The AABB 2020 Virtual Annual Meeting is a can’t-miss event for the blood and biotherapies community. World-renowned experts in the field will be sharing their knowledge and discussing the latest scientific breakthroughs. Gain critical tools, connect with like-minded colleagues, advance your career and further your facility’s mission.

Top 2020 Sessions Will Feature Experts Discussing Critical Topics, Including:
- Pediatric Transfusion Medicine
- Sickle Cell Disease
- Genetic Therapies
- Platelet Inventory Management
- Therapeutic Apheresis
- Blood Collection and Utilization
- The Impact of the Ongoing COVID-19 Pandemic
- And much, much more

And Some Perennial AABB Favorites Will Be Returning Again This Year:
- Ask the FDA
- Wizardry School of Antigens and Antibodies
- Test Your Blood Bank Knowledge
- Ask the Standards

aabb.org/AnnualMeeting

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of CME Outfitters and AABB. CME Outfitters is accredited by the ACCME to provide continuing medical education for physicians.
Mountains of Data: How Can Blood Banks Harness Big Data?

The data that blood centers collect can be used to advance donor and patient care.

Using Big Data and Informatics to Assess and Support Best Practices

Experts are analyzing data to develop strategies and protocols for optimizing care.

Correction: In the July issue of AABB News, in the article titled “Blood in the Time of COVID-19,” red blood cells were incorrectly referred to as having “the shortest shelf life” of blood products. As several readers pointed out, platelets have a shorter shelf life than red blood cells. AABB News apologizes for the error.
The Big Deal with Big Data

Big data’s impact on health care is becoming more and more significant. In various medical fields, expert analysis of large data pools is driving advancements. Our own blood and biotherapies community is no exception. Vein-to-vein databases are now connecting the donor, product and its processing with the goal of improving patient outcomes.

The theme of this issue of AABB News is big data. Throughout the following pages, we examine the role of big data in our field. The first feature article highlights how blood centers may use big data to assess and improve donors’ health—by analyzing their blood pressure, cholesterol and iron storage over time, for example. Big data can also be used to improve blood centers’ own operations, by offering insight on how best to engage with donors. This issue’s second feature examines how transfusion services are using big data to develop best practices for patient care, including when to transfuse, minimizing blood loss, managing anemia and more.

2020 Virtual Annual Meeting

Since AABB decided to hold the 2020 AABB Annual Meeting as a virtual event, the planning has gone full steam ahead. We recently released this year’s program, which is available at www.aabb.org/annual-meeting. Although the venue will be quite different, the quality of the programming is as high as you’ve come to expect. We are also excited to take advantage of new opportunities that the virtual platform affords. Attendees can participate from any time zone and have more flexibility with their schedules. And since there are no travel logistics to contend with, we look forward to welcoming more expert speakers and attendees from all over the world.

This year’s program includes more than 90 live and on-demand education sessions covering the most critical issues facing transfusion medicine and biotherapies. The virtual poster hall comprises more than 300 scientific poster abstracts. Our interactive exhibit hall will showcase state-of-the-art products and services; exhibitors will be at virtual booths to chat with attendees, just as they’ve always done at in-person meetings. And the Annual Meeting just wouldn’t be the same without networking events, so we have plenty of those planned, as well.

The Annual Meeting’s live times will provide the best opportunity to interact with speakers, exhibitors and other attendees, while on-demand sessions offer the greatest flexibility in scheduling. Be sure to follow AABB on social media before and during the meeting for more information, commentary, perspectives and fun.

I look forward to “seeing” you at the meeting in early October.

Beth Shaz, MD
AABB President
Optimize blood and plasma management across collection operation, region, division and enterprise with InVita.

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THOR Network Spurs Changes in Trauma Resuscitation Practice Throughout the World

By Jerilyn Schweitzer, MA
Managing Editor

The Traumatic Hemostasis and Oxygenation Research (THOR) Network describes itself as “an international multidisciplinary group of investigators with a common interest in performing research that aims to improve outcomes and safety in patients with severe traumatic injury through improved monitoring and resuscitation techniques.” Its mission is to develop and implement best practices for prehospital care through completion of the acute phase of hemorrhagic shock resuscitation.

THOR began with the Norwegian Navy’s Blood Far Forward project, when Geir Strandenes, MD; Philip C. Spinella, MD, FCCM; Tor Hervig, MD, PhD; and Håkon Eliassen began collaborating to improve remote damage control resuscitation (RDCR) methods through the early use of blood components and hemostatic agents. In 2011, the group held its first symposium on RDCR, which emphasized the use of fresh whole blood to treat patients with severe hemorrhagic shock in the prehospital setting, primarily on the battlefield. Since then, THOR’s focus has expanded to include civilian settings.

AABB-THOR Working Group

In 2016, the AABB Board of Directors established a joint AABB-THOR working group charged with identifying ways to revise AABB standards to improve treatment for patients with hemorrhagic shock and to develop educational programs on potential methods to provide better care for these patients. One offshoot of the group is an annual AABB-THOR workshop, typically held in conjunction with the AABB Annual Meeting, at which presenters outline the most recent findings on hemorrhagic shock therapies.

AABB News discussed the impact of THOR’s work on trauma resuscitation culture and practice, particularly in the United States and the United Kingdom, with THOR members Paul Ness, MD, senior director, division of transfusion medicine, Johns Hopkins University School of Medicine; former editor, Transfusion; and past AABB president; and Heidi Doughty, MD, PhD, a British consultant in transfusion medicine who joined the THOR Network in 2013 as a blood banker. In the early days, she said, “there was definitely an ‘Us’ and a ‘Them’ — as blood bankers were considered a barrier to progress. It is probably true, but it’s better that we work together in partnership.”

Ness, a member of the joint AABB-THOR working group, told AABB News that he became involved with THOR early on and suggested the group involve AABB. One reason was to connect AABB members to cutting-edge research. “Blood bankers are conservative,” he said, “but are willing to change their practices once there is data showing that a change would be better for patients. That’s what we’re all about. Some of us have spent a long time working with THOR, and THOR has developed a nice collaboration with AABB.”

Doughty has a special interest in prehospital and emergency transfusion and currently chairs the National Blood Transfusion Committee Emergency Planning working group. She is also president of the British Blood Transfusion Society. In the U.K., she said, “the emerging concept of hemostatic resuscitation using blood components was initially at odds with the prevailing civilian transfusion practice. There are two reasons for that. Firstly, globally, blood is often in short supply; and second, blood as a biological material is associated with adverse effects, including infection.”

As a result, civilian guidelines for transfusion within the U.K. and in many other countries have moved toward a more conservative use of blood. “Changing newly established practice back to transfusion-led resuscitation requires evidence and endorsement from all stakeholders. Creating the evidence base for change is essential but also a challenge,” Doughty explained. Because massive transfusion in uncommon in civilian settings, the best sources for improved treatments are recent...
military practice, the introduction of adaptive trial design and collaborations within research networks.

**Whole Blood**

Areas of research have included donor performance, training and educational requirements, and blood efficacy and safety. One area in which THOR has had a clear impact on treating traumatic hemorrhage is in promoting the use of whole blood over blood components to treat hemorrhage. “They have been very successful,” said Ness, “in moving the field from massive transfusion programs that use a 1:1:1 ratio — one part platelets to one part red blood cells to one part plasma — to using whole blood.” The use of whole blood is growing in the U.S., he added, although not as quickly as it could.

Ness said he has tried to emphasize to colleagues that the use of whole blood would be a good, rational therapy, better than the 1:1:1 combination, not only for trauma but also for blood intensive procedures in civilian hospitals. If whole blood made up a bigger part of the blood that is transfused nationally, he noted, it would also increase access to blood for trauma patients. As many as 25 trauma centers in the U.S. are starting to use whole blood, although some centers are using it more extensively than others. “There’s clearly a way to go before whole blood becomes universally available and useful,” he said.

Doughty said that while the pre-hospital environment has led to important developments in emergency transfusion — such as freeze-dried plasma and universal components — the use of whole blood is what has more recently captured the attention of patients and physicians alike. The take-up in the U.K. has been cautious; however, whole blood studies are currently being conducted. Whereas the clinical advantage of the product may prove impossible to show, she suggested, “the simplified process should deliver speed and safety of care.” She noted that these practical improvements are likely to deliver greater impact in the prehospital environment than under optimal hospital settings and cited the need for well-designed studies.

**Cold-Stored Platelets**

Research has already verified that platelets can be stored longer when refrigerated than at room temperature, Ness said. He added that THOR’s work helped pave the way for the U.S. military to secure FDA approval to treat actively bleeding soldiers using cold-stored platelets. Outside of the military, he said, “there have been some clinical trials of cold-stored platelets, mostly for cardiac surgery in Norway.”

Ness added that Spinella has begun working on a large, new study, the Chilled Platelet Study (CHIPS), which will compare the efficacy of cold-stored platelets in actively bleeding cardiac surgery patients to that of platelets stored at room temperature. Unfortunately, the trial has been delayed due to the COVID-19 pandemic, and it is not scheduled to begin until the late winter of 2020 or the early spring of 2021. Ness predicts that results from the study will not be available for a couple of years, which is important, he said, because many transfusion specialists are unlikely to use a new technology until convincing clinical data has been published.

**Prehospital Transfusion**

Ness said that a great deal of the work on prehospital transfusion originated on the battlefield,
in the form of far forward procedures. “The military and others have started pushing the idea of using plasma rather than saline as an early resuscitative fluid,” he said, “and some very important studies have suggested using plasma as early rescue in ambulances and helicopters for trauma.” THOR has supported these efforts, and researchers who conducted big studies on prehospital transfusion in Pittsburgh and Denver have participated in THOR meetings. In addition, San Antonio has a very progressive prehospital transfusion program based on research by the U.S. Army and the Mayo Clinic and run by Donald Jenkins, MD, who is active in THOR. “That’s really a very good model for all of us,” Ness said.

The introduction of prehospital transfusion has had very practical implications for staff and training. Doughty, who is currently involved in a prehospital trial, noted that the move to prehospital transfusion could create situations in which paramedics or nurses are the first on scene. Although doctors have been traditionally the only ones to decide on the use of blood, this decision is increasingly made within well-described protocols. Doughty suggested that if prehospital transfusion becomes more common, regulatory and licensing authorities should consider supporting non-medical authorization for a wider range of health care professionals.

The THOR Network developed from a military project in Norway, a country with many remote communities. “It is not surprising that THOR has promoted transfusion support in the ‘austere medical environment,’” said Doughty. “These are military and civilian settings where there is a risk of traumatic hemorrhage but minimal medical or logistical support. THOR has actively promoted the advantages of whole blood, and the Blood Far Forward program has supported high quality prehospital training for isolated austere field health care practitioners.”

**Emergency Preparedness and the Blood Supply**

It is becoming increasing clear that all communities need to be prepared for the unexpected, whether they are isolated or part of a busy urban complex.

“There is a lot of discussion right now about emergency preparedness, as a result of pandemic planning,” said Ness. THOR has completed some studies and assembled data about past emergencies — like the Boston Marathon bombing — to discern the availability of blood following this type of event and to predict how much of a shock the U.S. blood system could handle. “What I think needs to be done, though,” he said, “is we need to think beyond the immediate event and the resuscitative events related to it, because there are a lot of patients with more chronic needs for blood whose transfusions are going to be disrupted.”

Doughty added that “although the body of published literature remains limited, transfusion services are increasingly considered as part of major incident and business continuity planning.” Sufficient stocks provide resilience; however, they need to be replaced on an ongoing basis. In addition, different types of emergencies warrant different responses: the appropriate response to a pandemic differs from that for bombs and bullets. THOR members have explored the role of whole blood, as part of the planning process.

“Transfusion emergency preparedness is increasingly becoming an integrated part of health care emergency planning,” said Doughty. “The response should be designed to deliver both safety and sufficiency of transfusion support and include diagnostics, donation, distribution together with managing demand.”
Blood Community Perseveres Amidst Unprecedented Challenges

By Brian Gannon, MBA
Guest Contributor

M oonths ago, when the first reports of coronavirus surfaced, many of us in the blood community wondered if and how it would affect the nation’s blood supply. Concerned about far-reaching implications, many of us reviewed our emergency contingency plans and began to discuss procedures for continuing blood collection in a pandemic. But few of us could have predicted that 2020 would present us with challenges unlike anything we had previously experienced.

Of course, the blood community is accustomed to dealing with disruptions of varying degrees. A surplus in donations, an increased need for blood, a request to move blood from one area of the country to another — these are all issues that we have learned to manage. Through collaboration, our community makes sure that any hurdles we encounter do not hinder the ultimate goal of ensuring that blood is always available for patients when it is needed.

But we have never seen sustained turbulence like we have experienced this year. As chair of the AABB Interorganizational Task Force on Domestic Disasters and Acts of Terrorism, a member of the AABB Board of Directors, and president and CEO of the Gulf Coast Regional Blood Center in Houston, I have had a front-row seat to the blood community’s challenges during the past few months.

Months of Fluctuations

Since March, there have been unprecedented, dramatic fluctuations in both the supply and demand for blood. First, we saw virtually all blood drives throughout the country cease as social distancing and quarantine measures were put in place; schools, offices and places of worship were no longer options for hosting blood drives. At the same time, blood centers throughout the country reported decreasing levels of donations as fewer people came in to give blood. As concerns rose about the spread of infection and the importance of social distancing, blood centers implemented new policies to advance their already high levels of safety and ensure donors and staff would not be at increased risk for transmission.

As the decrease in donations began to significantly affect the adequacy of the nation’s blood supply, the blood community sounded the alarm and put out calls for donations. Government and health officials began urging eligible individuals to donate as well. Soon, we saw an increase in donations and the blood supply was stabilized.

Meanwhile, the need for blood has ebbed and flowed. In the early days of the pandemic, the need was reduced because elective and non-essential surgeries were canceled. However, now hospitals are resuming some surgeries as states reopen to varying degrees.

In addition, blood centers around the country are now collecting COVID-19 convalescent plasma (CCP) from recovered patients that is being used in treatment of those battling the infection. We have quickly adopted new procedures for CCP collection and increased collection efforts as the need increased — while continuing to collect blood to ensure the adequacy of the blood supply.

Rising to the Occasion

It’s true that 2020 has represented unanticipated and unprecedented challenges. But what is also true — and what has impressed me beyond measure — is that the blood community has risen to the occasion. I hear about the work that colleagues in the blood community across the country are undertaking, and I am awed by the high level of dedication and professionalism among the women and men in our field. Many have worked long hours and extra days, developed new procedures, learned new skills and implemented advanced safety protocols — all to ensure a safe and adequate blood supply — and done so while dealing with ongoing disruptions to their personal lives.

Indeed our community has many reasons to be proud!