STANDARD TREATMENT WORKFLOW (STW)

Neonatal Emergency Triage Assessment and Management


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Standard Treatment Workflow (STW)

NEONATAL EMERGENCY TRIAGE ASSESSMENT AND MANAGEMENT

**EMERGENCY SIGNS**
- Apnea or grunting
- Severe respiratory distress (severe retractions, grunting, R/B/T > 30)
- Central cyanosis/oxygen saturation <95%
- Shock (LVO symptoms, hypotension, CVP <3mmHg, heart rate increase > 2 weeks)
- Seizure
- Bleeding
- Marked malnourishment (achanathous palpable fetal, meconium in stool, meconium aspiration)
- Abdominal distension
- Intra-abdominal fluid

**PRIORITY SIGNS**
- Weight < 1500g or <5th kg
- Respiratory distress (B-O2, no retractions) with fever
- Severe paroxysmal cough or 24-hr diarrhoea
- Diarrhoea

**NON-URGENT SIGNS**
- Jaundice
- Transitional stools
- Minor birth trauma
- Minor malformations
- Superficial infections
- Breastfeeding difficulties
- Refusal to feed

**INITIATE EMERGENCY TREATMENT AND STABILIZE**
- Reassure mother as per NRP
- Maintain TABC
- Check SpO2 and start oxygen if <95%
- Start CPAP if respiratory distress
- Start IV fluids as per weight and perinatal age (Refer to STW on Foods & Fluids)
- Check blood glucose, draw CBC and blood culture, and give first dose of antibiotics (refer to STW on Sepsis in neonates)

**ASSESS AND ACT RAPIDLY**
- Maintain TABC
- Check SpO2, and start oxygen if <95%
- Check blood glucose
- Start IV fluids (if hypoglycemia, dehydration, malnutrition) or gavage feeds (Refer to STW on Foods & Fluids)
- Elicit perinatal risk factors for sepsis and evaluate if sepsis work-up is needed (refer to STW on Sepsis in neonates)
- Investigations as per clinical findings

**ASSESS AND COUNSEL**
- Assessment and treatment as per requirement
- Explain danger signs
- Counselling for breastfeeding

**SICK AT-RISK NEONATE PRESENTING TO HEALTH FACILITY**
Follow specific STWs
A neonate may have more than one condition

**SPECIFIC MANAGEMENT WORKFLOWS**

**SHOCK**
- Provide warmth
- IV NS 10ml/kg/h to 30-60 min
- May repeat bolus if evidence of volume deficit
- Consider intrapleural

**HR > 200/min**
- Urgent ECG for p waves
- If SVT, consider atropine and IV ibufrofen
- Check for and correct hypotension if present

**SEVERE DYSTROPHIA** (Mild: < 36.5°C, very slow skin pinch cycle and unusual kicks)
- Provide warmth
- IV 30-50ml/kg/h or NS 10ml/kg/h for 5 hours (WHO plan C)
- If IV fluids not possible, give ORS at 20 ml/kg/h for 6 hours
- Assess 2-4 hours and titrate the volume of fluids

**HYPOTHERMIA** (Refer to STW on hypothermic newborn)
- Mild (33-36°C): Warm environment, skin-to-skin contact, breastfeeding
- Moderate (32-35.5°C): Place under warm-controlled warmer or skin-to-skin contact till warmer
- Severe (> 32°C): As for moderate hypothermia plus IV fluids and i.v. vitamin K

**HYPOGLYCEMIA** (Refer to STW on neonatal hypoglycemia)
- Blood glucose < 45mg/dl and asymptomatic: suppurative breastfeeding or oral glucose
- Blood glucose > 20 mg/dl OR symptomatic: 2ml/kg 10% dextrose IV followed by infusion of 10% dextrose

**Jaundice** (Refer to STW on neonatal jaundice)
- Serum bilirubin (concentration at < 3 kJ of age, pale or sick appearance, or signs of acute bilirubin encephalopathy): Intensive phototherapy, consider IV fluids if suspicion of dehydration, prepare for exchange blood transfusion

**SEIZURES** (Refer to STW on neonatal seizures)
- Maintain TABC
- Check blood glucose by glucometer: IF < 45mg/dl, 2ml/kg 10% dextrose IV followed by infusion of 10% dextrose
- If not controlled, 2ml/kg 10% calcium gluconate IV, diltiazem 111, or D5W O2, over 10 min under cardiac monitoring
- If not controlled, ketamine 20mg/kg IV over 15 mins, consider another bolus of dextrose, phenobarbital over 10 min

**SURGICAL**
- Cover any skin defects with warm saline sterile gauze
- Maintain hydration
- Consult surgeon

**BREASTFEDING DIFFICULTY**
- Observe and look for proper positioning and attachment of baby during breastfeeding
- Counselling mother

**ABBREVIATIONS**
- CPT = Capillary filling time
- CPAP = Continuous positive airway pressure
- ECG = Electrocardiogram
- ECG = Express breast milk
- NS = Normal saline
- BSL = Breast lactate
- P50O2 = Pulse oxygen saturation
- NRP = Neonatal resuscitation protocol
- STW = Standard treatment workflow
- TABC = Temperature, airway, breathing, circulation
- SVT = Supraventricular tachycardia

**REFERENCE**

This STW has been prepared by the national expert of India with full support of countries. The guidelines were finalized after review and are based on expert opinion, and available scientific evidence. These may be updated in the management of an individual patient based on the specific condition, as per the guidelines. There are several references for additional information, please visit the website for more information.

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