

**Additional file 1. Korean Hypothermia Network (KORHN) Registry Case Report Form**

Recorder: \_\_\_\_\_ Date of arrest: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

Hospital Code			Type of ED Visit	Direct visit <input type="checkbox"/>	Transferred <input type="checkbox"/>	
Initial of Name	Age	yyyy-mm-dd	Sex	male <input type="checkbox"/>	female <input type="checkbox"/>	
Premorbid status	Previous healthy <input type="checkbox"/> previous cardiac arrest <input type="checkbox"/> myocardial infarction <input type="checkbox"/> angina pectoris <input type="checkbox"/> CHF (NYHA) <input type="checkbox"/> HTN <input type="checkbox"/> DM <input type="checkbox"/> pulmonary disease <input type="checkbox"/> stroke <input type="checkbox"/> neurological disease <input type="checkbox"/> renal dz. <input type="checkbox"/> LC <input type="checkbox"/> malignancy <input type="checkbox"/>					
<b>Resuscitation variables</b>						
Pre-EMS	Witness	yes <input type="checkbox"/> no <input type="checkbox"/>	Bystander CPR	yes <input type="checkbox"/> no <input type="checkbox"/>		
EMS	Initial rhythm	VF/VT <input type="checkbox"/> PEA <input type="checkbox"/> asystole <input type="checkbox"/>			Chest compression	yes <input type="checkbox"/> no <input type="checkbox"/>
	Unknown shockable <input type="checkbox"/> Unknown non-shockable <input type="checkbox"/> Unknown <input type="checkbox"/>					
ED	Airway	No device <input type="checkbox"/> BVM <input type="checkbox"/> Advanced airway <input type="checkbox"/>			AED	yes <input type="checkbox"/> no <input type="checkbox"/>
	Initial rhythm	VF/VT <input type="checkbox"/> PEA <input type="checkbox"/> asystole <input type="checkbox"/>			Number of shocks ( )	Epinephrine ___mg
Time factor	Witnessed (yyyy-mm-dd-hh-mm), Encountered (if not witnessed) (yyyy-mm-dd-hh-mm), ROSC (yyyy-mm-dd-hh-mm)					
Cause of arrest	Cardiac <input type="checkbox"/> submersion <input type="checkbox"/> drug overdose or side effects <input type="checkbox"/> asphyxia <input type="checkbox"/> exsanguination <input type="checkbox"/> hanging <input type="checkbox"/> other non-cardiac <input type="checkbox"/>					
<b>Post-resuscitation variables</b>						
Breathing	Spontaneous breathing after ROSC yes <input type="checkbox"/> no <input type="checkbox"/> 24hr yes <input type="checkbox"/> no <input type="checkbox"/> 48hr yes <input type="checkbox"/> no <input type="checkbox"/> 72hr yes <input type="checkbox"/> no <input type="checkbox"/>					
	Chest X-ray (0-1h)	Pneumothorax yes <input type="checkbox"/> no <input type="checkbox"/> Hemothorax yes <input type="checkbox"/> no <input type="checkbox"/> Pulmonary edema yes <input type="checkbox"/> no <input type="checkbox"/> Pulmonary contusion yes <input type="checkbox"/> no <input type="checkbox"/> Evidence of aspiration (0-1h) yes <input type="checkbox"/> no <input type="checkbox"/>				
Circulation	Rate 0-1h ( / ) 1-24h ( / ) 24-48h ( / ) 48-72h ( / )					
	Lactate (0-1h) ( )					
	STEMI yes <input type="checkbox"/> no <input type="checkbox"/> Clinical evidence of cardiogenic shock yes <input type="checkbox"/> no <input type="checkbox"/>					
	ECMO/IABP/CRRT yes <input type="checkbox"/> no <input type="checkbox"/> If yes, record the time (yyyy-mm-dd-hh-mm)					
	ICD/Pacemaker yes <input type="checkbox"/> no <input type="checkbox"/> If yes, record the time (yyyy-mm-dd-hh-mm)					
	Holter/EP yes <input type="checkbox"/> no <input type="checkbox"/> If yes, record the time (yyyy-mm-dd-hh-mm)					
	Thrombolysis/Angiography/PCI/CABG/Anticoagulant/Antiplatelet yes <input type="checkbox"/> no <input type="checkbox"/> If yes, record the time (yyyy-mm-dd-hh-mm)					
Neurological	After ROSC or arrival	GCS (E V M)	Pupillary light reflexes	yes <input type="checkbox"/> no <input type="checkbox"/>	Corneal reflex	yes <input type="checkbox"/> no <input type="checkbox"/>
	Involuntary movement	Seizure	yes <input type="checkbox"/> no <input type="checkbox"/>	Myoclonus	yes <input type="checkbox"/> no <input type="checkbox"/>	
	EEG	yes <input type="checkbox"/> no <input type="checkbox"/> If yes, record the time (yyyy-mm-dd-hh-mm) and findings ( )				
	SSEP N20 peak	yes <input type="checkbox"/> no <input type="checkbox"/> If yes, record the time (yyyy-mm-dd-hh-mm) bilateral absent <input type="checkbox"/> unilateral absent <input type="checkbox"/> bilateral present <input type="checkbox"/>				
	Brain imaging	Brain CT yes <input type="checkbox"/> no <input type="checkbox"/> date and time (yyyy-mm-dd-hh-mm)				
		MRI yes <input type="checkbox"/> no <input type="checkbox"/> type ( ) date and time (yyyy-mm-dd-hh-mm)				
		Other study ( ) date and time (yyyy-mm-dd-hh-mm)				
	Anticonvulsants	yes <input type="checkbox"/> no <input type="checkbox"/> type ( )				
	Analgesia	yes <input type="checkbox"/> no <input type="checkbox"/> duration ( )				
Sedation	yes <input type="checkbox"/> no <input type="checkbox"/> duration ( )					
Paralysis	yes <input type="checkbox"/> no <input type="checkbox"/> duration ( )					
Metabolic	Glucose (0-1h) ( ) Insulin treatment yes <input type="checkbox"/> no <input type="checkbox"/> Hypoglycemia (<72hrs, <80mg/dl) yes <input type="checkbox"/> no <input type="checkbox"/>					
	Attempted enteral feeding yes <input type="checkbox"/> no <input type="checkbox"/> Attempted parenteral feeding yes <input type="checkbox"/> no <input type="checkbox"/> If yes, time (yyyy-mm-dd-hh-mm)					
Therapeutic hypothermia	Target temperature ( °C)					
	Induction start (yyyy-mm-dd-hh-mm) Maintenance start (yyyy-mm-dd-hh-mm) Rewarming start (yyyy-mm-dd-hh-mm)					
	Induction technique	Cooling blanket or mattress <input type="checkbox"/> Ice bag <input type="checkbox"/> Cold saline or lactate Ringer <input type="checkbox"/> Endovascular catheter <input type="checkbox"/> Cold lavage or irrigation <input type="checkbox"/> Linen <input type="checkbox"/> Fan <input type="checkbox"/> Hydrogel pad <input type="checkbox"/> Cooling garment <input type="checkbox"/> Extracorporeal circulation <input type="checkbox"/> Others ( )				
	Maintenance technique	Cooling blanket or mattress <input type="checkbox"/> Ice bag <input type="checkbox"/> Cold saline or lactate Ringer <input type="checkbox"/> Endovascular catheter <input type="checkbox"/> Cold lavage or irrigation <input type="checkbox"/> Linen <input type="checkbox"/> Fan <input type="checkbox"/> Hydrogel pad <input type="checkbox"/> Cooling garment <input type="checkbox"/> Extracorporeal circulation <input type="checkbox"/> Others ( )				
	Rewarming technique	Cooling blanket or mattress <input type="checkbox"/> Ice bag <input type="checkbox"/> Cold saline or lactate Ringer <input type="checkbox"/> Endovascular catheter <input type="checkbox"/> Cold lavage or irrigation <input type="checkbox"/> Linen <input type="checkbox"/> Fan <input type="checkbox"/> Hydrogel pad <input type="checkbox"/> Cooling garment <input type="checkbox"/> Extracorporeal circulation <input type="checkbox"/> Others ( )				
	Temperature monitoring site	Rectum <input type="checkbox"/> Tympanic <input type="checkbox"/> Esophagus <input type="checkbox"/> Bladder <input type="checkbox"/> Pulmonary artery <input type="checkbox"/> Brain <input type="checkbox"/> Others ( )				
	Reasons to stop cooling	Refractory shock yes <input type="checkbox"/> no <input type="checkbox"/> Severe arrhythmia yes <input type="checkbox"/> no <input type="checkbox"/> Severe bleeding yes <input type="checkbox"/> no <input type="checkbox"/> DNAR yes <input type="checkbox"/> no <input type="checkbox"/> Others ( )				
Adverse Events	Cooling-related	Overcooling yes <input type="checkbox"/> no <input type="checkbox"/> Bradycardia yes <input type="checkbox"/> no <input type="checkbox"/> If yes, need to treatment yes <input type="checkbox"/> no <input type="checkbox"/> Tachyarrhythmia yes <input type="checkbox"/> no <input type="checkbox"/> Hypokalemia yes <input type="checkbox"/> no <input type="checkbox"/> Hyperglycemia yes <input type="checkbox"/> no <input type="checkbox"/> Bleeding yes <input type="checkbox"/> no <input type="checkbox"/> If yes, need to transfusion yes <input type="checkbox"/> no <input type="checkbox"/> Hypotension yes <input type="checkbox"/> no <input type="checkbox"/>				
		Rewarming-related	Rebound hyperthermia yes <input type="checkbox"/> no <input type="checkbox"/> Arrhythmia yes <input type="checkbox"/> no <input type="checkbox"/> Hyperkalemia yes <input type="checkbox"/> no <input type="checkbox"/> Hypoglycemia yes <input type="checkbox"/> no <input type="checkbox"/> Bleeding yes <input type="checkbox"/> no <input type="checkbox"/> If yes, need to transfusion yes <input type="checkbox"/> no <input type="checkbox"/> Hypotension yes <input type="checkbox"/> no <input type="checkbox"/>			
	Other adverse events		Sepsis yes <input type="checkbox"/> no <input type="checkbox"/> (severe sepsis yes <input type="checkbox"/> no <input type="checkbox"/> , septic shock yes <input type="checkbox"/> no <input type="checkbox"/> ) Pneumonia yes <input type="checkbox"/> no <input type="checkbox"/>			
<b>Outcome variables</b>						
ICU admission	yes <input type="checkbox"/> no <input type="checkbox"/>		Survival discharge	yes <input type="checkbox"/> no <input type="checkbox"/>		
Cause of death	Hypoxic brain injury <input type="checkbox"/> Multiple organ failure <input type="checkbox"/> Sepsis <input type="checkbox"/> Others ( )			CPC at hospital discharge ( ) Hospital death date (HD# )		