



**PREM Protocol: Triage & resuscitate using Pediatric Resuscitation and Emergency Medicine (PREM) Triangles**

**NORMAL PHYSIOLOGICAL STATUS**

**DISABILITY**

LOC: Alert;  
T&P: N;  
Eyes: EOM N; PERL



**AIRWAY Stable** (vocalizes)

**BREATHING** RR N; No grunt, stridor, retractions, thoracic respiration; bilateral air-entry+, no added sounds; SaO<sub>2</sub> > 94%

**CIRCULATION** HR: N (for age); no muffling or gallop; P&C: Warm, pink sole of foot; \*Pulses +++/++; CRT < 2 secs; Liver span: N; Blood Pressure: SBP N, Diastolic BP > 50% SBP, Pulse Pressure 30-40 mm Hg, MAP N

\*Pulses: Femoral (F) & Dorsalis Pedis (DP) +++/++ means both normal volume  
Note: +++/+++ F = DP; ++/++ both weak; +/- or +/0 weak Femoral palpable but no DP

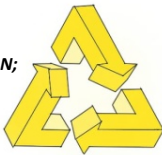
**PREM Terminology & Definitions:**

- ❖ **Breathing Normal** = Normal RR + normal work of breathing
- ❖ **Respiratory distress** = Increased RR + retractions
- ❖ **Impending respiratory failure** = Grunt+ respiratory distress
- ❖ **Relative bradycardia** = Heart rate within normal range for age - whilst other sides of the triangle are abnormal
- ❖ **Wide Pulse pressure** = SBP-DBP > 40 mm Hg
- ❖ **Vasodilatory shock** = DBP < 50% SBP + wide PP with or without low MAP
- ❖ **Mean Arterial Pressure** = Normal MAP is DBP + 1/3<sup>rd</sup> pulse pressure
- ❖ **Liver span** = Mark lower border along right costal margin, percuss & mark upper border for liver dullness. Measure span (cms) in the mid-clavicular line. Check lower border & remeasure span after every intervention.
- ❖ **Non-Convulsive Status Epilepticus** = LOC: Responsive to pain or unresponsive + 1 or more abn EOM: Conjugate deviation, nystagmus, lid twitch

**RESPIRATORY DISTRESS**

**DISABILITY**

LOC: Alert;  
T&P: N;  
Eyes: EOM N; PERL



**AIRWAY Stable**

**BREATHING** ↑RR;  
no grunt, stridor±, retractions+, thoracic respiration; bilateral air-entry+, added sounds ±; SaO<sub>2</sub> > 94%

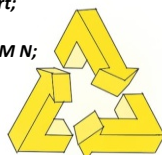
**CIRCULATION**

HR: ↑/ N; HS: N; P&C: Warm, pink; Pulses +++/++; CRT < 2 secs; No shock; No hepatomegaly; BP: SBP N, DBP N, PP N, MAP N

**CARDIAC FAILURE**

**DISABILITY**

LOC: Alert;  
T&P: N;  
Eyes: EOM N; PERL



**AIRWAY Stable**

**BREATHING** ↑RR;  
No grunt, stridor± retractions+, thoracic respiration; bilateral air-entry+, added sounds±; SaO<sub>2</sub> > 94%  
Exception: CCHD

**CIRCULATION**

HR: Tachycardia; HS: N; P&C: warm, pink or dusky; Pulses +++/++; CRT < 2 secs; No shock; Hepatomegaly±; BP: SBP N, DBP low, wide PP (shunt lesion), MAP N

**VASODILATORY CARDIOGENIC SHOCK (MAP N)**

**DISABILITY**

LOC: Incessant cry±/ not usual self±/ lethargic±/sleepy±  
T&P: N;  
Eyes: EOM N; PERL



**AIRWAY Stable**

**BREATHING** ↑RR,  
grunt±, stridor± retractions+, abdom. respiration±; bilateral air-entry+, added sounds±; SaO<sub>2</sub> ± < 94%

**CIRCULATION**

HR: Tachycardia; HS: Muffling±, gallop ±; P&C: Very warm, very pink; Pulses: +++/+++; CRT instant; Shock; Hepatomegaly±; BP: SBP ↑, DBP ↓, wide PP, MAP N

**RESPIRATORY FAILURE (RESPIRATORY EMERGENCIES)**

**DISABILITY** LOC:

Responds to pain;  
T&P abnormal:  
Agitated, combative, fighting mask or floppy, ± posturing; EOM ± abN, PERL; NCSE±



**AIRWAY Stable/unstable**

**BREATHING** RR ↑↓,  
grunt+, stridor±, retractions+, abdominal respiration; bilateral air-entry±, added sound ±; SaO<sub>2</sub> < 94%

**CIRCULATION**

HR: Tachycardia; HS: N; P&C: Warm, pink; Pulses: +++/+++; CRT < 2sec; Shock±; Liver span N; BP: SBP N, DBP ↓, wide PP, MAP N

**VASODILATORY CARDIOGENIC LOW MAP SHOCK**

**DISABILITY** LOC:

Responds to pain;  
T&P abnormal:  
Thirsty, agitated, combative, fighting mask or floppy, ± posturing; EOM ± abN, PERL; NCSE±



**AIRWAY Stable/unstable**

**BREATHING** RR ↑↓,  
grunt+, stridor±, retractions+, abdominal respiration; bilateral air-entry±, added sounds±; SaO<sub>2</sub> < 94%

**CIRCULATION**

HR: Tachycardia/relative bradycardia; HS: Muffling±, gallop±; P&C: Very warm, very pink; Pulses: +++/+++; CRT instant; Shock; Hepatomegaly±; BP: SBP N, DBP ↓, wide PP, MAP N

**LOW SBP SHOCK**

**DISABILITY** LOC:

Responds to pain;  
T&P abnormal:  
Thirsty, agitated, combative, fighting mask or floppy, ± posturing; EOM ± abN, PERL; NCSE±



**AIRWAY Stable/unstable**

**BREATHING** RR ↑↓,  
grunt+, stridor±, retractions+, abdominal respiration; bilateral air-entry±, added sounds±; SaO<sub>2</sub> < 94%

**CIRCULATION**

HR: Tachycardia/relative bradycardia; HS: Muffling±, gallop±; P&C: Cool, dusky; Pulses: ++/+, +/- or +/0; CRT > 2sec; Shock; Hepatomegaly±; BP: SBP ↓, DBP ↓, PP N, wide or narrow, MAP ↓

**IMMINENT ARREST**

**DISABILITY**

LOC: Unresponsive;  
T&P abnormal:  
Posturing, GTCS±; EOM abn, pupils sluggish; NCSE±



**AIRWAY Unstable**

**BREATHING**  
Bradypnea or apnea; Little/no respiratory effort; Reduced or absent breath sounds; SaO<sub>2</sub> << 94%

**CIRCULATION**

HR: Bradycardia; HS: Muffled, gallop; P&C: Cool, dusky; Pulses: +/- or +/0; CRT >> 2sec; Shock; Hepatomegaly; BP: SBP ↓, DBP ↓, PP N, wide or narrow, MAP ↓

Note: All Normal (N), Increased (↑), relative (N) or Decreased (↓) values – are interpreted with respect to normal ranges for age and the other parts of the PREM triangle.

- RR: Respiratory Rate
- HR: Heart Rate
- HS: Heart Sounds
- P&C: Peripheries (warmth) & Colour (foot-sole)
- LOC: Level of Consciousness
- T&P: Tone & Posture
- EOM: Extra Ocular Movements
- PERL: Pupils Equal, Reacting to Light
- SBP: Systolic Blood Pressure
- DBP: Diastolic Blood Pressure
- PP: Pulse Pressure
- MAP: Mean Arterial Pressure
- NCSE: Non-Convulsive Status Epilepticus
- GTCS: Generalised Tonic Clonic Seizures
- CCHD: Cyanotic Congenital Heart Disease

National Health Mission-Strengthening of Pediatric Emergency Care System in Tamil Nadu-Establishment of Pediatric Resuscitation and emergency Units under Tamil Nadu Accidents and Emergency Care Initiative under the name of PREM G.O(D)No. 539, Department of Health and Family Welfare, dated 30.11.19