

Instructor Guide

Scenario: Loss of Pump Function

Initial Set-Up

Action: **Turn off pump**

History: 1 month old with H1N1 pneumonia and myocarditis.

There are heavy rain and winds due to a storm. Multiple power surges have been disrupting your shift. A brief black out has just occurred. (*Cue to pump not restarting/black smoke coming out of the back of the pump if they try to restart the pump*)

ECMO Mode: VA

Patient:

Temp	37		
HR	130	60	40
BP	68/38 (48)		36/6 (16)
CVP	6	0	
Saturation	96%	44%	

CDI 7.45 / 37 / 318 / 24 / BE 2

H/H 39% / 13

SvO2 68%

Available data

Physical Exam:

Quiet. No spontaneous movements. Mottled. Cyanotic. BS equal. Heart sounds normal. Abdomen soft. Peripheral refill delayed. Extremities cool

Blood gases – Baby Girl Hula

Patient: 7.26 / 78 / 41 / 14 / BD 6

Pre Memb: 7.19 / 81 / 30 / 11 / BD 8

Post Memb: 7.45 / 38 / 314 / 22 / BE 1

Pressures	Venous	0
	Pre-memb	154
	Post-memb	148

Color blood in circuit tubing – equal

CXR: ask for reason. Results: normal

Chem: Previous labs normal. Sample sent to lab. Results pending.

Heme: Previous labs normal. Sample sent to lab. Results pending.

ACT: 180 sec

Student Assessment and Key Concepts: Loss of Pump Function

Time to accomplish: 90 seconds

Desired Responses**Technical**

- Circuit check
- Attempts to restart circuit
- Clamp off circuit
- Check pump switch
- Check plug
- Get hand crank
- Call for help

Cognitive

- Recognizes pump failure
- Verbalizes with hand crank that the SvO₂ is used to monitor = adequate flow?

Communication

- Emergency vent settings
- Calls for help
- Calls for back up pump

Discouraged interventions

- Does not come off circuit
- Attempts to hand crank without coming off circuit

COMMENTS

Hospital of Mojo

Baby Girl Hula

Medical Record Number 124-99-50

DOB: 10/03/09

Patient ABG

	10/04/09 2200		10/04/09 1000
pH	7.26 ↓	pH	7.42
PCO2	78 ↑	PCO2	43
PO2	41 ↓	PO2	75
HCO3	14	HCO3	24
BD	6	BD	2

Ventilator Rest Settings PIP 24 PEEP 12 Rate 10 IT 0.6 sec
FiO2 = 0.3

Pre-Membrane Blood Gas

	10/04/09 2200		10/04/09 1000
pH	7.19 ↓	pH	7.31
PCO2	81 ↑	PCO2	48
PO2	30 ↓	PO2	52
HCO3	11	HCO3	23
BD	8	BD	0

Post-Membrane Blood Gas

	10/04/09 2200		10/04/09 1000
pH	7.45 ↓	pH	7.47
PCO2	38 ↑	PCO2	35
PO2	314 ↓	PO2	284
HCO3	22	HCO3	25
BD	1	BE	2

Sweep Gas 0.45 liters 0.45 liters
FiO2 = 0.45 FiO2 = 0.45