Therapeutic Hypothermia Pathway

Cardiac arrest with return of spontaneous circulation

- Yes: Anoxic brain injury likely? -Does not follow

- No

Clinical decision to initiate therapeutic hypothermia – should involve cardiology and critical care

- Yes: Insert bladder temperature probe
  - Apply Arctic Sun device
  - Apply BIS Monitor
  - If potassium <3.5 give K+ replacement and concurrently initiate cooling

See TH sedation protocol (attached)

- Suppress shivering with vecuronium during cooling period
- Minimize paralytics during rewarming.
- All patients receiving paralytics must be intubated, fully ventilated, and sedated

At 72 hours post-arrest resume usual supportive care

- Use EPIC “therapeutic hypothermia” order set
- Cool patient to 33°C for 24 hours.
- Rewarm to 36.5°C over 12 hours (0.3°C/hr)
- Glucose 100-180 recommended
- Assess for early extubation when T>36°C
- Do NOT tolerate T≥37.5°C after

Repeat neurological examination.
- Slowed drug metabolism may confound the neurological exam. If considering CMO status, 72 hours after

- Neurologic
  - Consider seizures and obtain continuous EEG –

Hypokalemia
- Administer K+ and initiate cooling. Do not delay cooling.

Exclusion Criteria
- Follows commands
- Active, uncontrollable bleeding
- Life threatening sepsis
- Terminal illness with short anticipated life expectancy

Considerations
- Pregnancy probably OK
- Initial temperature < 32°C: rewarm to 33 and then maintain x 24h as per protocol
- Severe hypoxemia probably OK
- Coagulopathy may be exacerbated by hypothermia
- Shock is not a contraindication
- Benefit to cooling may be less if initiated late (>6h)

Delay to hypothermia initiation is associated with worse outcomes – Do not delay!
POST-CARDIAC ARREST CHECKLIST
July 2016

RN __________________ Date____________________

INITIATE TH/COOLING

☐ Baseline labs
☐ Replace K+< 4.0 and simultaneously initiate Targeted Temperature Management

Maintain target ranges

• Mg++>2.0
• Glucose 120-180 insulin infusion as needed
• Titrate FIO2 within 15 min to SPO2 > 94-99% before ABG
• ABG targets
  o FIO2 94-99%
  o PCO2 35-45
  o PO2>80

☐ Insert temperature sensing foley per protocol
☐ Cooling initiated with cold fluids, cooling pads applied, and Arctic Sun device started per protocol. Replace 2 bags NS to front refrigerator.
☐ Note time and location TTM initiated with cooling pads in EPIC TH flowsheet
☐ Target temp 33 C and maintained for 24 hours.
  o Target temp. should be reached in 4 hrs, if not, notify/discuss w provider
☐ Analgesia/sedation with propofol 20mcg/kg/min and fentanyl drip 25mcg/hr – titrate as needed
☐ Apply BIS monitor and Bair Hugger- cover hands and feet with socks
☐ CVC, arterial line and notify hemo tech for FloTrac
☐ Maintain MAP> 80 at all times, using FloTrac data to titrate CO/Cl per protocol
☐ Provide family with “Information on Therapeutic Hypothermia” teaching brochure
  o Add the “Therapeutic Hypothermia” flowsheet in EPIC and document hourly.
- Notify NEOB; add “Post Mortem” flowsheet for documentation of NEOB
- Tube feeds at 10cc/hr, advance to goal when core temperature > 36°C
- Continuous EEG, initiated ASAP during working hours, or STAT if seizures suspected. Provider to notify Neuro @ pager #580-5248
- cEEG tech support M-F 0800-1700 # 662-2389, after hours they can be reached through operator 662-0111.
- Stat Net is a nurse applied option for cEEG monitoring. Equipment is available thru SCU Coord (662-0595).
- Shivering management per protocol, assess/document shivering and BIS hourly and before/after NMB using BSAS. NMB 0.1mg/kg- this is weight based without a max dose
- Seizure management per protocol
- Confirm orders for neuron specific enolase and adjust times based on Return of Spontaneous Circulation (ROSC)
- Check BMP, K+, Mg++ every 6 hours and Phos every 24 hrs during TTM protocol
- Check blood sugar hourly (preferred sample site A-line) and start Insulin Infusion for glucose >180

REWARMING
- Initiate rewarming after 24 hr. cooling time completed/Arctic Sun will give -alert
- Rewarm at rate of 0.3C per hour to target temp 36.5°C (It should take 12 hrs.)
- NMB should not be administered once temperature >35°C
- Continue analgesia/sedation

MAINTENANCE
- Once normothermic, discuss sedation lightening w Critical Care Team and wean sedation
- Keep Arctic Sun pads in place for additional 36 hrs
- Observe for temperature spikes and rigors and treat per order set with Tylenol via OGT
- Refer to resource page in TTM folder for additional details regarding protocol

PLEASE PAGE DAVE SEDER WITH QUESTIONS 741-7460!