Instructor's Guide

Scenario – Arterial Air (Bubble Detector Alarm)

Initial Set-Up

Action: **Be prepared to inject air into system post oxygenator (while student is in the room)**

History: 1 month old with aspiration pneumonia and ARDS. Today is day 7 of the ECMO run. The circuit was change 1 hour ago due to circuit failure. A new set of gases has just arrived. **Hand set of gases**

ECMO Mode: VA or VV

Patient:

Temp	37	
HR	150	60
BP	68/38 (48)	47/17 (27)
CVP	4	5
Saturation	93%	53%

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 Tango

Pressures	Venous	5
	Pre-memb	54
	Post-memb	51

Color blood in circuit tubing – color differentiation seen

CXR: ordered, but tech is busy and not answering their page
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: Arterial Air with Bubble Detector Alarm

Time to accomplish: 60 seconds

Desired Responses

Technical

- ❑ Recognizes arterial bubble detector alarm
- ❑ Circuit check
- ❑ Clamps off circuit
- ❑ Checks oxygenator
- ❑ Checks for air arterial side of clamp
- ❑ Checks all connector on arterial side

Cognitive

- ❑ Recognizes pump is off
- ❑ Checks venous side

Communitcation

- ❑ Emergency vent settings
- ❑ Calls for help

Discouraged interventions

- ❑ Attempts to hand crank

COMMENTS

Children's Hospital of Mojo

Baby Girl Tango
Medical Record Number 124-39-57
DOB: 09/03/09

Patient ABG

	10/04/09 2200
pH	**7.43**
PCO2	**43**
PO2	**54**
HCO3	**24**
BD	**0**
Ventilator	**Rest Settings PIP 24 PEEP 12 Rate 10 IT 0.6 sec FiO2 = 0.3**

Pre-Membrane Blood Gas

	10/04/09 2200
pH	**7.32**
PCO2	**54**
PO2	**57**
HCO3	**22**
BD	**2**

Post-Membrane Blood Gas

	10/04/09 2200
pH	**7.45**
PCO2	**34**
PO2	**298**
HCO3	**25**
BE	**1**
Sweep Gas	**0.45 liters FiO2 = 0.45**