Community Children's
AT COMMUNITY MEDICAL CENTER

Therapeutic Hypothermia for HIE Pathway

INDICATION: Neuro-protective treatment for Hypoxic Ischemic Encephalopathy (HIE)

INCLUSION

Patients who are **ALL** of the following:

- Greater than or equal to 35 weeks gestation
- Less than or equal to 6 hours of age
- Birth weight ≥ 1800 gm
- Need for resuscitation at birth secondary to poor respiratory effort or diagnosis of encephalopathy

ELIGIBILITY CRITERIA:

Must have **at least THREE clinical signs of moderate and/or severe encephalopathy** (see boxes)

PLUS one of the following three:

1. Cord, venous, or arterial blood gas w/in one hour of birth with pH ≤ 7.0 **OR** base deficit ≥16 mEq/liter

2. Cord, venous, or arterial blood gas w/in one hour of birth with pH ≤ 7.01-7.15 **OR** base deficit ≥10-15.9 mEq/liter **AND** at least one of the following:

a. APGAR score <5 @ 10 minutes
b. Assisted ventilation initiated at birth and continued for >10 minutes

3. If blood gas results are not available **AND** documented acute perinatal event (see list below) **AND** at least one of the following:

a. APGAR score <5 @ 10 minutes
b. Assisted ventilation initiated at birth and continued for >10 minutes

EXCLUDES

Infants are **INELIGIBLE** if they:

1. Have a known chromosomal or major congenital anomaly
2. Severely IUGR (birth weight < 1800 g)
3. Considered to be in extremis (example: severe hemodynamic compromise or severe PPHN)

Moderate HIE – Sarnat Stage II

- Lethargy (difficult to arouse)
- Reduced spontaneous activity
- Distal flexion, full extension
- Hypotonia
- Weak gag/suck
- Incomplete moro
- Constricted pupils
- Bradycardia
- Periodic breathing
- Possible clinical seizures

Severe HIE – Sarnat Stage III

- Coma (cannot be aroused)
- No spontaneous activity
- Decerebrate posture
- Flaccid
- No response to stimuli (may have spinal reflex to painful stimuli)
- Absent brainstem reflexes (pupil/gag/suck)
- Diminished Moro and/or tendon reflexes
- Variable heart rate
- Apnea
- Seizures or suppressed/flat EEG

Acute Perinatal Events

Include, but are not limited to:

- Late or variable decelerations
- Cord prolapsed or rupture
- Uterine rupture
- Maternal trauma
- Hemorrhage
- Cardiopulmonary arrest

PROCEDURE GUIDELINES

1. **Call Community Medical Center Referral Center 406-327-4726** to arrange a transport for therapeutic hypothermia
2. ***Passive Cooling:*** Switch off isolette/radiant bed heater and discontinue all active heating measures. Remove blankets/diapers. Monitor temperature every 30 minutes. If the temperature falls below 33.5 º C, consider turning on isolette heater to the lowest setting