

Instructor's Guide

Scenario – High Post-Membrane Pressure

Initial Set-Up

Action: **Clamp on tubing under manikin to fake high pressures if no simulator cables and use paper display to show baseline high pressures.**

History: Day 3 for a 2 month old who presented with V-tach unresponsive to medical intervention. Found to have TAPVC. He is awake, but sedated, calm and quiet. The nurse has just completed his assessment with a diaper change.

ECMO Mode: VA or VV

Patient:

Temp	37.2	
HR	130	160
BP	70/42 (51)	48/20 (29)
CVP	5	
Saturation	95%	83%

CDI 7.45 / 37 / 318 / 24 / BE 2
 H/H 35% / 12
 SvO2 43%

Fake circuit pressures with simulator cables (see suggested pressures below – cause high post membrane chirp alarm)

Available data: **(If participant asks this data is available)**

Physical Exam:

Sedated. Quiet. Mottled. Dusky. BS equal but course. Heart sounds normal. Abdomen soft. Peripheral refill 4 to 5 sec. Extremities cool.

Pressures	Venous	- 2
	Pre-memb	338
	Post-memb	359

Blood gases: Sample sent. Results still pending, but lab calls and says the results look bad so he is going to rerun he tests.

Color blood in circuit tubing – color differentiation seen

CXR: Taken. Radiologist calls back and says that shorter catheter appears bent.

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

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

ACT: 176 sec

Student Assessment and Key Concepts: High Post membrane pressure

Time to accomplish: 60 seconds

Desired Responses

Technical

- Gives volume
- Adjusts arterial cannula
- Recognizes problem is downstream to the oxygenator
- Circuit check
- Checks oxygenator
- Checks catheters

Cognitive

- Calls surgeon
- Assess activity level
- Orders chest X-ray
- Checks catheters

Communication

- Calls for help

Discouraged interventions

- Comes off ECMO
- Attempts to hand crank

COMMENT