



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; SaO₂ > 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 +/- weak Femoral palpable but no DP

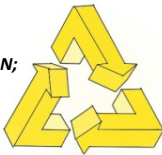
PREM Terminology & Definitions:

- ❖ **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 + 1/3rd 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 ±; SaO₂ > 94%

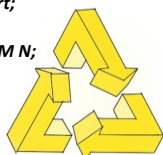
CIRCULATION

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±; SaO₂ > 94%
Exception: CCHD

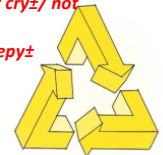
CIRCULATION

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±; SaO₂ ± < 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 ±; SaO₂ < 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±; SaO₂ < 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±; SaO₂ < 94%

CIRCULATION

HR: Tachycardia/relative bradycardia; HS: Muffling±, gallop±; P&C: Cool, dusky; Pulses: +/-, +/- or +/-; 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; SaO₂ << 94%

CIRCULATION

HR: Bradycardia; HS: Muffled, gallop; P&C: Cool, dusky; Pulses: +/- or +/-; 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