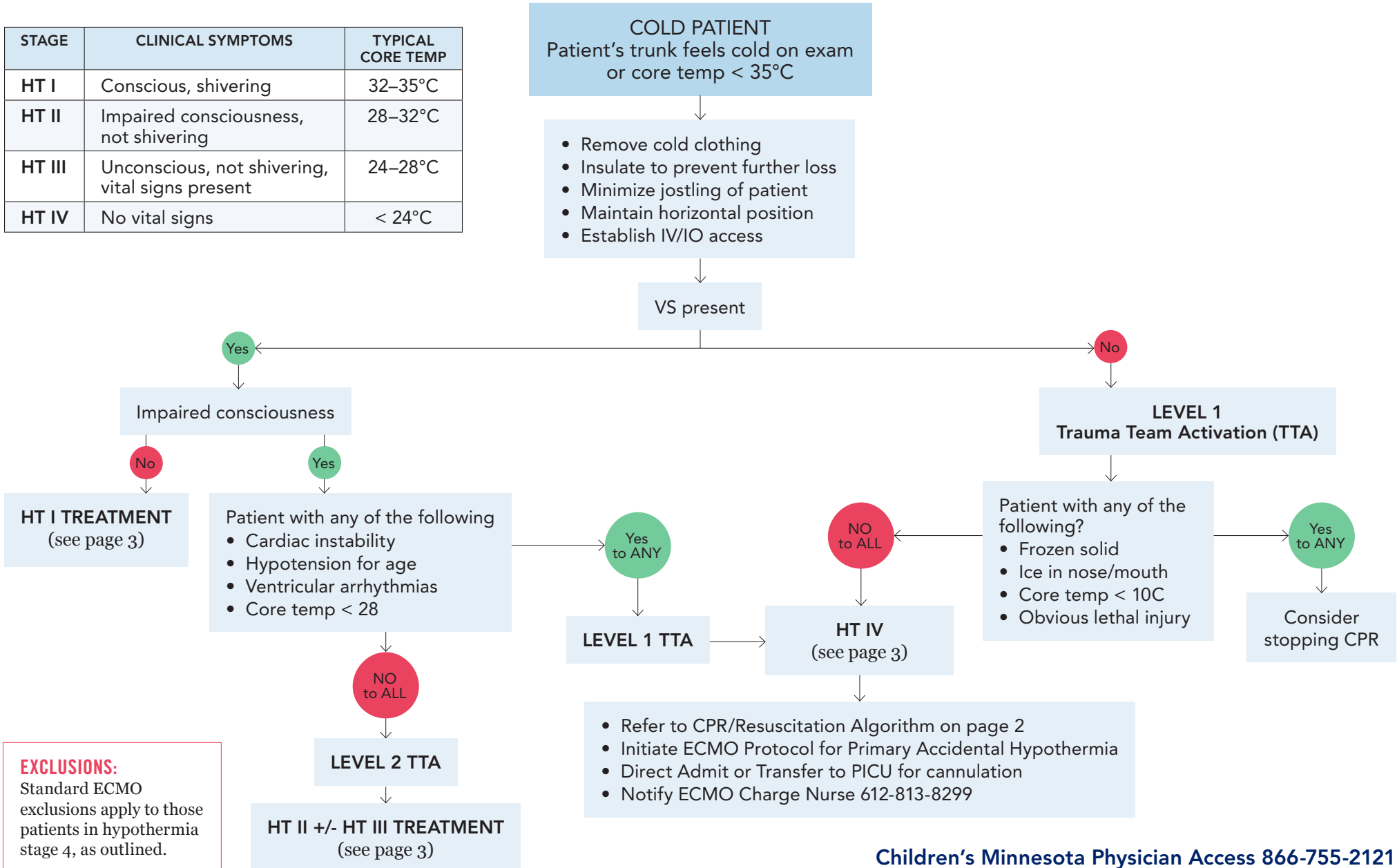


Aim: To standardize the management of patients with accidental primary hypothermia.

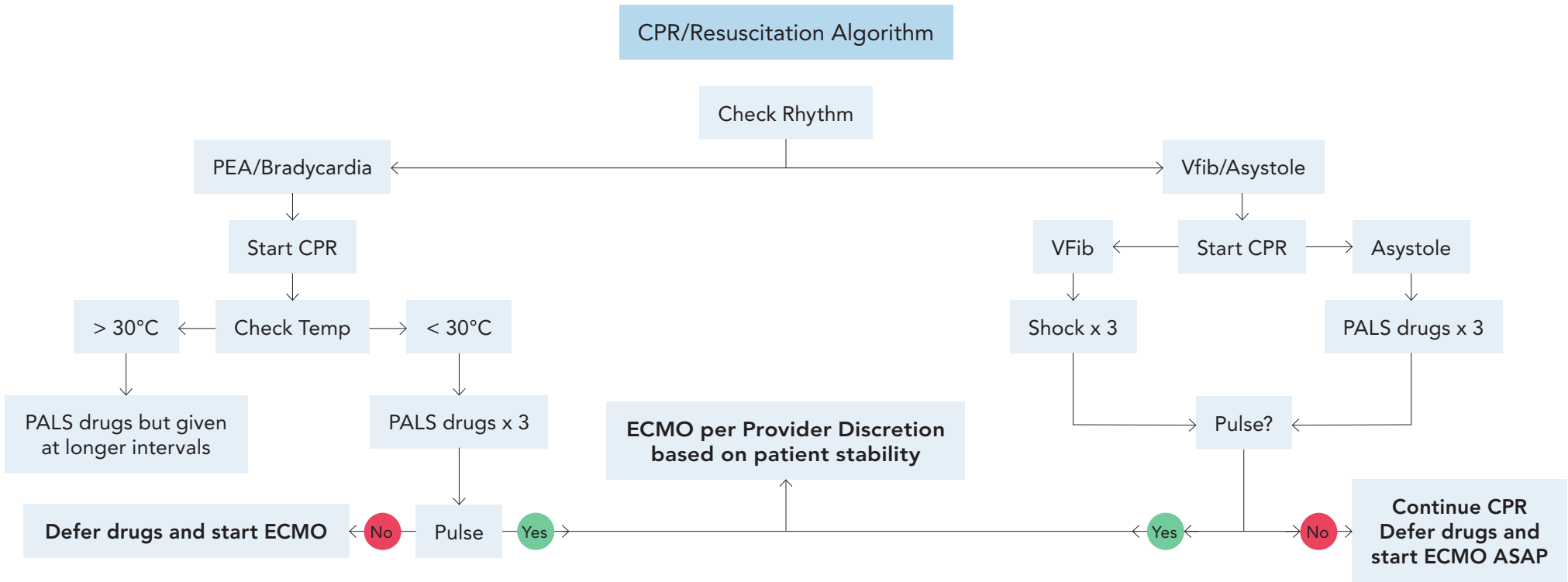
STAGE	CLINICAL SYMPTOMS	TYPICAL CORE TEMP
HT I	Conscious, shivering	32–35°C
HT II	Impaired consciousness, not shivering	28–32°C
HT III	Unconscious, not shivering, vital signs present	24–28°C
HT IV	No vital signs	< 24°C



**EXCLUSIONS:**  
Standard ECMO  
exclusions apply to those  
patients in hypothermia  
stage 4, as outlined.

- Refer to CPR/Resuscitation Algorithm on page 2
- Initiate ECMO Protocol for Primary Accidental Hypothermia
- Direct Admit or Transfer to PICU for cannulation
- Notify ECMO Charge Nurse 612-813-8299

Aim: To standardize the management of patients with accidental primary hypothermia.



**Aim:** To standardize the management of patients with accidental primary hypothermia.

STAGE	TREATMENT
HT I	Warm environment, clothing, warm sweet drinks, active movement if possible.
HT II	Cardiac monitor, minimize movement to avoid arrhythmias, horizontal position & immobilization, full body insulation, warm environment, Bair Hugger, warm blankets, warm IV fluids (42°C).
HT III	HT II management + airway management as required. Insert esophageal probe. Consider bladder lavage with warmed IV fluids (42°C). Be cautious for mucosal injury.
HT IV	HT II + HT III + CPR if no pulse, organized rhythm or signs of life. Attempt PALS drugs and/or defibrillation x 3. Initiate ECMO per protocol if no exclusion criteria: ie uncontrolled hemorrhage, initial iSTAT K > 8 mEq/L, pH < 6.6, lactate > 225, drowning in water > 50 degrees.

**OTHER CONSIDERATIONS**

- Simultaneously while warming is initiated, perform primary & secondary survey to assess for injuries.
- Obtain Trauma lab panel, iSTAT CG8+, lactate, CPK, fibrinogen, ABG/VBG.
- Placement of core continuous temperature monitoring device (esophageal or bladder) HT II–HT IV prior to systemic heparinization.
- Obtain any indicated imaging, ie CXR for submersion.
- Assess skin closely for signs of frostbite. If present, consult Skin Integrity & Plastics if severe.
- If exposure/immersion/submersion not cause for hypothermia, consider other medical etiologies.
- Obtain cultures & initiate broad spectrum antibiotics in high risk populations, ie homeless & neonates.
- For HT II–IV, admit to PICU for cardiac monitoring due to risk for arrhythmias, afterdrop, rewarming hypotension, electrolyte imbalances, hypoglycemia, post-arrest management and neurological monitoring.
- For HT IV requiring ECMO: Prepare for multiorgan dysfunction. May require ECMO for prolonged period of time due to respiratory/multi-organ failure.
- Once temperature > 35, maintain normothermia for all HT patients and especially avoid hyperthermia.