

From The Editor

Illuminations

As we approach the New Year we are once again reminded of the many advances occurring in the field of cardiovascular perfusion. The *Journal* continues to receive, and publish, papers that research both the basic and clinical perfusion sciences. And of course anyone who had the good fortune of attending one of the continuing education events this year was treated to a diverse array of topics directed at improving the overall care of patients undergoing extracorporeal circulation.

In the *Journal* this year we have seen an increase in the number of submissions on the topic of long-term cardiac support. One need only peruse the summary table of contents (published within) to see a growing representation of papers on ECMO and ventricular assistance. More than likely the growth of each of these technologies and the changing application of perfusion techniques are consistent with a more challenging patient base. The reduction in surgical intervention for acquired cardiovascular disease continues to be seen in a diminution in overall case number for many practices. This past year's joint Extracorporeal Life Support Organization and AmSECT Pediatric Conference further supports the interest in long-term support technologies. The publication of techniques for continuous flow modalities in neonatal patients with congenital heart disease, who otherwise would have been treated with deep hypothermic circulatory arrest, is testament to the many surgeons and perfusionists who have found innovative means of cannulation to sustain nutrient delivery in the face of complex surgical repair.

As has been the standard for so many years continued study in the field of operative blood management remains the most widely reported of all perfusion interventions. Those of us who perform cardiovascular perfusion, cardiac surgery, or cardiovascular anesthesia are all too frequently reminded of the tenuous situation that exists between cardiac surgery and hemostatic stability. The relationship between postoperative blood loss and extracorporeal flow is somewhat equivocal since many prospective randomized studies between on- and off-pump coronary artery bypass revascularization fail to show a significant difference in transfusion rates.

The amelioration of cardiopulmonary bypass disposable equipment is the grail that we all seek and methods of reducing surface exposure rates have seen the continued development of "miniaturized" circuitry, and a renewed interest in methods of autologous priming of extracorporeal circuits. Although the jury remains deadlocked in what patients tolerate in regards to anemia, no one could,



or should, argue that methods of reducing hemodilution should not proceed with vigor. As intriguing is the development of the use of the autologous source of biological mediators that enhance the patient's ability to heal following invasive procedures that challenges the integrity of the body. The explosion in techniques of platelet-gel production has been nothing less than staggering. This year's best-attended scientific venues were those devoted to blood conservation and platelet-gel. The 12th Annual New Techniques in Perioperative Blood Management meeting provided significant time for presentation and discussion on techniques and outcomes related to platelet-gel. We all wait with heightened anticipation for each study that expands the pool of data which elucidate the benefits of this exciting, and perfusion driven, modality.

And finally we were reminded, in both editorial format and by survey results, of the challenges that perfusionists face in regards to the stresses of day-to-day practice. As perfusionists, we spend our entire careers in one of the most critical environments imaginable. We are mandated to perform flawlessly and without hesitation in situations that are unforgiving when the standard of perfection is not achieved. Elixirs, which serve to reduce the vexations all too common to our practices, are elusive, and often obscure. However, the pursuit of knowledge achieved through the critical review of peer-reviewed publication and through participation in scientific venues, will always serve as a torch that enlightens even the darkest of circumstances.

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Editor