**Sepsis - Emergency Management in Children - Flowchart**

**0 min Recognition**
- Fever > 38.5 or hypothermia
- Looks sick or toxic (A)
- Irritable or drowsy
- Poor perfusion/purpura/petechiae
- Close attention to vital signs and risk factors (B)

**<5 min Immediate Actions**
- Attach cardiorespiratory monitoring
- Assess airway and administer oxygen
- Initial assessment

**<15 min Establish vascular access**
- Insert IO if 2 attempts at IV fail
- Consider UVC in a neonate < 2 weeks of life
- Take bloods:
  - BC, VBG with lactate and glucose (priority)
  - FBC, CRP, UEC, LFT, +/- Coags, +/- Grp & hold
- Administer IV antibiotics (C)
  - IM ceftriaxone 50mg/kg (max 2g) if delayed
  - Give full dose/s of IV antibiotic/s once IV access established

**<30 min Intravenous Fluid Administration**
- 20mL/kg Sodium chloride 0.9% over ~ 5 min
- Repeat 20mL/kg Sodium chloride 0.9% bolus
- Each time reassess response
- Aim: improved HR, mentation, perfusion
- Overload: hepatomegaly, crepitations
- Prepare adrenaline – both infusion and 1:100,000 solution for aliquot doses

**<60 min Inotropes & Further Considerations**
- Seek paediatric critical care input as per (D)
- Adrenaline infusion 0.05 – 0.5 mcg/kg/min
  - Can be initially low dose via peripheral IV
  - Or adrenaline bolus 0.1 ml/kg of 1:100,000 solution for aliquot doses
- Consider further IV fluid boluses
- Consider early intubation (E)
- Correct hypoglycaemia/hypocalcaemia
- Consider hydrocortisone IV (1mg/kg)

**A. Toxic**
- Altered mental state
- Tachypnoea, ^ WOB, grunt, weak cry
- Marked/persistent tachycardia
- Moderate to severe dehydration
- Seizures

**B. Risk factors**
- Age < 3 months
- Indwelling medical device
- ATSI/Pacific Islander/Maori
- Immunocompromised/asplenia/neutropaenia/incomplete immunisation
- Recent trauma or surgery/invasive procedure/wound within 6 weeks
- Chronic disease or congenital disorder

**C. Initial antibiotic doses - CHQ Antibocard**

< 2 months
- Ampicillin/Amoxycillin IV 50 mg/kg
- PLUS Gentamicin IV 7.5 mg/kg (<1 month: 4mg/kg)
  - If meningitis suspected ADD Cefotaxime IV 50mg/kg

> 2 months
- Cefotaxime IV 50mg/kg (max 2g)
  - OR Ceftriaxone IV 100mg/kg (max 4g)
  - If documented cephalosporin anaphylaxis:
    - Ciprofloxacin IV 10mg/kg (max 400 mg)
    - PLUS Vancomycin IV 15 mg/kg (max 750 mg)
  - If septic shock requiring inotropes:
    - ADD Vancomycin IV 15mg/kg (Max 750mg)
    - AND Gentamicin IV
      - 1 month of age to 10 years of age: 7.5mg/kg (Max 560mg)
      - More than 10 years of age: 7mg/kg (Max 640mg)
  - If risk factors for nmMRSA:
    - ADD Lincomycin 15 mg/kg (max 1.2gm)
  - Consult CHQ Antibocard/local protocols for ongoing doses.

**D. Triggers for escalation to paediatric critical care**
- No improvement after 40mL/kg fluid administration
- Inotropes
- Reduced level of consciousness
- Hypotension
- Lactate > 4mmol/L

**E. Intubation/RSI**
- Potential for rapid deterioration and cardiac arrest
- Have bolus dose adrenaline prepared
- Careful attention to RSI drugs to optimise physiology
- Ketamine 0.5 – 1 mg/kg IV
  - +/- Fentanyl 1 – 2 mcg/kg IV
- Ropivacaine 1.2 mg/kg IV

**Abbreviations**
- IO = Intra Osseous
- UVC = Umbilical Venous Catheter
- BC = Blood Culture
- VBG = Venous Blood Gas
- FBC = Full Blood Count
- CRP = C Reactive Protein
- UEC = Urea, Electrolytes & Creatinine
- LFT = Liver Function Tests
- IV = Intravenous
- HR = Heart Rate
- WOB = Work of Breathing
- ATSI = Aboriginal and Torres Strait Islander
- RSI = Rapid Sequence Induction


For more information refer to the Statewide Paediatric Guideline: Sepsis - Emergency Management in Children

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