American Heart Association.
Cardiogenic Shock Registry
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AHA - Cardiogenic Shock (CRF) February 2024

Patient ID:	
DEMOGRAPHICS	
Sex	○ Male ○ Female ○ Unknown
Patient Gender Identity	○ Male ○ Female ○ Female-to-Male (FTM)/Transgender Male/Trans Man ○ Male-to-Female (MTF)/Transgender Female/Trans Woman ○ Genderqueer, neither exclusively male nor female ○ Additional gender category or other. _____ ○ Did not disclose.
Patient-Identified Sexual Orientation	○ Straight or heterosexual ○ Lesbian or gay ○ Bisexual ○ Queer, pansexual, and/or questioning ○ Something else; please specify: _____ ○ Don't know ○ Declined to answer
Date of Birth	___/___/____ MM DD YYYY
Age	_____
Patient Postal Code	_____ ☐ Homeless
Payment Source	☐ Medicare ☐ Medicaid ☐ Medicare – Private/HMO/PPO/Other ☐ Medicaid – Private/HMO/PPO/Other ☐ Private/HMO/PPO/Other ☐ VA/CHAMPVA/Tricare ☐ Self-pay/No Insurance ☐ Other/Not Documented/UTD
Race and Ethnicity	
Race	☐ American Indian or Alaska Native ☐ Asian ☐ Asian Indian ☐ Chinese ☐ Filipino ☐ Japanese ☐ Korean ☐ Vietnamese ☐ Other Asian ☐ Black or African American ☐ Native Hawaiian or Pacific Islander ☐ Native Hawaiian ☐ Guamanian or Chamorro ☐ Samoan ☐ Other Pacific Islander ☐ White ☐ UTD
Hispanic Ethnicity	○ Yes ○ No/UTD
If yes,	☐ Mexican, Mexican American, Chicano/a ☐ Puerto Rican ☐ Cuban ☐ Another Hispanic, Latino, or Spanish Origin
ADMISSION	
Arrival Date/Time	___/___/_____ ___:____ MM DD YYYY HH : MM
Point of Origin for Admission	○ Home ○ Transfer from a Hospital (Different Facility) ○ Clinic ○ Transfer from another Health Care Facility ○ Non-Healthcare Facility Point of Origin ○ Transfer from Hospice and is Under a Hospice Plan of Care or Enrolled in a Hospice Program

	○ Transfer from a Skilled Nursing Facility (SNF) or Intermediate Care Facility (ICF) ○ Information not available
Referring Hospital	_____
Referring hospital arrival date/time:	___/___/_____ ___:____ MM DD YYYY HH : MM
Referring hospital discharge date/time	___/___/_____ ___:____ MM DD YYYY HH : MM
Initial point of hospital arrival	○ Emergency Department ○ Direct to inpatient unit- ICU ○ Direct to inpatient unit- Non- ICU ○ Cath Lab/Operating Room ○ Other

Medical History

Medical History (Select all that apply):

- ☐ None
- ☐ Atrial fibrillation or flutter
- ☐ Cardiac amyloidosis
- ☐ Chronic pulmonary disease
- ☐ Diabetes Mellitus
- ☐ Heart Failure- Reduced EF
  - ☐ Ischemic Cardiomyopathy
  - ☐ Non-ischemic Cardiomyopathy
  - ☐ History of heat transplantation
  - ☐ Presence of durable left ventricular assist device (LVAD)
  - ☐ Presence of implantable cardioverter defibrillator (ICD)
  - ☐ Presence of biventricular pacemaker (CRT)
- ☐ Hypertension
- ☐ Isolated right ventricular failure
- ☐ Smoking / Vaping
  - ☐ Cigarette use
  - ☐ E-cigarette use
  - ☐ Vaping
- ☐ Unknown / Unable to Determine
- ☐ Atherosclerotic vascular disease
  - ☐ Cerebrovascular disease (including previous TA/CVA)
  - ☐ Coronary Artery Disease (CAD)
  - ☐ Peripheral Arterial Disease
  - ☐ Prior CABG
  - ☐ Prior MI
  - ☐ Prior PCI
- ☐ Chronic Kidney Disease
  - ☐ Chronic hemodialysis
- ☐ Chronic liver disease
- ☐ Congenital Heart Disease
- ☐ Emerging Infectious Disease
  - ☐ MERS
  - ☐ SARS-COV-1
  - ☐ SARS-COV-2 (COVID-19)
  - ☐ Other infectious respiratory pathogen
- ☐ Heart Failure – Preserved EF
- ☐ Hypertrophic cardiomyopathy
- ☐ Pulmonary hypertension
- ☐ Valvular heart disease

Medications at Hospital Admission

Medications Used Prior to Admission: *[Select all that apply]*

- ☐ No medications prior to admission
- ☐ Angiotensin Receptor Blocker (ARB)
- ☐ Anticoagulation Therapy
  - ☐ Direct oral anticoagulant
  - ☐ Warfarin
  - ☐ Other
- ☐ Antiplatelet medications
- ☐ ACE Inhibitor
- ☐ Angiotensin Receptor Neprilysin Inhibitor (ARNI)
- ☐ Anti-hyperglycemic medications
  - ☐ Insulin
  - ☐ Oral
- ☐ Beta – Blocker

☐ Aspirin ☐ P2Y12 Inhibitors ☐ Other Antiplatelet ☐ GLP-1 agonist ☐ Loop Diuretic ☐ SGLT2 Inhibitor		☐ Home IV Inotropes ☐ Mineralocorticoid Receptor Antagonist (MRA) ☐ Unknown / Unable to Determine
Exams/Labs at Admission		
Date/Time of vital signs		___/___/_____ ___:___ MM/DD/ YYYY HH:MM ☐ Unknown
Initial Vital signs	Height - Admission	_____ ❍ inches ❍ cm ☐ Not Documented
	Weight - Admission	_____ ❍Lbs. ❍Kgs. ☐ Not Documented
	BMI - Admission	_____ (Automatically Calculated)
	BSA - Admission	_____ (Automatically Calculated)
	Heart Rate - Admission	_____ bpm ☐ Not Documented
	BP – Admission	___ / ___ mmHg (systolic/diastolic) ☐ Not Documented
	Temperature - Admission	_____ ❍ C ❍ F ☐ Not Documented
Admission Labs	Lactate - Admission	_____ (mmol/L) ☐ Unavailable
	Hgb - Admission	_____ ❍ g/dL ❍ g/L ☐ Unavailable
	NT-proBNP - Admission	_____ ❍ pg/mL ❍ ng/L ☐ Unavailable
	BNP - Admission	_____ ❍ pg/mL ❍ pmol/L ❍ ng/L ☐ Unavailable
	Serum Creatinine - Admission	_____ ❍ mg/dL ❍ micromol/L ☐ Unavailable
	ALT (IU/L) - Admission	_____ ☐ Unavailable
	Platelet Count (mm^3) - Admission	_____ ☐ Unavailable
	Troponin - Admission	_____ ❍ng/L ❍ng/mL ❍ug/L ☐ Troponin Unavailable - Admission ☐ Troponin below limit of detection - Admission
	Random Blood Glucose - Admission	_____ (mg/dL) ☐ Unavailable
Most favorable neurological status at admission		❍ Conscious without severe disability ❍ Conscious with severe disability ❍ Comatose ❍ Unable to assess due to sedation ❍ Unknown/Not Documented
SHOCK ONSET		
Certainty of shock etiology		❍ Cardiogenic shock was a clear contributor to the shock state ❍ Cardiogenic shock was a suspected but with some uncertainty
Where was the onset of Cardiogenic Shock present?		❍ Shock present on participating hospital arrival ❍ Shock onset while in-hospital

	○ Shock onset at referring hospital
Cardiac arrest prior to shock onset?	○ Yes ○ No ○ Unknown/Not Documented
[IF YOU ANSWERED 'YES' TO THE QUESTION ABOVE] Most favorable neurological status after the arrest and prior to hospital discharge	○ Conscious without severe disability ○ Conscious with severe disability ○ Comatose ○ Unable to assess due to sedation ○ Unknown/Not Documented
Onset of shock (Date/Time):	___/___/_____ ___:___ MM/DD/ YYYY HH:MM ○ Unknown
Was a multidisciplinary shock team involved in patient management?	○ Yes ○ No ○ Not documented
If multidisciplinary shock team was involved, select the timeframe	○ Within 3hrs of shock onset ○ Within 6hrs of shock onset ○ Within 24hrs of shock onset ○ >24hrs of shock onset ○ Unknown/not documented

SCAI Shock Stage at Onset (first 6hrs)	○ Deceased ○ Stage B ○ Stage C	○ Stage D ○ Stage E ○ ND/Unable to Determine
SCAI Shock Stage Serial assessment (Assessed at 6h-12h)	○ Deceased ○ Stage B ○ Stage C	○ Stage D ○ Stage E ○ ND/Unable to Determine
Signs and Symptoms of Inadequate Perfusion Present?	○ Yes	○ No
Presenting Physiology	○ Biventricular Failure ○ Left Ventricular Failure ○ Right Ventricular Failure	○ Primary Other Cardiac (Arrhythmia, Valvular Stenosis, etc.) ○ Not Documented
Cardiogenic shock category	○ Acute, de novo HF ○ Acute-on-chronic HF	○ Unable to determine
Etiologies and Contributors to Cardiogenic Shock:	☐ None of the causes below ☐ ACS/AMI ☐ STEMI ☐ NSTEMI ☐ COVID-19 related complication ☐ LVAD complication ☐ Myocarditis ☐ Post-cardiac arrest ☐ Takotsubo cardiomyopathy ☐ Valvular dysfunction ☐ Unknown	☐ Acute Transplant Rejection ☐ Arrhythmia ☐ Bradyarrhythmia ☐ Tachyarrhythmia ☐ Isolated Right Heart Failure ☐ Acute PE ☐ Pulmonary HTN ☐ Other Isolated Right Heart Failure ☐ Mechanical complication of MI ☐ Peripartum ☐ Post-cardiopulmonary bypass ☐ Tamponade ☐ Other (Specify) _____

Medications at Shock Onset		
Medications administered at onset of shock *(Select all that apply)*	☐ No Medications administered at onset of shock ☐ Anticoagulation Therapy	☐ Vasoactive Medications (IV Continuous, during first 6 hours after shock onset) ☐ Dobutamine ☐ Dopamine ☐ Epinephrine

	☐ Direct oral anticoagulant ☐ Warfarin ☐ IV heparin ☐ Other ☐ Antiplatelet Medication: ☐ Aspirin ☐ P2Y12 Inhibitors ☐ Other Antiplatelet	☐ Levosimendan ☐ Milrinone ☐ Nitroprusside ☐ Norepinephrine ☐ Phenylephrine ☐ Vasopressin ☐ Not Documented

Exams/Labs at Shock Onset			
Enter parameters closest to shock onset. (To be entered only if shock onset was after arrival)			
Date/Time of vital signs (closest to shock onset)		___/___/_____ __:__	☐ Not Documented
Vital signs (closest to shock onset)	Height	_____ ❍ inches ❍cm	☐ Not Documented
	Weight	_____ ❍ lbs ❍kg	☐ Not Documented
	BMI	_____ (Automatically Calculated)	
	BSA	_____ (Automatically Calculated)	
	Heart Rate	_____ bpm	☐ Not Documented
	BP	___ / ___ mmHg (systolic/diastolic)	☐ Not Documented
	Temperature	_____ ❍C ❍F	☐ Not Documented
Labs (Closest to shock onset)	Lactate	_____ (mmol/L)	☐ Unavailable
	Hgb	_____ ○ g/dL ○ m g/L	☐ Unavailable
	NT-proBNP	_____ ○ m pg/mL ○ m ng/L	☐ Unavailable
	BNP	_____ ❍ pg/mL ❍ pmol/L ❍ ng/L	☐ Unavailable
	SCr	_____ ❍ mg/dL ❍ µmol/L	☐ Unavailable
	ALT	_____ ❍ IU/L	☐ Unavailable
	Platelet Count	_____ (mm^3)	☐ Unavailable
	Troponin (Peak related to shock onset)	_____ ❍ng/mL ❍ug/L ❍ng/L	☐ Unavailable ☐ Below limit of detection
	Random Blood Glucose	_____ (mg/dL)	☐ Unavailable

TRANSFER TAB	
Assessment From Transferring Facility	
Date/Time of Assessment – Transfer	____/____/_____ ___:____ ○ Unknown/Not Documented MM/DD/ YYYY HH:MM
Presence of a Pulmonary Artery Catheter (PAC)	○ Yes ○ No
Presence of Mechanical Ventilation	○ Yes ○ No
Presence of renal replacement therapy	○ Yes ○ No
For the measurements elements below, enter accurate parameters closest to assessment time	
BP: (Systolic/Diastolic)	_____ /_____ mm/Hg ○ Not Documented

Heart Rate	_____ bpm	○ Not Documented
CVP/RA	_____ mmHg	○ Not Documented
Pa Pressure (Systolic/Diastolic)	_____ /_____ mmHg	○ Not Documented
PCWP	_____ mmHg	○ Not Documented
Cardiac Output	_____ L/min	○ Not Documented
MAP (Auto-calculated)	_____ mmHg	○ Not Documented
PAPi (Auto-calculated)	_____ w	○ Not Documented
CPO (Auto-calculated)	_____ w	○ Not Documented
Peak Lactate prior to transfer	_____ mmol/L	○ Not Documented
Lowest pH prior to transfer	_____	○ Not Documented
Peak ALT prior to transfer	_____ IU/L	○ Not Documented
Vasoactive Medications at time of assessment	☐ None ☐ Dobutamine ☐ Dopamine ☐ Epinephrine ☐ Levosimendan ☐ Milrinone	☐ Nitroprusside ☐ Norepinephrine ☐ Phenylephrine ☐ Vasopressin ☐ Not Documented ☐ Other (Specify): _____

Presence of MCS Device(s) at assessment	☐ None ☐ Impella ☐ Impella 2.5 ☐ Impella CP ☐ Impella ECP ☐ Impella 5.0 ☐ Impella 5.5 ☐ Impella RP ☐ VA Ecmo ☐ IABP	☐ IVAC ☐ TandemHeart ☐ Left ☐ Right ☐ Temporary surgical VAD (e.g. CentriMag) ☐ Left ☐ Right ☐ Implanted surgical assist device ☐ Pulsatile-Flow Devices ☐ Continuous-Flow Devices ☐ Other (Specify): _____
Vascular Complication requiring intervention:	○ Yes	○ No
Date/Time of vascular complication requiring intervention	___/___/_____ ___:___ MM/DD/ YYYY HH:MM	○ Not Documented
Other complications of ECMO	○ Pulmonary hemorrhage requiring intervention ○ Refractory pulmonary edema ○ Other (specify): _____	

IN-HOSPITAL CARE

Cardiovascular Procedures During this Hospitalization

☐ No Procedures ☐ Cardiac Cath/Coronary Angiography ☐ Cardiac Transplantation *Date/Time of transplantation*:__/__/____ __:__ ☐ Coronary Artery Bypass Graft (CABG) *Date/Time of CABG:* __/__/____ __:__ ☐ Electrophysiology (EP) procedure *Date/Time of EP:* __/__/____ __:__ ☐ Percutaneous Cardiac Intervention (PCI) *Date/Time of PCI:* __/__/____ __:__ ☐ Pulmonary embolectomy (surgical or transcatheter) ☐ Targeted temperature management ☐ Other Procedures/Advanced therapies (Specify): _____	☐ Mechanical Circulatory Support Device/VAD *Date/Time of FIRST MCS:* __/__/____ __:__ Percutaneous Assist Devices ☐ IABP ☐ Impella ☐ TandemHeart ☐ VA ECMO ☐ iVAC ☐ Other VAD Surgical Assist Devices ☐ Temporary external device (e.g. CentriMag) ☐ Implanted surgical assist device ☐ Continuous-Flow Devices ☐ Pulsatile-Flow Devices *Date/Time of implantation*: __/__/____ __:__

Was a right heart catheterization or pulmonary artery catheterization performed?	○ Yes	○ No	○ Unknown/Not Documented
Date/time of first RHC/PAC	__/__/____ __:__ MM/DD/ YYYY HH:MM		○ Unknown
Was the PA catheter used for a period of hemodynamic monitoring outside the Cath Lab/OR?	○ Yes ○ No ○ Unknown/Not Documented		
Was the patient managed with invasive mechanical ventilation at any time during the hospitalization?	○ Yes ○ No ○ Unknown/Not Documented		

Primary indication for advanced respiratory therapy	○ Airway protection only (other than cardiac arrest) ○ Cardiac arrest without respiratory failure ○ Chronic dependence on mechanical ventilation ○ Procedural sedation / anesthesia and recovery ○ Respiratory insufficiency ○ Other
Date/Time of first intubation related to this hospitalization	__/__/____ __:__ MM/DD/ YYYY HH:MM ○ Unknown
Extubation?	○ Yes ○ No
Date/Time of extubation	__/__/____ __:__ MM/DD/ YYYY HH:MM ○ Unknown
Was patient managed with renal replacement therapy at any time during the hospitalization?	○ Yes ○ No ○ Unknown/Not Documented
If Yes, Select type of renal replacement therapy used	○ Accelerated venovenous hemofiltration (AVVH) ○ Continuous venovenous hemofiltration (CVVH) ○ Emergent or urgent hemodialysis ○ Routine hemodialysis for patient with end-stage renal dialysis (ESRD) ○ Unknown/Not Documented
Primary Indications for advanced renal therapy (Select all that apply)	☐ Acidemia ☐ Hyperkalemia ☐ Severe uremia ☐ Volume overload causing hemodynamic or respiratory compromise ☐ Volume overload in the absence of any of the above ☐ Other (specify) _____ ☐ Unknown/Not Documented

Data for Patient transferred to ICU from any other floor in the hospital		
Was the patient admitted to ICU at any point during this hospitalization?	○ Yes	○ No
ICU Admission Date/Time	__/__/____ __:__ MM/DD/ YYYY HH:MM	○ Unknown
ICU discharge (transfer out) Date/Time	__/__/____ __:__ MM/DD/ YYYY HH:MM	○ Unknown
Number of days patient was in ICU (*auto-calc.*)	_____	

Clinical Outcomes		
Record the Time/Date of the FIRST event of each type		
Severe/Moderate GUSTO bleeding event:	○ Yes ○ No	
Date/Time GUSTO detected:	__/__/_____ __:__ MM/DD/ YYYY HH:MM	○ Not Documented
Intracranial Hemorrhage	○ Yes ○ No	
Date/Time Intracranial Hemorrhage detected	__/__/_____ __:__ MM/DD/ YYYY HH:MM	○ Not Documented
Cardiac Arrest	○ Yes ○ No	
Date/Time Cardiac Arrest detected	__/__/_____ __:__ MM/DD/ YYYY HH:MM	○ Not Documented
Stroke	○ Yes ○ No	

Date/Time Stroke detected	__/__/_____ __:__ MM/DD/ YYYY HH:MM	○ Not Documented
Complications from procedures during this admission:	☐ No complications from procedures ☐ Acute Limb ischemia ☐ Amputation ☐ Fasciotomy ☐ Arterial non-CNS thrombosis ☐ Bleeding – Vascular access site – MCS-Related	☐ Bleeding – Vascular access site – Other access site ☐ Bleeding – Other site ☐ Cardiac tamponade ☐ Vascular injury (any) ☐ Venous thromboembolism ☐ Other (Specify): _____

MECHANICAL CIRCULATORY SUPPORT FORM		
Section to be completed for each device implanted		
Implanted Device – VA ECMO	☐ ECMO (VA)	
Date/Time of Implant Procedure – VA ECMO	__/__/_____ __:__ (MM/DD/YYYY HH:MM)	○ Unknown/ND
Died with implant in place – VA ECMO	○ Yes ○ No	
Device explant date/Time VA ECMO:	__/__/_____ __:__ (MM/DD/YYYY HH:MM)	
Arterial Implant Site - VA ECMO:	○ Right ○ Right – Axillary ○ Right - Femoral ○ Left ○ Left – Axillary ○ Left - Femoral ○ Central	
Venous Implant Site - VA ECMO:	○ Right ○ Right – Axillary ○ Right - Femoral ○ Left ○ Left – Axillary ○ Left - Femoral ○ Central	
Receiving CPR at time of Implant – VA ECMO	○ Yes ○ No	○ Unknown/ND
Reason for device implant – VA ECMO (*Select all that apply*)	☐ Critical Left Main/Severe CAD ☐ Incessant Arrhythmia ☐ Refractory Ischemia ☐ Shock ☐ Severe Heart Failure without Shock ☐ Severe Valvular Dysfunction ☐ Supported PCI ☐ Ventricular Septal Defect ☐ Left-ventricular venting during VA-ECMO ☐ Other reason for device implant (Specify): _____	
Vascular closure applied – VA ECMO:	☐ Collagen-based plug with MANTA ☐ Dry-based ☐ Manuel compression (Femostop) ☐ Planned open surgical repair ☐ Suture-based (Proglide, Prostar XL) ☐ Other (Specify):_____	

Implanted Device – IABP	☐ IABP		
	○ 25 cc ○ 30 cc ○ 34 cc ○ 40 cc ○ 50 cc		
Date/Time of Implant Procedure – IABP	__/__/_____ __:__ (MM/DD/YYYY HH:MM)		○ Unknown
Died with implant in place – IABP	○ Yes ○ No		
Device explant date/Time IABP:	___/___/_____ __:__ (MM/DD/YYYY HH:MM)		
Arterial Implant Site - IABP:	○ Right ○ Right – Axillary ○ Right - Femoral ○ Left ○ Left – Axillary ○ Left - Femoral ○ Central		
Receiving CPR at time of Implant - IABP	❍ Yes	❍ No	❍ Unknown/ND
Reason for device implant – IABP (*Select all that apply*)	☐ Critical Left Main/Severe CAD ☐ Incessant Arrhythmia ☐ Refractory Ischemia ☐ Shock ☐ Severe Heart Failure without Shock ☐ Severe Valvular Dysfunction ☐ Supported PCI ☐ Ventricular Septal Defect ☐ Left-ventricular venting during VA-ECMO ☐ Other reason for device implant (Specify): _____		
Vascular closure applied – IABP:	☐ Collagen-based plug with MANTA ☐ Dry-based ☐ Manuel compression (Femostop) ☐ Planned open surgical repair ☐ Suture-based (Proglide, Prostar XL) ☐ Other (Specify):_____		
Implanted Device – Impella	☐ Impella		
	☐ Impella 2.5 ☐ Impella 5.0 ☐ Impella CP ☐ Impella 5.5 ☐ Impella ECP ☐ Impella RP		
Date/Time of Implant Procedure – Impella	__/__/_____ __:__ (MM/DD/YYYY HH:MM)		○ Unknown
Died with implant in place – Impella	○ Yes ○ No		
Device explant date/Time Impella:	___/___/_____ __:__ (MM/DD/YYYY HH:MM)		
Arterial Implant Site - Impella:	○ ❍ Right ○ Right – Axillary ○ Right - Femoral ○ Left ○ Left – Axillary ○ Left - Femoral ☐ Central		
Receiving CPR at time of Implant - Impella	❍ Yes	❍ No	❍ Unknown/ND
Reason for device implant – Impella (*Select all that apply*)	☐ Critical Left Main/Severe CAD ☐ Incessant Arrhythmia ☐ Refractory Ischemia		

	☐ Shock ☐ Severe Heart Failure without Shock ☐ Severe Valvular Dysfunction ☐ Supported PCI ☐ Ventricular Septal Defect ☐ Left-ventricular venting during VA-ECMO ☐ Other reason for device implant (Specify): _____
Vascular closure applied – Impella:	☐ Collagen-based plug with MANTA ☐ Dry-based ☐ Manuel compression (Femostop) ☐ Planned open surgical repair ☐ Suture-based (Proglide, Prostar XL) ☐ Other (Specify):_____
Implanted Device – iVAC	☐ iVAC
Date/Time of Implant Procedure – iVAC	__/__/_____ __:__ (MM/DD/YYYY HH:MM) ○ Unknown
Died with implant in place – iVAC	○ Yes ○ No
Device explant date/Time iVAC:	___/___/_____ __:__ (MM/DD/YYYY HH:MM)
Arterial Implant Site - iVAC:	○ Right ○ Right – Axillary ○ Right - Femoral ○ Left ○ Left – Axillary ○ Left - Femoral ☐ Central
Venous Implant Site - iVAC:	○ Right ○ Right – Axillary ○ Right - Femoral ○ Left ○ Left – Axillary ○ Left - Femoral ☐ Central
Receiving CPR at time of Implant – iVAC	○ Yes ○ No ○ Unknown/ND
Reason for device implant – iVAC (*Select all that apply*)	☐ Critical Left Main/Severe CAD ☐ Incessant Arrhythmia ☐ Refractory Ischemia ☐ Shock ☐ Severe Heart Failure without Shock ☐ Severe Valvular Dysfunction ☐ Supported PCI ☐ Ventricular Septal Defect ☐ Left-ventricular venting during VA-ECMO ☐ Other reason for device implant (Specify): _____
Vascular closure applied – iVAC:	☐ Collagen-based plug with MANTA ☐ Dry-based ☐ Manuel compression (Femostop) ☐ Planned open surgical repair ☐ Suture-based (Proglide, Prostar XL) ☐ Other (Specify):_____
Implanted Device – TandemHeart	☐ TandemHeart

Date/Time of Implant Procedure – TandemHeart	__/__/_____ __:__ (MM/DD/YYYY HH:MM) ○ Unknown
Died with implant in place – TandemHeart	○ Yes ○ No
Device explant date/Time TandemHeart:	___/___/_____ __:__ (MM/DD/YYYY HH:MM)
Arterial Implant Site - TandemHeart:	○ Right ○ Right – Axillary ○ Right - Femoral ○ Left ○ Left – Axillary ○ Left - Femoral ○ Central
Venous Implant Site - TandemHeart:	○ Right ○ Right – Axillary ○ Right – Femoral ○ Right - Jugular ○ Left ○ Left – Axillary ○ Left – Femoral ○ Left- Jugular ☐ Central
Receiving CPR at time of Implant – TandemHeart	❍ Yes ❍ No ❍ Unknown/ND
Reason for device implant – Tandemheart (*Select all that apply*)	☐ Critical Left Main/Severe CAD ☐ Incessant Arrhythmia ☐ Refractory Ischemia ☐ Shock ☐ Severe Heart Failure without Shock ☐ Severe Valvular Dysfunction ☐ Supported PCI ☐ Ventricular Septal Defect ☐ Left-ventricular venting during VA-ECMO ☐ Other reason for device implant (Specify): _____
Vascular closure applied – TandemHeart:	☐ Collagen-based plug with MANTA ☐ Dry-based ☐ Manuel compression (Femostop) ☐ Planned open surgical repair ☐ Suture-based (Proglide, Prostar XL) ☐ Other (Specify):_____
Implanted Device – Temporary surgical VAD (e.g. CentriMag)	☐ Temporary surgical VAD ☐ Temporary surgical VAD - Left ☐ Temporary surgical VAD - Right
Date/Time of Implant Procedure – Temporary surgical VAD (e.g. CentriMag)	__/__/_____ __:__ (MM/DD/YYYY HH:MM) ○ Unknown
Died with implant in place – Temporary surgical VAD (e.g. CentriMag)	○ Yes ○ No
Device explant date/Time - Temporary surgical VAD (e.g. CentriMag):	___/___/_____ __:__ (MM/DD/YYYY HH:MM)

Arterial Implant Site - Temporary surgical VAD (e.g. CentriMag):	○ Right ○ Right – Axillary ○ Right - Femoral ○ Left ○ Left – Axillary ○ Left - Femoral ☐ Central		
Receiving CPR at time of Implant - Temporary surgical VAD (e.g. CentriMag)	❍ Yes	❍ No	❍ Unknown/ND
Reason for device implant – Temporary surgical VAD (e.g. CentriMag) (*Select all that apply*)	☐ Critical Left Main/Severe CAD ☐ Incessant Arrhythmia ☐ Refractory Ischemia ☐ Shock ☐ Severe Heart Failure without Shock ☐ Severe Valvular Dysfunction ☐ Supported PCI ☐ Ventricular Septal Defect ☐ Left-ventricular venting during VA-ECMO ☐ Other reason for device implant (Specify): _____		
Vascular closure applied – Temporary surgical VAD (e.g. CentriMag):	☐ Collagen-based plug with MANTA ☐ Dry-based ☐ Manuel compression (Femostop) ☐ Planned open surgical repair ☐ Suture-based (Proglide, Prostar XL) ☐ Other (Specify):_____		
Implanted Device – Other	☐ Other Device		
Specify other device:	_____		
Date/Time of Implant Procedure – Other	__/__/_____ __:__ (MM/DD/YYYY HH:MM)	○ Unknown	
Died with implant in place – Other	○ Yes ○ No		
Device explant date/Time Other:	___/___/_____ __:__ (MM/DD/YYYY HH:MM)		
Arterial Implant Site - Other:	○ Right ○ Right – Axillary ○ Right - Femoral ○ Left ○ Left – Axillary ○ Left - Femoral ☐ Central		
Venous Implant Site - Other:	○ Right ○ Right – Axillary ○ Right - Femoral ○ Left ○ Left – Axillary ○ Left - Femoral ☐ Central		
Receiving CPR at time of Implant – Other	○ Yes	○ No	○ Unknown/ND
Reason for device implant – Other (*Select all that apply*)	☐ Critical Left Main/Severe CAD ☐ Incessant Arrhythmia ☐ Refractory Ischemia ☐ Shock		

	☐ Severe Heart Failure without Shock ☐ Severe Valvular Dysfunction ☐ Supported PCI ☐ Ventricular Septal Defect ☐ Left-ventricular venting during VA-ECMO ☐ Other reason for device implant (Specify): _____
Vascular closure applied – Other:	☐ Collagen-based plug with MANTA ☐ Dry-based ☐ Manuel compression (Femostop) ☐ Planned open surgical repair ☐ Suture-based (Proglide, Prostar XL) ☐ Other (Specify):_____

ECMO TAB

Pre-ECMO Events

Select any current device(s) supporting patient pre-ECMO *[Device(s) already selected from the MCS tab will be auto-populated here]*	☐ None ☐ Intra-Aortic Balloon Pump (IABP) ☐ Impella (any) ☐ Tandem Heart ❑ Left ❑ Right ☐ Temporary surgical VAD (e.g. CentriMag) ❑ Left ❑ Right ☐ Other (Specify): _____
Circumstances of ECMO Cannulation (select all that apply):	☐ Planned for patient deterioration (Prophylactic) ☐ Emergent (ECPR or Salvage) ☐ Failure to Wean from CPB ☐ Progression of Illness Despite Established VAD/ Temporary Mechanical Circulatory Support / IABP
GCS Score *(if assessed immediately pre-ECMO)*	_____ ○ GCS not assessed
Is there an ELSO record for this patient?	○ Yes ○ No ○ Unknown/Not Documented
If yes, enter ELSO Patient Record Number (optional)	_____

Vascular Access & Initiation of ECMO

Date/Time ECMO started	___/___/_____ ___:___ ○ Unknown			
Cannulation anatomical site (check all that apply) *[repeat for each cannula placed]*	Cannulation anatomical Site	Cannula size (Fr)	Cannula manufacturer	Cannula Model
	❑ Right internal jugular vein			
	❑ Right Femoral Artery			
	❑ Left Femoral Artery			
	❑ Right Femoral Vein			
	❑ Left Femoral Vein			
	❑ Other (Specify):_____			
	❑ Aorta (Central)			
	❑ Right Atrium (Central)			
	❑ Left Atrium (Central)			
	❑ Pulmonary Artery (Central)			

	❑ Unknown/Not Documented			
Type of cannulation	○ Central	○ Peripheral	○ Unknown/Not Documented	
Purpose	○ Central	○ Peripheral	○ Unknown/Not Documented	
Date/Time of insertion	___/___/_____ ___:___ MM DD YYYY HH : MM		○ Unknown	
Was this cannula removed for a reason other than death?	○ Yes	○ No	○ Not Documented	
Date/Time of removal	___/___/_____ ___:___ MM DD YYYY HH : MM		○ Unknown	

LV Decompression		
LV Decompression Procedures (select all that apply) and date/time of procedure, if known:	☐ None/Not Performed	
	☐ Atrial Septostomy	Date/Time: __/__/_____ ___:___
	☐ LA Vent	Date/Time: __/__/_____ ___:___
	☐ LV Vent	Date/Time: __/__/_____ ___:___
	☐ PA Vent	Date/Time: __/__/_____ ___:___
	☐ Intra-Aortic Balloon Pump	Date/Time: __/__/_____ ___:___
	☐ Transaortic Valve Impella	Date/Time: __/__/_____ ___:___
	☐ L-VAD	Date/Time: __/__/_____ ___:___
	☐ R-VAD	Date/Time: __/__/_____ ___:___
	☐ Other (Specify): _____	Date/Time: __/__/_____ ___:___
Rationale for Decompression on ECLS (select one):	○ Decreased pulse pressure on Arterial Waveform ○ Evidence of Ischemia ○ Institutional routine	○ Lack of native ejection ○ Progressive Pulmonary Edema on CXR ○ Other (Specify): _____

ECMO Cannulation Location (area)		
ECMO Cannulation Location:	○ Another hospital (pre-transfer) ○ Ambulatory/Outpatient Area ○ Adult cardiac ICU (CICU) ○ Adult general ICU ○ Cardiac Catheterization Lab ○ Delivery Suite ○ Diagnostic/Intervention. Area (excluding Cath Lab)	○ Emergency Department (ED) ○ Operating Room (OR) ○ Post-Anesthesia Recovery Unit (PACU) ○ Same-day Surgical Area ○ Telemetry unit or Step-down unit ○ Other (Specify) _____ ○ Unknown/Not Documented
Team Member(s) Performing ECMO Cannulation:	☐ Anesthesiologist ☐ ER Physician ☐ Intensive care physician ☐ Interventional Cardiologist ☐ Perfusionist	☐ Registered Nurse (RN) ☐ Surgeon (cardiac/cardiothoracic) ☐ Other (Specify) _____ ☐ Unknown/Not Documented

ECMO Circuit and Components		
Pump	Manufacturer: _____	
	Pump Name: _____	

Common device used (e.g., Cardiohelp)	○ Yes ○ No ○ Unknown / Not Documented		
Console/Drive unit Manufacturer / Name:	_____		
Oxygenator Manufacturer / Name	_____		
Safety features incorporated in the ECMO circuit for this event	☐ Bridge ☐ Bubble detectors ☐ O2 saturation monitor ☐ Pressure alarms	☐ Transonic flow meter ☐ Venous bladder and pump controller ☐ Other (Specify): _____	
Was any component exchanged or replaced?	○ Yes ○ No ○ Unknown/ Not Documented		
Component Exchanged	○ Console ○ Heat Exchanger	○ Oxygenator ○ Other (Specify): _____	
Reason(s) for exchange	_____		
Date/time of exchange	___/___/_____ ___:___ MM DD YYYY HH : MM		
Additional exchange(s)	If applicable, multiple instances of Component Exchanged/Replaced repeat group can be added to the form		
Component Exchanged #2	○ Console ○ Heat Exchanger	○ Oxygenator ○ Other (Specify): _____	
Exchange #2 reason	_____		
Date/Time of exchange #2	___/___/_____ ___:___ MM DD YYYY HH : MM		
Neurologic injury or events detected during ECMO or after ECMO (Less than 6 weeks after separation from ECMO or by Hospital Discharge, which ever one comes first). (check all that apply):			
❑ No Neurological injury or events detected during ECMO or after ECMO			
Anoxic Brain Injury	○ Yes ○ No	Date/Time detected: ___/___/_____ ___:___	
Brain death	○ Yes ○ No	Date/Time detected: ___/___/_____ ___:___	
Cerebral Microbleeds	○ Yes ○ No	Date/Time detected: ___/___/_____ ___:___	
New clinical seizure(s)	○ Yes ○ No	Date/Time detected: ___/___/_____ ___:___	
Spinal cord ischemia	○ Yes ○ No	Date/Time detected: ___/___/_____ ___:___	
Other Complications/Events *[Relevant options already captured will be auto-populated]*			
Device-Related Events	☐ None ☐ Air embolism ☐ Circuit clots	☐ Oxygenator failure ☐ Pump failure	☐ Tubing rupture ☐ Other (Specify): ____
Other ECMO complications/events	☐ None ☐ Differential hypoxia (Harlequin syndrome)	☐ Left ventricular distention ☐ Pulmonary hemorrhage	☐ Pulmonary edema ☐ Other (Specify): _____
Outcomes /End of Event			
Date/Time ECMO ended	___/___/_____ ___:___ MM DD YYYY HH : MM	○ Unknown/Not Documented	
SAVE (Survival After Veno-Arterial ECMO) Score	_____	☐ Not Documented	

Reason(s) ECMO ended	☐ Converted to other support ☐ ECMO complication ☐ Limited resources ☐ Patient (or family) refused treatment ☐ Patient recovered/improved ☐ Significant deterioration ☐ Transition to surgical LVAD ☐ Transplant (Heart/Lung) ☐ Patient died ☐ Other (specify): _____ ☐ Unknown

SERIAL SHOCK ASSESSMENT		
Select if serial assessments were NOT performed	☐	
Date/Time of Assessment – Serial Assessment	___/___/____ ___:___ (MM/DD/YYYY HH:MM)	○ Unknown
Hours since Shock Onset – Serial Assessment	_____	
SCAI Stage:	○ Shock has resolved ○ Stage B ○ Stage C	○ Stage D ○ Stage E ○ ND/Unable to Determine
Presence of a Pulmonary Artery Catheter (PAC)	○ Yes ○ No	
Presence of Mechanical Ventilation	○ Yes ○ No	
Presence of renal replacement therapy	○ Yes ○ No	
For the measurement elements below, enter accurate parameters closest to assessment time		
BP: (Systolic/Diastolic)	_____ / _____ mmHg	○ Not Documented
Heart Rate	_____ bpm	○ Not Documented
CVP/RA	_____ mmHg	○ Not Documented
Pa Pressure (Systolic/Diastolic)	_____ / _____ mm/Hg	○ Not Documented
PCWP	_____ mmHg	○ Not Documented
Cardiac Output	_____ L/min	○ Not Documented
MAP (Auto-calculated)	_____ mmHg	○ Not Documented
PAPi (Auto-calculated)	_____ w	○ Not Documented
CPO (Auto-calculated)	_____	○ Not Documented
Peak Lactate since the last assessment	_____ mmol/L	○ Not Documented
Lowest pH since last assessment	_____	○ Not Documented
Peak ALT since last assessment	_____ IU/L	○ Not Documented
Vasoactive Medications at time of assessment	☐ None ☐ Dobutamine ☐ Dopamine ☐ Epinephrine ☐ Levosimendan ☐ Milrinone	☐ Nitroprusside ☐ Norepinephrine ☐ Phenylephrine ☐ Vasopressin ☐ Not Documented ☐ Other Vasoactive Medication (Specify): _____

Presence of MCS Device(s) at assessment	☐ None ☐ Impella ○ Impella 2.5 ○ Impella CP ○ Impella ECP ○ Impella 5.0 ○ Impella 5.5 ○ Impella RP ☐ VA ECMO ☐ IABP ☐ TandemHeart ○ TandemHeart – Left ○ TandemHeart – Right	☐ Temporary Surgical VAD (e.g. CentriMag) ○ Temporary surgical VAD – Left ○ Temporary surgical VAD – Right ☐ Implanted surgical assist device ○ Pulsatile-Flow Devices ○ Continuous- Flow Devices ☐ Other MCS
Was there a device upgrade/escalation since the prior assessment?	○ Yes	○ No
Select reason(s) for device upgrade or escalation since the prior assessment	☐ None/Not Documented ☐ Device- related complication of failure ☐ Inadequate response to vasoactive medications	☐ Need for escalation to greater hemodynamic support from MCS ☐ Switch to alternative MCS access site (e.g. ferm to axillary)
Was there a device de-escalation since the prior assessment?	○ Yes	○ No
Select reason(s) for device upgrade or escalation since the prior assessment	☐ Change in goals of care ☐ Durable LVAD or heart transplant	☐ MCS no longer needed ☐ Transition to central cannulated device
Vascular complication requiring intervention?	○ Yes	○ No
Date/Time of vascular intervention:	___/___/____ ___:___ ○ (MM/DD/YYYY HH:MM)	○ Unknown
Other complications of ECMO	☐ Pulmonary hemorrhage requiring intervention ☐ Refractory pulmonary edema	☐ Other (Specify):

DISCHARGE INFORMATION		
Discharge disposition	☐ Home ☐ Hospice – Home ☐ Hospice – Health Care Facility ☐ Acute Care Facility ☐ Other Health Care Facility	☐ Expired ☐ Left Against Medical Advise (AMA) ☐ Not documented or Unable to Determine (UTD)
Date/Time of Discharge from hospital:	___/___/____ ___:___ (MM/DD/YYYY HH:MM)	☐ Unknown
Most favorable neurological status at discharge	○ Conscious without severe disability ○ Conscious with severe disability ○ Comatose ○ Unable to assess due to sedation ○ Unknown/Not Documented	

If patient died, Date/Time of death	___/___/_____ __:__ (MM/DD/YYYY HH:MM)	○ Not Documented
Primary cause of death	○ Cardiovascular ○ Non-Cardiovascular ○ Unknown	
If Cardiovascular:	○ Acute Coronary Syndrome ○ Cardiogenic Shock/HF ○ Stroke	○ Sudden Cardiac Death ○ Other Cardiovascular ○ Unknown Cardiovascular
If Non-Cardiovascular	○ Anoxic brain injury	○ Other non-cardiovascular
If Other Health Care Facility:	○ Skilled Nursing Facility (SNF) ○ Inpatient Rehabilitation Facility (IRF)	○ Long Term Care Hospital (LTCH) ○ Intermediate Care Facility (ICF) ○ Other
Transferred to:	_____	
Reason for Transfer	○ Administrative ○ De-escalation of care ○ Escalation of care	○ Need for transplant services ○ Patient / Family Request ○ Other

Social Determinants of Health		
During this admission, was a standardized health related social needs form or assessment completed?	○ Yes	○ No/Not Documented
If yes, identify the areas of unmet social need. (select all that apply):	❑ None of the areas of unmet social need listed ❑ Education ❑ Employment ❑ Financial Strain ❑ Food	❑ Living Situation/Housing ❑ Mental Health ❑ Personal Safety ❑ Substance Abuse ❑ Transportation Barriers ❑ Utilities

END OF FORM

