Corticosteroids: no definitive SSC recommendations. Some experts give hydrocortisone if they give vasoactive medications.
12. Calcium: target normal iCa in patients receiving vasoactive medications.
13. Glucose: target <10 mmol/L with insulin (weak recommendation).
14. Antipyretics: no recommendations. May help optimize comfort.
15. ECMO: SSC recommends considering VV ECMO for children with sepsis-induced ARDS and refractory hypoxia and VA ECMO for septic shock if refractory to all other therapies.