Hypothermia w/o Trauma
3/5, 7/9°F

- Core OR CBT > 33.5°F
- Associated with increased morbidity and mortality
- Risk factors: age > 60, cold exposure, wet clothes, alcohol

Reassess each 5 min.

Patient's trunk feels cold to the touch OR core temperature <35°C/95°F

Termination of resuscitation

Yes

No

Termination of resuscitation

- mP pulse (taller) thorax OR
- Valid DNR present

Trauma suggested by history or exam?

Yes

No

Impaired level of consciousness OR known medical comorbidities?

Yes

No

- Continuous cardiac monitoring
- Allow airway
- Active external rewarming (AER)
- Consider and treat 2nd causes

- Hemodynamically unstable?
  - SBP, < 90 mmhg or on pressors
  - Core temperature <86°C/134.4°F
  - Ventricular dysrhythmias present
  - Patient is not ROSC

- Encourage movement if feasible
- Prose calories for heating
- Consider active external rewarming (AER)
- Consider and treat 2nd causes
- Assess for and treat other cold-related complications

Clinical improvements?

Yes

No

Consider discharge once normothermic or no other indication for admission

Emergency ECMO Consult

- SARA-EICU or S2-322 (CCAT attending)
- Call early if patient is a possible ECMO candidate

Review ECMO exclusion criteria

Yes

No

- Consider other invasive rewarming techniques (IIR)
- If patient is poikilothermic, resume standard ACLS or core temperature >32°C/90.0°F

Can one ECMO? NO

- Peripheral IV access
- Labs, EKG, OR as indicated
- Consider minimally-invasive internal rewarming (MIIR)
- Assess for and treat other cold-related complications

Consider discharge once normothermic or no other indication for admission

ECMO Exclusion Criteria

- Serum K+ > 12 mEq/L
- Age > 70
- Anticoagulation contraindicated
- CGPPE score < 0.1 (calculation, hypothermiaec.org)
- Core temperature < 54°C

ECMO Options

- Active external rewarming:
  - Forced air surface rewarming (Bair Hugger) 1,2,3
  - Anticoagulation 4,5,6
  - Large chemical heat packs, blankets 7
  - Warm blankets 1

Mildly-Invasive Internal Rewarming:

- Warm IV fluids 8,9
- Warm, humidified oxygen 10,11
- Bladder irrigation 12

Invasive Internal Rewarming techniques:

- Thoracic lavage 13,14
- Endovascular rewarming (NuVasive Coolant/Cryo catheter) 3,15
- Continuous A rewarming 5,6,7
- Dialysis 16,19

Termination of resuscitation

- Despite best ongoing efforts, continuation determined to be futile
- Considerations:
  - Failure to achieve ROSC or
  - Failure of temperature to rise
  - Worrisome metabolic/physiologic abnormalities

REFERENCES

- Created: 12/4/20
- Department of Emergency Medicine

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Hypothermia Without Trauma References

References