

JUNE THEME ARTICLE

Better Perfusion Safety Makes for Better Patient Outcomes

By Carla R. Maul, CCP

At first glance, one may think of perfusion safety as making sure that the perfusionist doing the case is experienced, has backup, and has been properly trained for emergency situations. Now the scope of perfusion safety has expanded beyond just having a safe practice, to improving patient outcomes in the process. AmSECT has devoted a lot of time and energy to increasing the scope of perfusion safety. Some of these initiatives include producing AmSECT's Perfusion Safety meeting and highlighting the theme of Perfusion Safety in our AT edition. Here is just one of the numerous opportunities that we have incorporated into our practice to improve our perfusion safety and patient outcomes.

CDI 500

A couple of months ago, I called the perfusion teams that ranked in the top 50 Cardiac Centers according to *US News and World Report* to find out what they were using for blood gas analysis. Approximately 90% of the top 10, 75% of the top 25 and 62% of the top 50 currently use the CDI 500. I discovered that the higher the hospital ranking, the higher the probability for using the CDI 500. What does this have to do with perfusion safety?

The ability to track the efficiency of your oxygenator before you have a complete failure and a little extra time to diagnose the problem before critical time is lost. Having both the venous saturation and the PAO₂ doubles your patient safety. Some perfusionists are finding the use of CDI helpful when trying to minimize circuit volumes with lower prime/lower surface area oxygenators. They can more safely manage the patient and respond quickly when pushing these oxygenators to their upper limits.

Benefits of CDI in Your Practice

One benefit of CDI in your practice is the ability to treat your patient instantly, instead of every 20 minutes, while you wait on a blood gas result from the lab. Some perfusionists have adopted CDI 500 to manage CO₂ levels when flooding the field with CO₂ during valve cases, or when using robotics or endoscopic vein harvesting procedures, since CO₂ is pumped in to provide visibility in the cavity. These practices have been shown, at times, to produce unexpected CO₂ levels in the patient that can be

caught quickly and managed sooner with the use of in-line monitoring.

There is great potential of cost savings for institutions using CDI500. The cost of disposable versus the cost of sending blood samples to the lab should be weighed. We are projecting our hospital savings to be over \$500,000 next year by changing our protocol and incorporating the CDI 500 into practice.

Another benefit is the ability to integrate the in-line monitoring data into the electronic perfusion record. The clinician can focus on managing the patient rather than charting blood gas values onto the perfusion record. It is also helpful for tracking CQI compliance.

Some examples of questions I ponder for the future of continuous blood gas analysis are as follows:

- When will continuous glucose monitoring be offered?
- Will using the added safety benefits eventually lower our insurance premiums?
- Why are we behind other countries in establishing this as a minimum standard of care?

I am looking forward to AmSECT's Perfusion Safety meeting to find answers to some of these questions and gain more insight on the future of perfusion safety.



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