

Perioperative Blood Management: A New Specialization

Cardiovascular perfusionists are charged with the safe and competent conduct of cardiopulmonary bypass in supporting patients undergoing complex surgical procedures. The critical nature of this charge is evidenced by the intensive education that all perfusionists must undergo, followed by mandatory continuing education as part of the certification process. However, the declining cardiac caseload has affected the practice of perfusionists and has been a frequent topic in editorial columns from many other perfusion publications. The American Society of ExtraCorporeal Technology (AmSECT) has addressed the area of blood management as one of the many opportunities to counter this decline in perfusion responsibility. Much of this is not so much a change from what perfusionists are educated and credentialed to do, but a rethinking of opportunities.

Since 1980 all perfusionists who have graduated from an American education program, accredited by the Commission on Accreditation of Allied Health Programs, have received a structured education with specific Standards and Guidelines, with the most recent version from 2005 found at http://www.caahep.org/documents/ForProgramDirectors/PERF_SG_Standards.pdf

Within the Standards and Guidelines is reference to the Accreditation Committee on Perfusion Education publication entitled Approved Cardiovascular Perfusion Curriculum. This document, developed primarily by the Perfusion Program Directors Council, contains the diverse curricula that perfusionists must undergo as a requisite for graduation, and employers have come to expect that entering level perfusionists are competent in those subject areas. A significant portion of this curriculum is devoted to areas outside of the traditional cardiopulmonary bypass realm, which many feel reflect the future trends in our field. Indeed in our own practice at Geisinger Health Systems in Danville, Pennsylvania, we perform about 1,900 procedures each year of which only 800 are cardiac cases. This represents a growth of approximately 80% over 2002 numbers, and has resulted in the addition of a new full-time staff perfusionist. This despite a reduction in over 200 heart cases over a five-year period. The skill level that this perfusionist needed to possess was an equal ability to function as comfortably inside or out of the traditional cardiac operating room, and primarily was focused in blood management (autotransfusion, platelet-gel, coagulation monitoring, and transfusion practice). This seems to be an increasing trend in most centers throughout North America and conceivably throughout the world, and will require a redirection on how perfusion practices are constructed.

The field of blood management really blossomed in the mid-1980's when the safety of the world's blood supply was questioned. The risk of obtaining a blood-borne disease from a transfusion increased the stress for patients undergoing surgery, and healthcare workers felt vulnerable when allogeneic products were being utilized. Terms such as 'bloodless surgery' and 'bloodless medicine' quickly appeared that were used effectively as marketing tools for hospitals and clinics. Various bloodless medicine societies emerged and meetings dedicated to clinicians practicing in these areas quickly appeared. And not-for-profit and for-profit companies appeared to offer services and capitalize on

this drive. During the past several years there has been a change in the thinking of how techniques for blood management could be applied, which has incorporated a more continuum of care aspect in managing patients at risk of receiving a blood-product transfusion. Such a push towards blood management has resulted in an expansion of care both in and out of the operating room which has resulted in a strain on healthcare providers to cover this expanding field. The AABB, formerly the American Association of Blood Banks, has published the Standards for Perioperative Autologous Blood Collection and Administration as a guideline for healthcare facilities to improve the quality of services they provide. Unfortunately, what is overtly missing is the absence of a clinical specialization of individuals credentialed, through education and certification, to the safe practice of blood management ensuring a reproducible, evidence based approach to the improvement of care. Furthermore, regulatory agencies at both the national and state levels look to accrediting bodies as providing standards and guidelines for healthcare practitioners. Recognition of such a process for establishing the blood management specialization would result in an improvement in patient care, accomplished through standardization, and via an enhancement of the safe and competent administration of service. Certification is an integral aspect of this continuum of care and accreditation of those achieving such a standard critical.

Over the past two years AmSECT has aggressively faced the shortcoming of blood management clinical personnel through several mechanisms. In 2005 AmSECT's Strategic Plan incorporated an initiative to study the potential for scope-of-practice enhancement in this and other areas. A Perioperative Blood Management Taskforce (PBMT) was created and asked to perform a needs assessment as well as a review of AmSECT resources that could be utilized to support this initiative. One of the first steps was to develop a mission and goals, which are as follows:

PBMT Mission:

The mission of the Perioperative Blood Management Taskforce is to identify, evaluate, and promote methods of blood management, through educational processes, that have been shown to improve patient outcomes and enhance patient safety.

Goals:

- a. To create standards by which the administration of techniques and methodologies of Perioperative Blood Management (PBM) are implementable.
- b. To establish a formal process for fundamental and continuing education of clinicians involved in perioperative blood management.
- c. To explore the science of blood management and where lacking promote new research in these areas.

At the same time AmSECT contacted the American Board of Clinical Autotransfusion (ABCA) and inquired into obtaining an autotransfusion examination that had been developed, and validated through professional testing services, for autotransfusionists. Once this examination was received it underwent an exhaustive evaluation process

headed by Jeff Riley, and a trial examination was developed. Portions of this examination were administered to the PBMT in Kansas City, MO in September of this year. The results were summarized and will be placed in the review process for accuracy that has been developed.

It became readily apparent that the examination and certification process could not be administered by AmSECT as a professional society. Therefore, a separate foundation was established and termed the International Board of Blood Management (IBBM), with the following mission and goals:

IBBM Mission:

The International Board of Blood Management shall strive to promote education and sound scientific principles to advance the safe and competent practice of perioperative blood management.

Goals:

- a. To create a clinical specialty consisting of individuals dedicated to the practice of perioperative blood management.
- b. To formalize recognition of knowledge in the field of perioperative blood management through examination.
- c. To provide certification for individuals who demonstrate competencies in perioperative blood management.
- d. To establish continuing education and clinical requirements to maintain certification as a PBMT and/or PBMS.
- e. To award achievement in the area of blood management by offering recertification as a blood management technologist and/or specialist.

The Board of Directors for the IBBM shall consist of individuals appointed from member organizations that serve in an advisory capacity for this entity, and are directed by bylaws and governed by the laws of incorporation. The IBBM will be charged with administering the examination and setting the standards for certification in the area of blood management. This will lead to a yearly recertification process that will include an educational component, along with clinical experience.

In summary the movement to establish a specialization of perioperative blood management will proceed using the following directives:

1. Develop a two-tiered system for recognizing clinicians who are practicing in blood management. The entry level would be the Perioperative Blood Management Technologist (PBMT) while the advanced category would be the Perioperative Blood Management Specialist (PBMS).

2. Develop of an independent foundation termed the International Board of Blood Management to oversee the credentialing of PBMT and PBMS.
3. Development of an examination process to meet the two-tiered clinical system.
4. Enhancement of AmSECT offerings for continuing education to include the New Advances in Blood Management and AmSECT International Meetings.
5. Establishment of a new standing committee within AmSECT to coordinate the process.
6. Integration of other organizations and societies into the entire process.

An undertaking of this nature is surely daunting and will only succeed through the efforts of a diverse group of concerned individuals from many disciplines. To date there are over 60 individuals who serve either on the PBMT or on the IBBM. However, we are always looking for more and welcome anyone who would like to participate. If you would like to get involved please visit the AmSECT website or contact me via astammers@aol.com.

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