Commentary on: Is it safe to leave an ECMO circuit primed?
Allison Weinberg, Presenter
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What is This?
**Commentary on: Is it safe to leave an ECMO circuit primed?**

Allison Weinberg, Presenter

MR. WILLIAM HARRIS (Luling, Louisiana): I get telephone calls all the time about, “How long do you think a circuit is good for if it is primed? Our Performance Improvement Department wants to know.” My usual response is that some of the standards state 30 days, but it depends on how you set it up and that you do not contaminate it. I think there are some clinicians now leaving the circuit primed for six months, so I would encourage you to look at a longer period of time. One thing that stood out to me was that you used saline as a prime and not Plasma-Lyte® or Isolyte® electrolyte solutions, which a lot of people use. Do you think there would be any differences between the two? I would urge Plasma-Lyte® over saline for small children. You just do not want to place them on a saline-type prime.

MS. ALLISON WEINBERG (New York, New York): The Extracorporeal Life Support Organization (ELSO) suggests that circuits should be primed with an isotonic solution and that includes normal saline. There have been studies performed by Gary Grist that actually advocate using saline for patients who have had a cardiac arrest because it contains no calcium. Saline costs less than Plasma-Lyte® so, for the institutions that are trying to save money, every penny counts. Your comment may warrant additional studies using Plasma-Lyte® and Lactated Ringer’s, as well. I do not think that anyone can really find you at fault for the absence of bicarbonates in the saline.

MR. HARRIS: Lactated Ringer’s would have a richer calcium content than Plasma-Lyte® and Isolyte® would probably be a safe method, too. I agree and do not think there would be any extra growth just because of the calcium. Saline is a good medium not to have any growth in there.

MR. MICKEY WHEELER (Irving, Texas): What is the time between when you prime a circuit and you actually use it? I am guessing it is not 30 days?

MS. WEINBERG: In our experience we rarely go longer than a week without using a pre-primed circuit.

MR. WHEELER: For circuits that have been primed for 10, 15 or 20 days, once you have the patient on ECMO support, are you having to change that circuit out sooner than you would with one that was set up right before you used it?

MS. WEINBERG: No.

MS. PATRICIA FRENCH (Eau Claire, Wisconsin): Did you flush your circuit with carbon dioxide prior to priming?

MS. WEINBERG: We do not flush with carbon dioxide on any of our ECMO circuits. We flush our cardiopulmonary bypass circuits in the operating room, but not the ECMO circuit.

MS. DEBORAH ADAMS (Houston, Texas): Do you have an opinion about keeping your ECMO circuits in different areas of the hospital? Do you believe your circuit would have the same integrity as far as remaining sterile if it were in the Cardiac Catheterization Laboratory or the Intensive Care Unit?

MS. WEINBERG: I think so. There is a fair amount of traffic that comes through our pump room. Nurses are always walking through and things get pushed around. I think keeping the circuits in the pump room is the best...
option for accessibility. As long as it is set up clean, I do not think there should be a problem, because it is capped.

MS. ADAMS: So, you are okay with leaving it? Our surgeons want it in the Cardiac Catheterization Laboratory, Intensive Care Unit and in the Emergency Room. I am concerned about people messing around with our pump.

MS. WEINBERG: With a pre-primed circuit, ECMO can be established by anybody anytime they want to. We cover the circuit with blue drapes or a Mayo stand cover to keep it separated from the environment, but we do not do anything extra special to put it in isolation.

MR. JAMES MacDONALD (London, Ontario): Many years ago, I cultured pumps that had been primed for a week, two weeks or three weeks. The cultures always were zero. We never grew anything in places where I could have potentially contaminated during assembly. I think your paper is excellent and you can save us a lot of money.