

SDRC: Inception to Date

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medicine

EMCC 3/27/25

San Diego Resuscitation
Consortium



ECPR (ExtraCorporeal CPR)

Recommended by international group (ILCOR)

2015 AHA Guidelines to consider in cases of refractory cardiac arrest

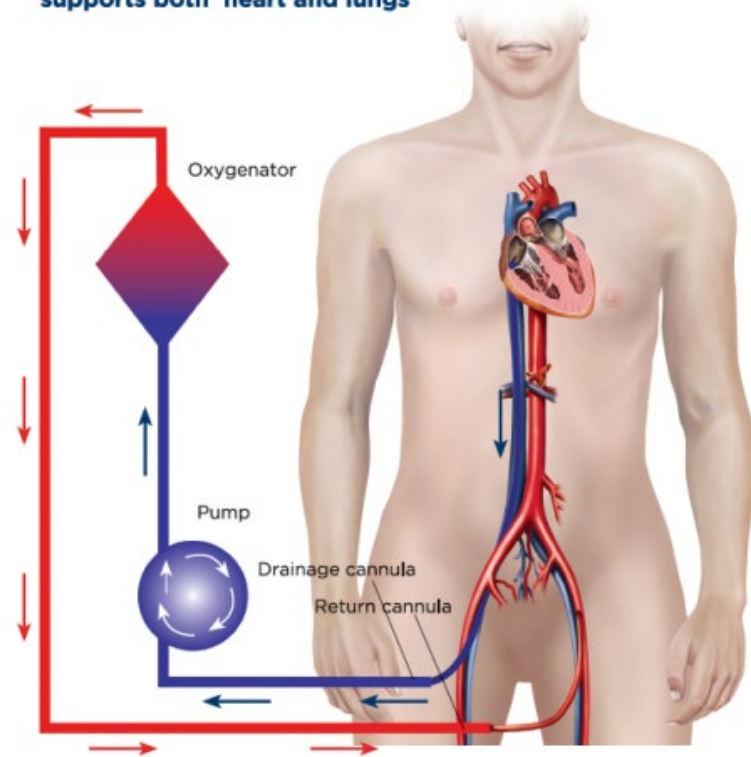
2019 Update: “ECPR may be considered for selected patients as rescue therapy when conventional CPR efforts are failing in settings in which it can be expeditiously implemented and supported by skilled providers”



ECMO (VA) & ECPR

Veno-arterial (VA) ECMO

supports both heart and lungs

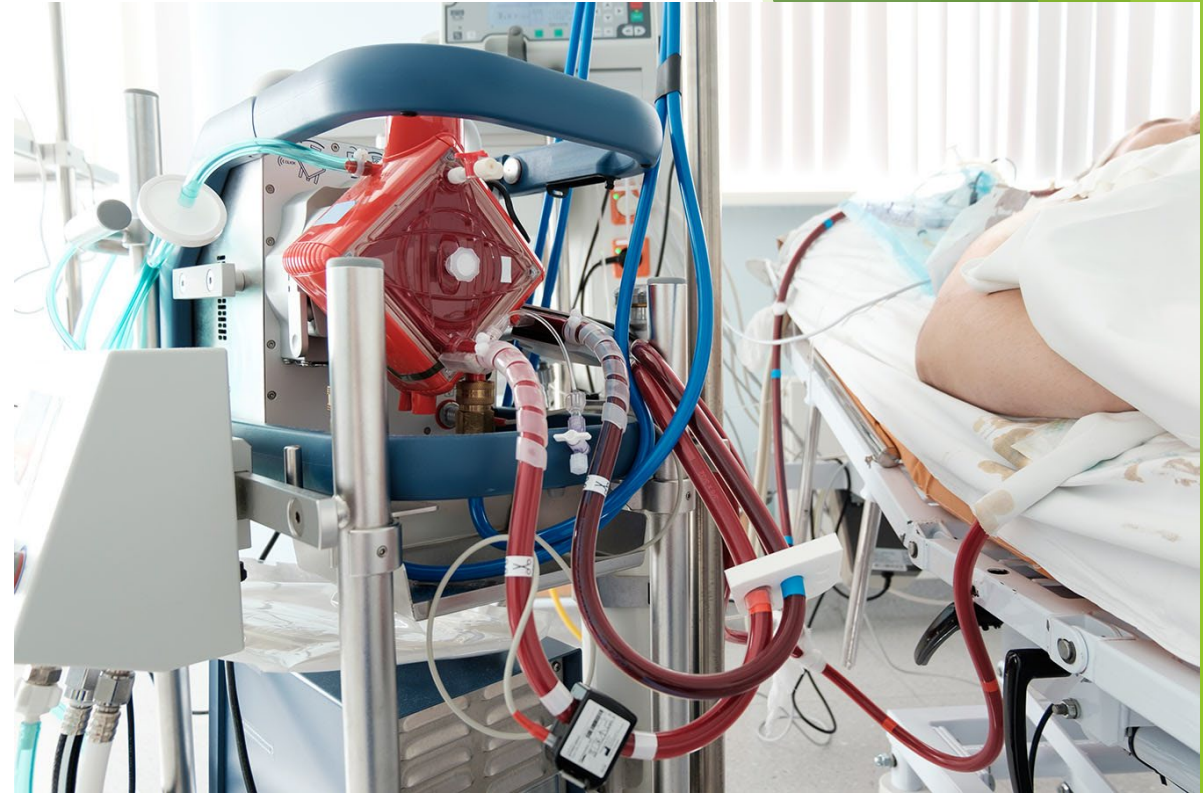
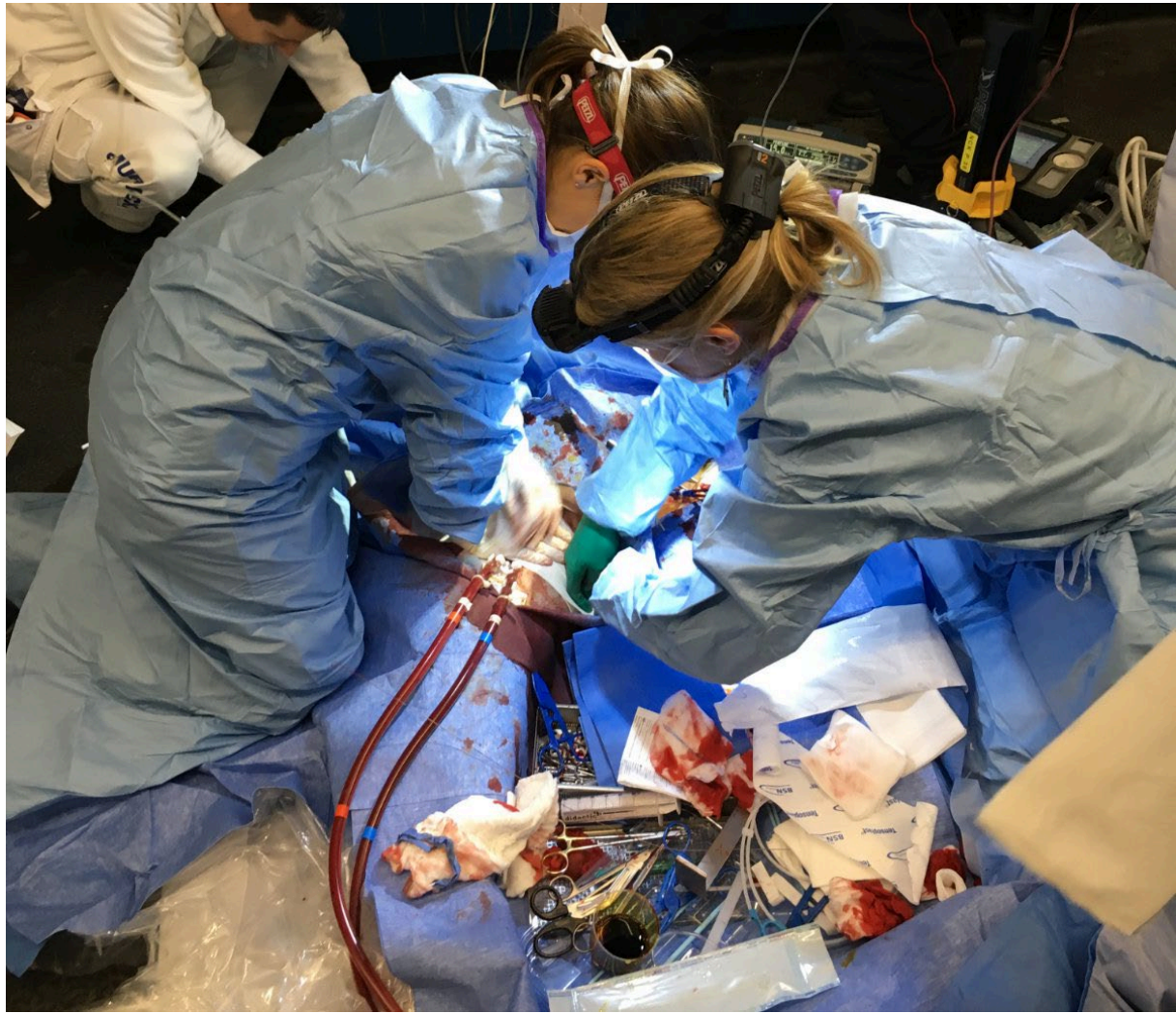


Carry oxygenated blood to the body and brain (Heart-Lung Bypass)

Collaborative with EMS, ED, ICU, cardiologists and cardiothoracic surgeons

Variety of systems of implementation





ECPR Receiving Center Criteria

► Facility Requirements

24/7 cath, ECMO/ECPR activation process

► Staffing

Medical Director & Program Manager, ECMO/ECPR team

► Data Management

Submission to LEMSIS & CARES; data points

► Quality Improvement

Participation required, site-visits

► Inclusion and Exclusion Process

Application

ECPR Pilot Program Goals*

1. Scene time < 15 minutes (*“get off scene in 15”*)
2. Cardiac arrest to ECPR Receiving Center < 45 minutes
3. Cardiac arrest to ECMO < 60 minutes

* Measured at the 90th percentile

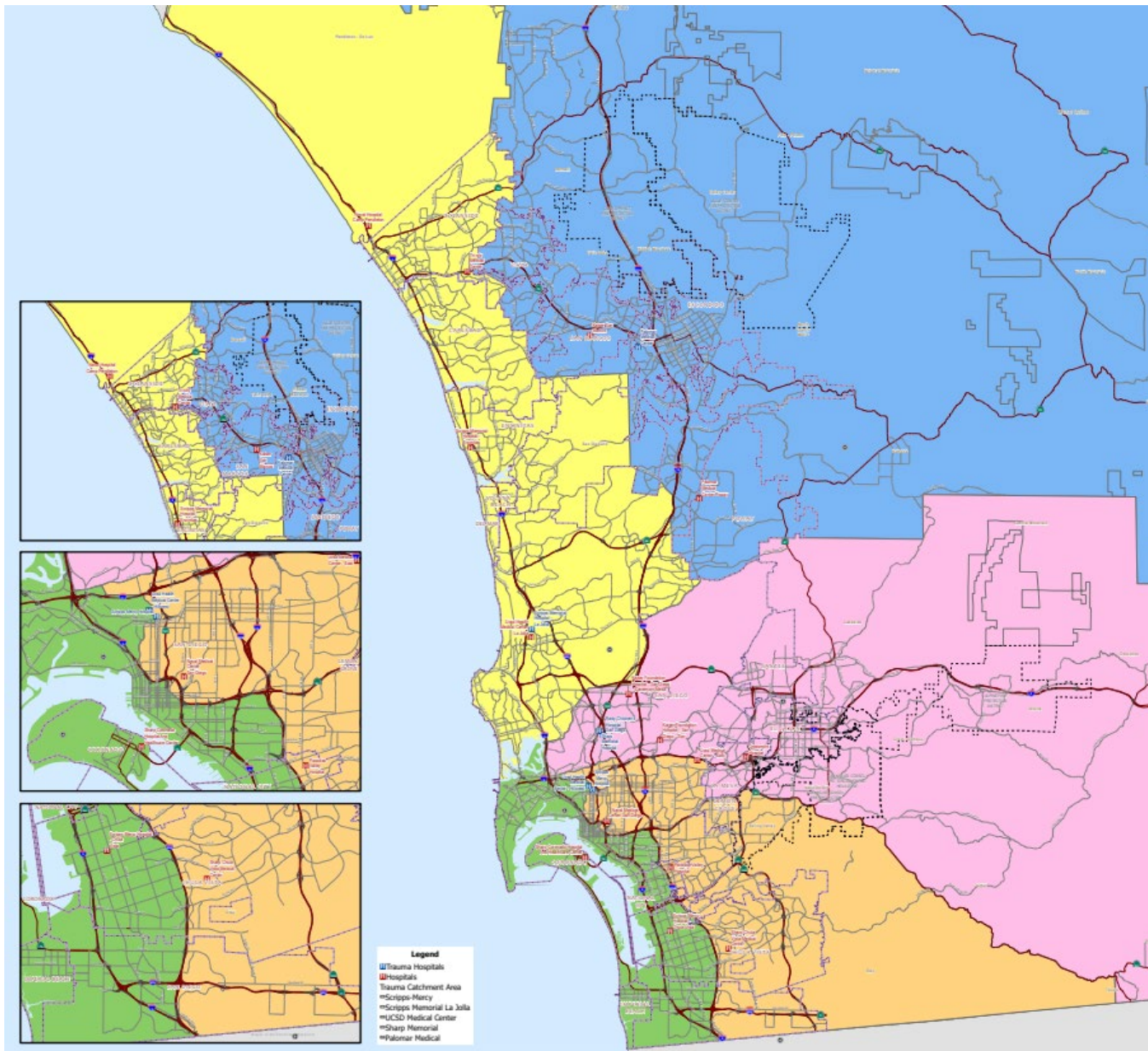


SDRC Inception (7/23) to Date

- ▶ Alerts 151 (110 met criteria)
- ▶ Scene time 16 minutes
- ▶ Arrest to ECPR Center 36 minutes
- ▶ Arrest to ECMO 61 minutes (avg)
- ▶ Placed on ECMO 30 (of 110)

ROSC 40 (36%)	CPR 70 (64%)	
Placed on ECMO 5 (13%)	Placed on ECMO 30 (43%)	
CPC 1-2 at Discharge 3 (60%)	CPC 1-2 at Discharge 5 (17%)	

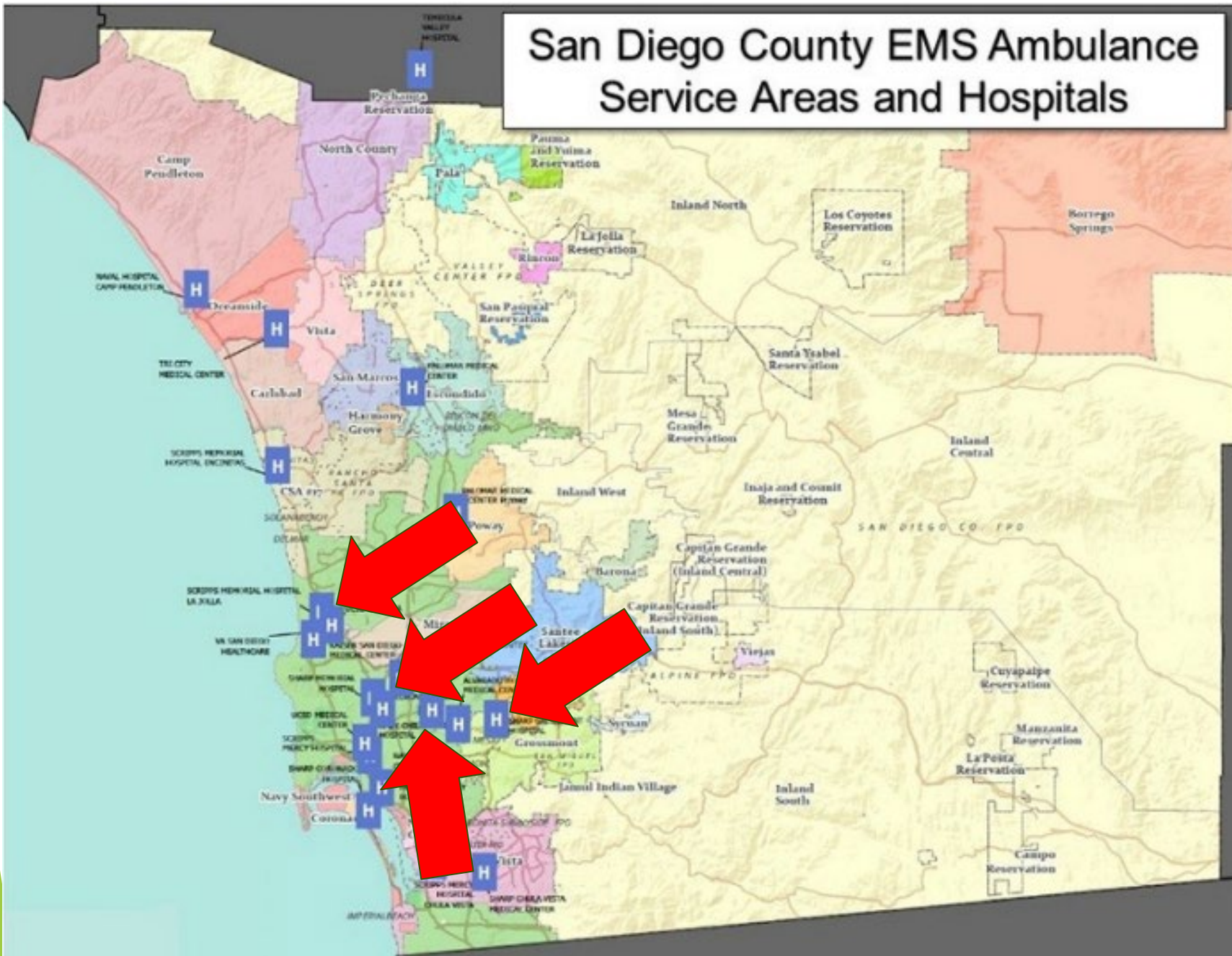
- ▶ Survivors 10



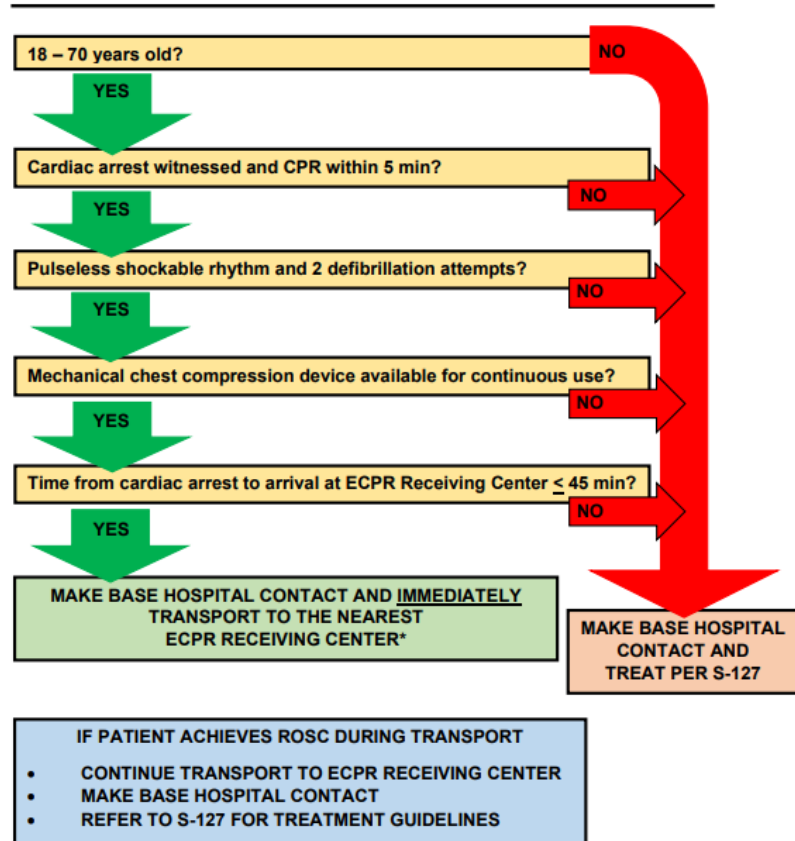
San Diego County EMS Ambulance Service Areas and Hospitals

July 2023

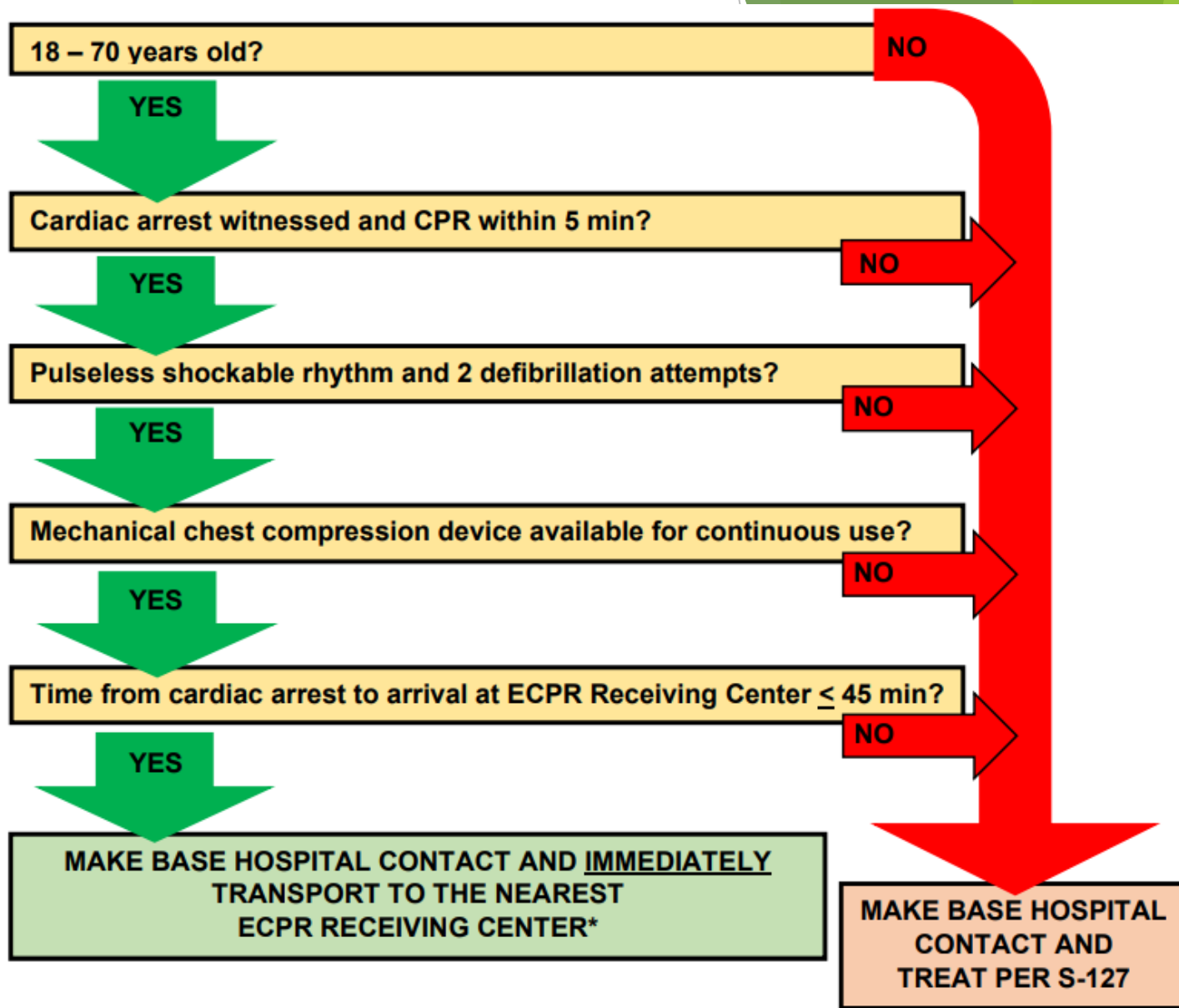
...and November 2024



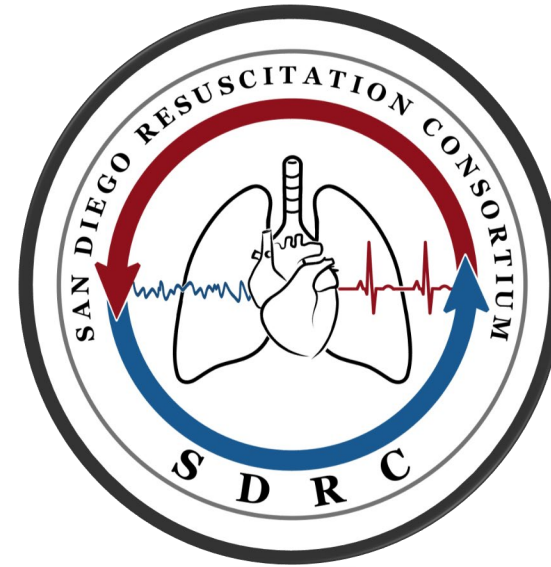
EXTRACORPOREAL CARDIOPULMONARY RESUSCITATION (ECPR) DECISION ALGORITHM



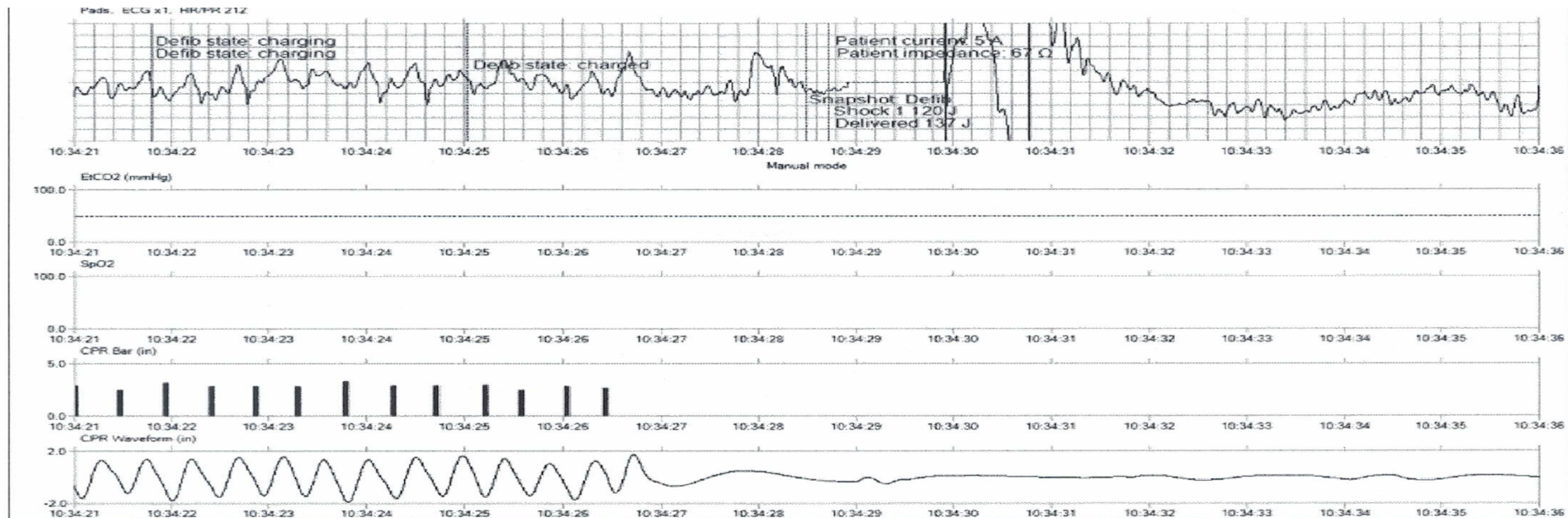
*Bypass non-ECPR STEMI Receiving Centers



Survivors



October 1, 2023



Sterling Sinema, 44
Ramona
61min CPR



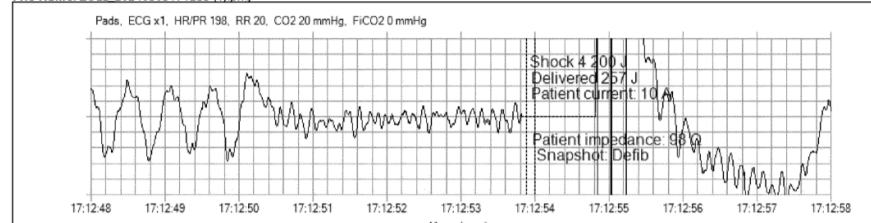
Scott Magellan 2/14/24



5/5/24 National City Fire & AMR

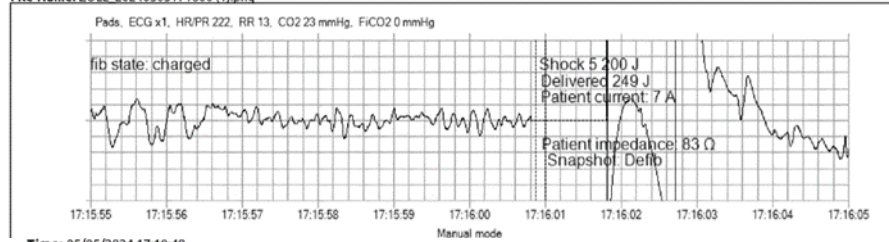
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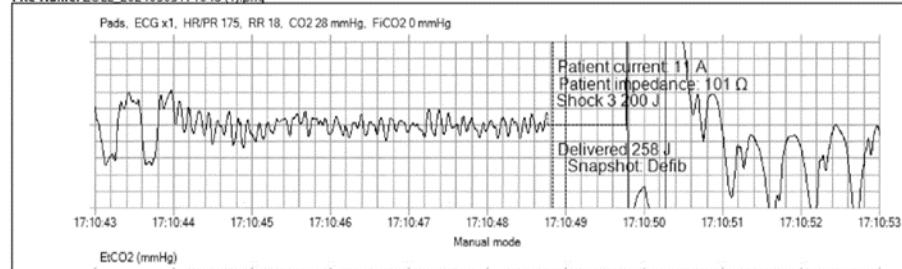
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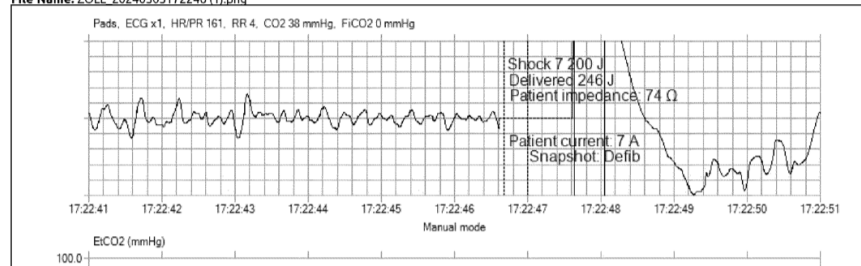
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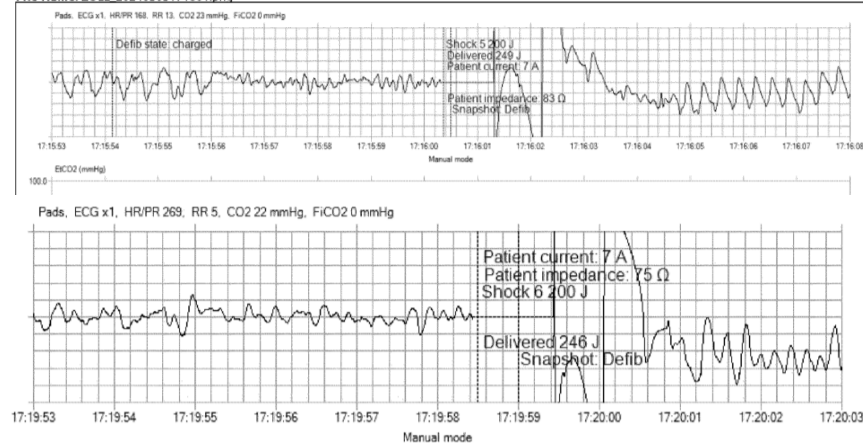
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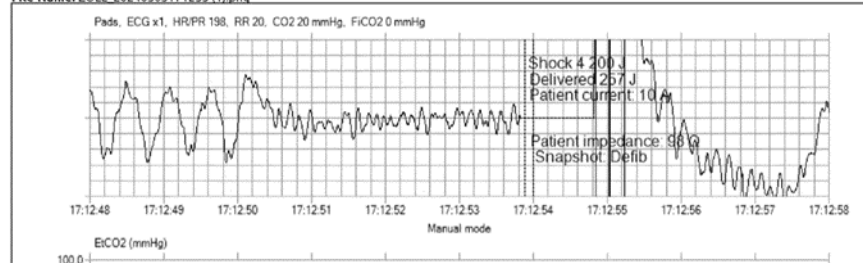
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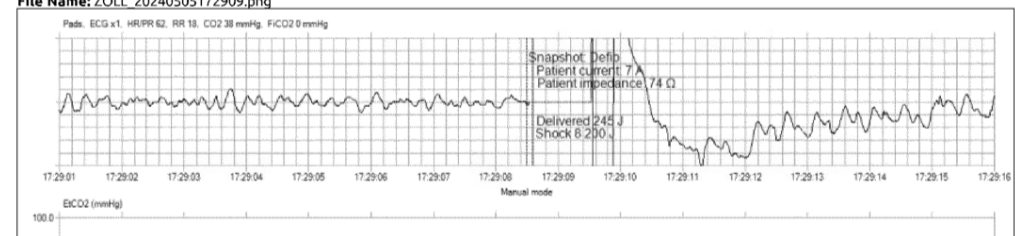
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Michelle Alvarado, 41 86 min CPR



10 days; discharged home

Andy Chen 7/11/24

58 min CPR

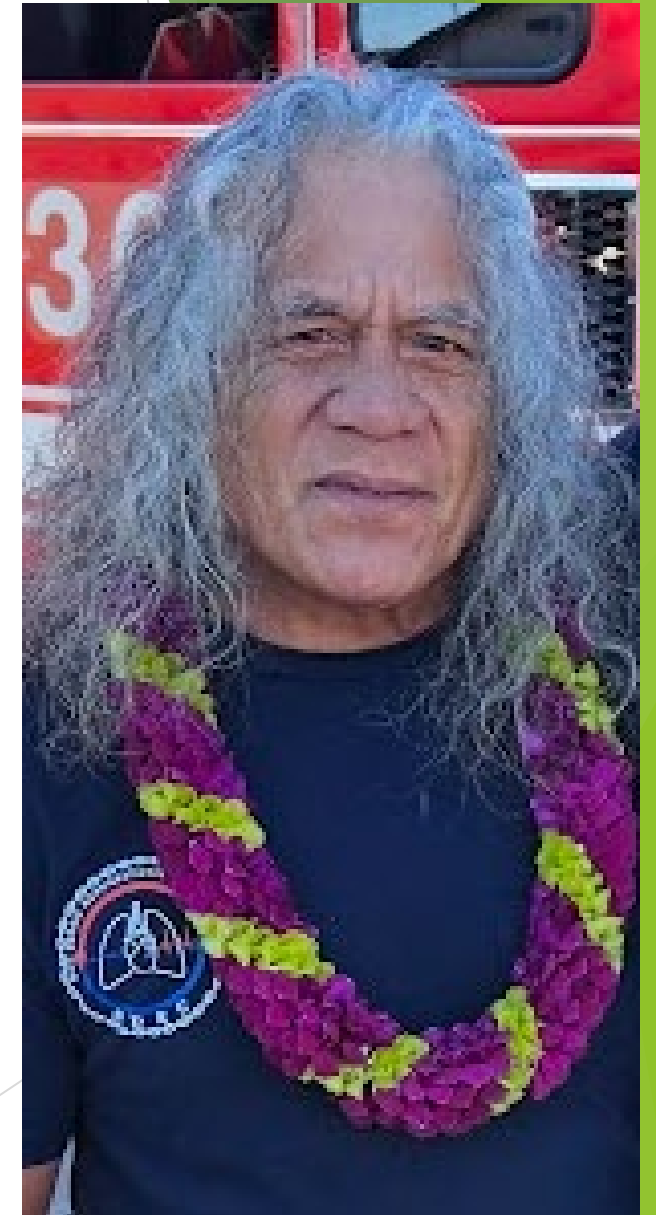
- ▶ Visiting from Las Vegas
- ▶ Downtown hotel
- ▶ SDFD Engine 28, Falck 44
- ▶ pH 6.88, lactate 19



7 days, discharged home

Tasipale Laititi 10/27/24

55min CPR



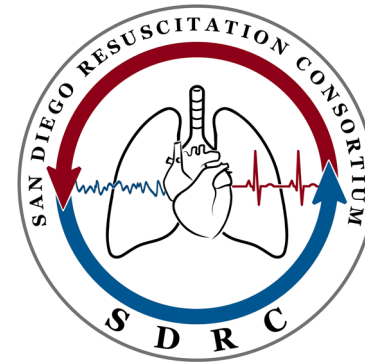
Observations

- ▶ **Patient and Operational Characteristics**
 - ▶ pH 6.88, lactate 19 (poor prognostic indicators)
 - ▶ Distance of 28 miles
 - ▶ Prolonged CPR: 86 minutes (less ROSC for 6 minutes)
- ▶ **Additional Benefits**
 - ▶ Promotes attention to high quality CPR for all patients
 - ▶ Enhances collaboration across the system
 - ▶ Boosts morale



Thank you for all you do!

- ▶ More to come...
 - ▶ More lives to save!
 - ▶ Quality assurance and quality improvement
 - ▶ Ongoing education and recognition for providers
 - ▶ Partnership with Revive & Survive (bystander CPR training)



Questions/Comments?



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