ASFA 2017
ANNUAL MEETING
MAY 3–6
An educational & networking forum for professionals in the field of apheresis medicine

FORT LAUDERDALE
FLORIDA
The Westin Beach Resort & Spa

Visit www.apheresis.org
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WELCOME FROM THE PRESIDENT

As President of the American Society for Apheresis (ASFA), it is my great pleasure to welcome you to Fort Lauderdale for the 38th Annual Meeting of our society. This year’s meeting, being held at the Westin Beach Resort and Spa, promises to be our best ever. The organizing committee, led by President-Elect Laura Collins, has been working tirelessly since 2016 Annual Meeting to create an outstanding professional and networking event for all.

Given the overwhelmingly positive response from delegates last year, we will again hold our breakfast with the expert sessions in a spacious, outdoor Sky Terrace. We will also use this setting for one of our new, interactive, vascular access sessions. If you have questions about vascular access or are just looking to see how others deal with this critical aspect of our specialty, this session is a must!

As always, we have numerous networking opportunities during the meeting. Please take advantage of these, as well as the after-meeting hours, to gather with colleagues, old and new, and to share ideas and stories. After all, it is your participation in the meeting that creates an environment where passion about apheresis thrives!

On behalf of the ASFA Board of Directors and ASFA Head Office staff, WELCOME TO FORT LAUDERDALE!

BRUCE SACHAIS, MD, PhD
President, American Society for Apheresis
WELCOME FROM THE CONFERENCE CHAIR

On behalf of the 2017 Annual Meeting Organizing Committee and the ASFA Board of Directors, I would like to extend a warm welcome to our 38th Annual Meeting which is being held at the Westin Beach Resort and Spa in Fort Lauderdale, Florida. This beautiful oceanfront property is a wonderful venue for our meeting and will provide excellent opportunities to learn and relax with colleagues in the field of apheresis medicine. Fort Lauderdale is a family friendly destination offering miles of beach, fine dining, arts and entertainment.

The Annual Meeting Organizing Committee has been working since this past summer to bring you an exciting and diverse educational program. It is thanks to this group of dedicated and enthusiastic colleagues that we have a fantastic program in store for you. The Annual Meeting is a great environment to meet colleagues, share best practices and learn about advances in apheresis medicine.

The meeting format is familiar to many of you. We are continuing to offer the Breakfast with the Experts each morning, scientific and educational sessions, abstract sessions, and poster networking sessions. Our corporate program includes a large exhibit hall, as well as lunch and dinner symposia. Social and networking sessions include the Welcome Reception, Breakfast with the Experts, poster networking evening with drinks and hors d’oeuvres, and the meet and greet session for new members and first time attendees.

The educational and scientific sessions cover a variety of donor and therapeutic apheresis topics that will appeal to a diverse audience. A joint session with AABB will focus on red blood cell transfusion practices for sickle cell disease and we will once again have a session focused on international apheresis.

There are some exciting features to highlight happening at the annual meeting this year, which include:

- Vascular Access Sessions:
  - “Apheresis Tips & Tricks” hands-on educational session that will include peripheral and central lines, as well as ports, used in apheresis (supported by an Independent Medical Education Grant by Terumo BCT).
  - Dinner symposium that will focus on vascular access in both pediatric and adult apheresis procedures (supported by an Independent Medical Education Grant by Mallinckrodt Pharmaceuticals).
  - Breakfast with the Experts sessions will be held on a spacious outdoor terrace overlooking the Atlantic Ocean.
  - The 5K Fun Run is back! After its successful inauguration last year, we decided to continue the activity. Proceeds will be benefiting the B+ Foundation, a charity focused on providing support to families of children with cancer nationwide.

The ASFA Annual General Meeting will take place on Friday, May 5th, immediately after lunch; coffee and dessert will be served. I encourage all ASFA members to attend so that you are informed about our society and participate in updates to the bylaws and election of ASFA leadership.

Throughout the meeting, please make an effort to visit and interact with our corporate sponsors and exhibitors who have come prepared to share their most current platforms, information and tools. This includes participation in sponsored symposia.

Thank you for attending the ASFA Annual Meeting this year and on behalf of the Organizing Committee, the ASFA Board of Directors and I, welcome to beautiful Fort Lauderdale.

LAURA COLLINS, RN, BSN, HP(ASCP)
CONFERENCE CHAIR
AMERICAN SOCIETY FOR APHERESIS 2017
GENERAL INFORMATION

MEETING LOCATION

The ASFA 2017 Annual Meeting events will take place at the Westin Beach Resort & Spa in Fort Lauderdale, Florida. Please consult this program to determine the exact room or location of each event.

INCLUDED IN YOUR REGISTRATION FEE

Full-conference registered attendees receive:
- Access to the Welcome Reception
- Access to all Scientific and Education Sessions
- Access to all Abstract Sessions
- Access to Posters and Exhibits
- Access to the Poster Networking Evening
- Conference Meals
- Annual Meeting Materials
- Final Program
- Digital Access to the Abstract Issue of the Journal of Clinical Apheresis
- Delegate Bag

Exhibit-only attendees receive:
- Access to the Exhibit Hall
- Conference Meals Served in the Exhibit Hall

Registered guests receive:
- Access to the Welcome Reception and the Poster Networking Evening

ASFA 2017 MOBILE APP

ASFA is excited to present an Annual Meeting mobile app for those who use smart devices. This free interactive tool is designed to enhance attendees’ meeting experience and can be downloaded from the Apple App Store or the Google Play Store under ASFA. Use this app to review the conference program, schedule sessions, and learn more about our speakers and conference supporters.

REGISTRATION

The Registration Desk is located in the Las Olas Foyer. Registration hours are as follows:
- Tuesday, May 2, 2017 – 3:00PM – 6:00PM
- Wednesday, May 3, 2017 – 7:00AM – 6:00PM
- Thursday, May 4, 2017 – 7:00AM – 6:00PM
- Friday, May 5, 2017 – 7:00AM – 5:30PM
- Saturday, May 6, 2017 – 7:00AM – 12:30PM

SPEAKER SERVICES CENTER

The Speaker Services Center, located in Seagrape, is equipped with laptop PC computers, for all faculty members to review their presentations before their sessions. To better serve you, your presentation should be uploaded at least 24 hours prior to your session, and can be previewed up to 3 hours prior to your session.

The Speaker Services Center hours are as follows:
- Tuesday, May 2 2017 – 3:00PM – 6:00PM
- Wednesday, May 3, 2017 – 7:00AM – 6:00PM
- Thursday, May 4, 2017 – 7:00AM – 6:00PM
- Friday, May 5, 2017 – 7:00AM – 5:30PM
- Saturday, May 6, 2017 – 7:00AM – 12:30PM
CONTINUING EDUCATION CREDIT INFORMATION

ACCREDITATION AND CREDIT DESIGNATION

TARGET AUDIENCE
This activity has been designed to meet the educational needs of physicians, allied health professionals and medical students involved with donor and therapeutic apheresis. The specialties involved include, but are not exclusive of, pathology, hematology, immunology, nephrology, pediatrics, and rheumatology.

STATEMENT OF NEED/PROGRAM OVERVIEW
The ASFA Annual Meeting is the only one of its kind that offers a focus on apheresis medicine in both the donor and patient settings. It is a key educational and networking event for physicians, scientists, and allied health professionals in the field of apheresis.

The ASFA 2017 Annual Meeting will be the Society’s 38th Conference. Each year, ASFA takes the feedback it receives from attendees to build a relevant program for the next year.

The need for the ASFA 2017 Annual Meeting was determined through an analysis of the evaluations from the ASFA 2016 Annual Meeting as well as through ongoing feedback from the Society’s over 800 members. The results of these evaluations clearly illustrate that attendees find the program useful and necessary for their professional development. The Organizing Committee used these results, as well as new developments in research, technology, and clinical experience, to plan the program for the 2017 Annual Meeting.

ASFA expects to attract over 500 apheresis professionals to the 2017 Annual Meeting, including MD and/or PhD clinicians and scientists, as well as allied health professionals who are involved in the field of apheresis medicine.

EDUCATIONAL OBJECTIVES
After completing this activity, the participant should be better able to:
• Explain the principles of evidence-based knowledge as they apply to therapeutic apheresis
• Describe the latest scientific, clinical, and technological advances in donor and therapeutic apheresis
• Describe the general practice of apheresis medicine and its role in the donor and patient setting

CEU
ASFA is approved by the California Board of Registered Nursing, Provider Number 14122, as a provider of continuing nursing education programs. ASFA designates this event for a maximum of 20.75 contact hours.

CMLE
This continuing medical laboratory education activity is recognized by the American Society for Clinical Pathology as meeting the criteria for 20.75 CMLE credit.

ASCP CMLE credits are acceptable to meet the continuing education requirement for the ASCP Board of Registry Certification Maintenance Program

ACKNOWLEDGEMENT
The American Society for Apheresis wishes to recognize and thank the following companies for their ongoing support through educational grants: Terumo BCT, Mallinckrodt Pharmaceuticals Inc., Fresenius Kabi USA, LLC, and Baxter Healthcare Corporation.

INSTRUCTIONS FOR CREDIT
Continuing education credit has been assigned to the following sessions:
• Introduction to ASCP Qualification in Apheresis (QIA) Exam
• Basic Science
• Clinical Applications: Therapeutics
• Clinical Applications: Donor and Cellular Therapy
• Apheresis Instrumentation
• Donor/Patient Care
• Apheresis Program Management Essentials
• Apheresis Math, Standards, Guidelines, and Regulations
• Opening Combined Symposium
• Plenary Abstract Session
• Education Session I: Basic Donor: Donor Center Challenges
ACADEMIC PROGRAM

- Education Session II: Advanced Therapeutics
- Scientific Symposium
- Education Session III: Change Management and Error Prevention Strategies
- Abstract Session II: Donor Apheresis
- Education Session V: Pediatric Case Studies: Apheresis in the Tiniest Patients
- Education Session VI: Tandem Procedures
- Closing Symposium
- Education Session VII - Apheresis Access: Tips & Tricks/Best Practices
- Education Session VIII: ASFA & AABB Joint Session

The meeting evaluation must be completed in order to claim CME Credit. Please note that physicians should claim only the credit commensurate with the extent of their participation in the activity. **CME Certificates will be emailed within 6-8 weeks of the program.**

CONTINUING MEDICAL EDUCATION CREDIT INFORMATION

CONTINUING MEDICAL EDUCATION CREDIT INFORMATION

Accreditation
This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the American College of Surgeons and American Society for Apheresis. The American College of Surgeons is accredited by the ACCME to provide continuing medical education for physicians.

*AMA PRA Category 1 Credits™*

The American College of Surgeons designates this live activity for a maximum of **20.75 AMA PRA Category 1 Credits™**. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Of the *AMA PRA Category 1 Credits™* listed above, a maximum of **0.00** credits meet the requirements for Self-Assessment.
In accordance with the ACCME Accreditation Criteria, the American College of Surgeons, as the accredited provider of this activity, must ensure that anyone in a position to control the content of the educational activity has disclosed all relevant financial relationships with any commercial interest. Therefore, it is mandatory that both the program planning committee and speakers complete disclosure forms. Members of the program committee were required to disclose all financial relationships and speakers were required to disclose any financial relationship as it pertains to the content of the presentations. The ACCME defines a ‘commercial interest’ as “any entity producing, marketing, re-selling, or distributing health care goods or services consumed by, or used on, patients”. It does not consider providers of clinical service directly to patients to be commercial interests. The ACCME considers “relevant” financial relationships as financial transactions (in any amount) that may create a conflict of interest and occur within the 12 months preceding the time that the individual is being asked to assume a role controlling content of the educational activity. ACS is also required, through our joint providership partners, to manage any reported conflict and eliminate the potential for bias during the activity. All program committee members and speakers were contacted and the conflicts listed below have been managed to our satisfaction. However, if you perceive a bias during a session, please report the circumstances on the session evaluation form. Please note we have advised the speakers that it is their responsibility to disclose at the start of their presentation if they will be describing the use of a device, product, or drug that is not FDA approved or the off-label use of an approved device, product, or drug or unapproved usage. The requirement for disclosure is not intended to imply any impropriety of such relationships, but simply to identify such relationships through full disclosure and to allow the audience to form its own judgments regarding the presentation.

## DISCLOSURES

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<th>SPEAKERS / MODERATORS / DISCUSSANTS</th>
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<th>COMPANY</th>
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<td>Angela Vincent, MD, FRCP, FMedSci, FRS</td>
<td>Patent held by Oxford University for antibody tests including CASPR2, LGI1, MuSK</td>
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<td>Antonia Hagen-Coonradt</td>
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<td>Betty Doggett, AT(ASCP)</td>
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<td>Bruce Sachais, MD, PhD</td>
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<td>Chester Andrzejewski, MD</td>
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<td>Johannes Fischer, MD</td>
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<td>David Lin, MD</td>
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<td>Edward Wong, MD</td>
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<td>Elizabeth Valdez, RN</td>
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<td>Erin Meyer, DO, MPH</td>
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<td>Gay Wehrli, MD, MBA, MSED</td>
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<td>George Despotis, MD</td>
<td>Therakos</td>
<td>Recipient of a grant for a PI initiated investigation involving ECP for BOS, one reimbursement for travel for a corporate meeting</td>
<td>Principle Investigator for PI initiated study</td>
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<td>George Georges, MD</td>
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<td>Haewon Kim, MD</td>
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<td>Jay S. Raval, MD</td>
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<td>Kelley Capocelli, MD</td>
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<td>Kim Smith-Whitney, MD</td>
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<td>Mandi Kaiser, RN, HP(ASCP)</td>
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<td>Margaret Hannan, BS, LPN, AT(ASCP), CQA(ASQ)</td>
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<td>Marisa B. Marques, MD</td>
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<td>Matthew Strunk, PA-C</td>
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<td>Maureen O’Neill, RN</td>
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### ACADEMIC PROGRAM

#### SPEAKERS / MODERATORS / DISCUSSANTS

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<tr>
<td>Nicole Aqui, MD</td>
<td>Kaneka</td>
<td>Honoria</td>
<td>Speaking</td>
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<td>Nicole Draper, MD</td>
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<tr>
<td>Paul Coppo, MD</td>
<td>Roche</td>
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<td>Cook Medical, Teleflex, Merit Medical</td>
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<td>Rami Ibrahim, MSc, PharmD</td>
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<td>Rawlinson Isaac, BSc, MPA</td>
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<td>Richard Edelson, MD</td>
<td>Transimmune AG</td>
<td>Stock, No salary or proceeds</td>
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<td>Robin Willis, RN, HP, BSN</td>
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<td>Santa Joshi, MD</td>
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<td>Sherrill Slichter, MD</td>
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<td>Sheryl M. Kempin, RN, MA</td>
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<td>Sonja Vozniak, RN, BSN</td>
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<td>Stella Chou, MD</td>
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<td>Tanya Ferber, MSN, RN</td>
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<tr>
<td>Tina Ipe, MD</td>
<td>X</td>
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<tr>
<td>Tomas Armendariz, BSN</td>
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<td>Toyosi Onwuemene, MD, MS</td>
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<tr>
<td>Vishesh Chhibber, MD</td>
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<tr>
<td>Xinglong Zheng, MD, PhD</td>
<td>Alexion</td>
<td>Honorarium and contract</td>
<td>Speaker and research support</td>
</tr>
<tr>
<td></td>
<td>Ablynx</td>
<td>Consulting fee</td>
<td>Consultant</td>
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<tr>
<td></td>
<td>Lee’s Pharmaceuticals</td>
<td>Grant support</td>
<td>Research contract</td>
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#### PLANNING COMMITTEE

<table>
<thead>
<tr>
<th>Name</th>
<th>Company</th>
<th>Received</th>
<th>Role</th>
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<tbody>
<tr>
<td>Laura Collins, RN, BSN, HP(ASCP) (Conference Chair)</td>
<td>X</td>
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<tr>
<td>Amber Sanchez, MD (Scientific Co-Chair)</td>
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<tr>
<td>Lance Williams, MD (Scientific Co-Chair)</td>
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<tr>
<td>Anand Padmanabhan, MD, PhD</td>
<td>Terumo BCT, Angiodynamics, Mallinckrodt Pharmaceuticals, LEK Consulting, Schlesinger &amp; Associates</td>
<td>Consulting fees/Honoraria</td>
<td>Consultant</td>
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<tr>
<td>Christina Anderson RN, BSN, HP(ASCP)</td>
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<tr>
<td>Christina Gallagher, RN</td>
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<tr>
<td>Huy Phu Pham, MD, MPH</td>
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<tr>
<td>Jay Raval, MD</td>
<td>Therakos, Inc.</td>
<td>Honorarium</td>
<td>Advisory Panel</td>
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<tr>
<td>Margaret Hannan, BS, LPN, AT(ASCP), CQA(ASQ)</td>
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<tr>
<td>Quentin Eichbaum, MD, PhD, MPH, MFA, FCAP, FASCP</td>
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AWARDS

FRANCIS S. MORRISON, MD MEMORIAL LECTURE AWARD
The Francis S. Morrison, MD Memorial Lecture is an annual keynote lecture at the ASFA Annual Meeting. The lecture has been created to keep alive and honour the memory of Francis S. Morrison, MD, a true pioneer in apheresis medicine and a leading apheresis professional. The first lecture was held at the ASFA Meeting in 2002. The Francis S. Morrison, MD Memorial Lecture award is bestowed upon a member of the Society who has made major contributions to the field of apheresis medicine and an apheresis professional who has made a lasting difference in the field, preferably at the national level.

SUSAN F. LEITMAN, MD, NATIONAL INSTITUTE OF HEALTH MEDICAL CENTER, USA

SOCIETY AWARDS

LECTURER AWARD
The Lecturer Award of the American Society for Apheresis is bestowed upon a member of the Society who has consistently contributed to the Society as a speaker, teacher, or mentor.

JAN HOFMANN, MD, MPH, MSC, UCSF SCHOOL OF MEDICINE, USA

PRESIDENTIAL AWARD
The Presidential Award of the American Society for Apheresis is bestowed upon a member of the Society who has consistently made major contributions to, and performed outstanding service for the Society over a number of years.

MARISA B. MARQUES, MD, UNIVERSITY OF ALABAMA AT BIRMINGHAM HOSPITAL, USA

SHS AWARD
The Society for Hemapheresis Specialists was the first national organization in the United States which provided a forum for the professional development of technical specialists in the field of apheresis. In the ensuing decades since the founding of SHS, its members contributed to the maturation of apheresis as a medical specialty and to the growth of the American Society for Apheresis in to the principal platform for organized apheresis activities in North America. This award commemorates the pioneering efforts of SHS which have culminated in the high standards and sophistication which characterize the field of American apheresis. Its recipient is a hemapheresis specialist who has demonstrated sincere commitment to apheresis and who has emerged as a leader and role model in the field.

DARLENE CLOUTIER, MT, HP, BAYSTATE MEDICAL CENTER, USA

BEST ABSTRACT AWARDS

ALLIED HEALTH ABSTRACT AWARD
This award is given to the primary author of an outstanding abstract submitted by an allied health professional who is a member of ASFA. This year’s recipient abstract is:

“ULTRASOUND-GUIDED PERIPHERAL CANNULATION REDUCES THE NEED FOR CENTRAL VENOUS CATHETERIZATION TO UNDERTAKE APHERESIS PROCEDURES”

MICHAELA MAYHEW, MSC, ST GEORGE’S HOSPITAL, UK
BEST ABSTRACT AWARDS

These awards are given to the primary authors of two outstanding abstracts. This year’s recipient abstracts are:

“A LIQUID CALCIUM + VITAMIN D SUPPLEMENT IS EFFECTIVE PROPHYLAXIS AGAINST HYPOCALCEMIC TOXICITY DURING APHERESIS PLATELET DONATION”

ROBERT WEINSTEIN, MD, UNIVERSITY OF MASSACHUSETTS MEMORIAL SCHOOL, USA

“CLINICAL AND MOLECULAR CHARACTERIZATION OF PATIENTS WITH LIPOPROTEIN(A)-HYPERLIPOPROTEINEMIA AND PROGRESSIVE CARDIOVASCULAR DISEASE TREATED BY LONG-TERM LIPOPROTEIN APHERESIS”

REINHARD KLINGEL, MD, PHD, APHERESIS RESEARCH INSTITUTE, GERMANY

JUNIOR INVESTIGATOR ABSTRACT AWARD

This award is given to the primary author of an outstanding abstract submitted by a junior investigator who is a member of ASFA. This year’s recipient abstract is:

“RBC ALLOANTIBODY FORMATION IS NOT ASSOCIATED WITH RBC AGE IN PEDIATRIC SICKLE CELL DISEASE PATIENTS RECEIVING CHRONIC APHERESIS RBC EXCHANGE”

JENNIFER CRIMMINS, MD, UNIVERSITY OF NORTH CAROLINA, USA

PEOPLE’S CHOICE POSTER ABSTRACT AWARD

All posters submitted and presented at the conference are eligible to receive this award. All ASFA Annual Meeting delegates will be given a ballot to vote for the poster they believe to be the best poster at the ASFA 2017 Annual Meeting.

Join us during the Poster Networking Evening in Las Olas and Foyer on Thursday, May 4th to cast your vote! Voting closes at 8:00pm on Thursday, May 4th and the winner will be announced during the ASFA 2017 Annual General Meeting.
PROGRAM AT A GLANCE

Tuesday, May 2, 2017
3:00PM – 6:00PM Meeting Registration

Wednesday, May 3, 2017
7:00AM – 6:00PM Meeting Registration
7:00AM – 5:00PM PRECONFERENCE WORKSHOP: APHERESIS REVIEW SESSION (Pre-registration with ASFA and Additional Registration Fees Required)
7:00AM – 5:00PM FACT CELLULAR THERAPY COLLECTION WORKSHOP (Pre-registration with FACT Required and Additional Registration Fees Required)
8:00AM – 3:00PM ASFA BOARD OF DIRECTORS MEETING (by invitation only)
8:00AM – 4:30PM Exhibit Hall Move In
1:30PM – 5:30PM TOUR FOR ASFA DELEGATES (pre-registration with ASFA required)
2:00PM – 5:00PM WAA BOARD OF DIRECTORS MEETING (by invitation only)
3:00PM – 5:00PM JOURNAL OF CLINICAL APHERESIS EDITORIAL BOARD MEETING (by invitation only)
3:15PM – 4:00PM COMMITTEE CHAIRS MEETING WITH THE PRESIDENTS (by invitation only)
4:30PM – 5:30PM Poster Move In
5:00PM – 6:00PM ASFA BOARD OF DIRECTORS AND SPONSORS MEETING (by invitation only)
5:00PM – 6:00PM NEW MEMBER AND FIRST TIME ATTENDEE MEET AND GREET
6:00PM – 8:00PM Exhibit Hall Open
6:00PM – 8:00PM WELCOME RECEPTION IN EXHIBIT HALL
Please join us for a drink, hors d’oeuvres, and to network with your colleagues!
8:00PM – 10:00PM ASFA PAST PRESIDENTS’ DINNER (by invitation only)

Thursday, May 4, 2017
7:00AM – 6:00PM Meeting Registration
7:00AM – 8:15AM Continental Breakfast in Atlantic Foyer
7:00AM – 8:15AM BREAKFAST WITH THE EXPERT I (First-come, first-served – arrive early for your favorite topic!) Join us for roundtable discussions with experts in the field.
8:30AM – 12:15PM OPENING COMBINED SYMPOSIUM
10:00AM – 8:00PM Exhibit Hall Open
12:30PM – 1:30PM CONCURRENT CORPORATE LUNCH SYMPOSIUM (open to all registered delegates)
12:30PM – 1:30PM CONCURRENT CORPORATE LUNCH SYMPOSIUM (open to all registered delegates)
## Thursday, May 4, 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>12:45PM – 1:30PM</td>
<td>Lunch in Exhibit Hall</td>
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<tr>
<td>1:45PM – 2:30PM</td>
<td>Francis S. Morrison, MD Memorial Lecture</td>
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<tr>
<td>2:45PM – 5:15PM</td>
<td><strong>PLENARY ABSTRACT SESSION</strong></td>
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<tr>
<td>2:45PM – 3:45PM</td>
<td><strong>EDUCATION SESSION I: BASIC DONOR: DONOR CENTER CHALLENGES</strong></td>
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<tr>
<td>3:45PM – 4:15PM</td>
<td>Break in Exhibit Hall</td>
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<tr>
<td>4:15PM – 5:15PM</td>
<td><strong>EDUCATION SESSION II: ADVANCED THERAPEUTICS</strong></td>
</tr>
<tr>
<td>5:30PM – 6:15PM</td>
<td><strong>COMMITTEE MEETINGS</strong></td>
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<td></td>
<td><em>New members welcome!</em></td>
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<tr>
<td>6:00PM – 8:00PM</td>
<td><strong>POSTER NETWORKING EVENING IN EXHIBIT HALL</strong></td>
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<td></td>
<td>Please join us for a drink, hors d’oeuvres, and to visit the abstract posters.</td>
</tr>
<tr>
<td>7:30PM – 9:30PM</td>
<td><strong>VASCULAR ACCESS DINNER SYMPOSIUM</strong> (Open to all registered delegates - arrive early as attendance will be limited to 120 seats available)</td>
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## Friday, May 5, 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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| 6:00AM – 7:00AM | **5K FUN RUN** *(Pre-registration with ASFA and Additional Registration Fees Required)*  
Get your blood flowing and join your colleagues for a fun run through the beautiful Westin Beach Resort property. |
| 7:00AM – 5:30PM | Meeting Registration                                                 |
| 7:00AM – 8:30AM | Continental Breakfast in Atlantic Foyer                              |
| 7:00AM – 8:30AM | **BREAKFAST WITH THE EXPERT II**                                     |
|               | *(First-come, first-served – arrive early for your favorite topic!)*  
Join us for roundtable discussions with experts in the field on the topics below. |
| 7:00AM – 9:00AM | **QUALIFICATION IN APHERESIS (QIA) EXAM**                             |
|               | Bring your laptop and write the QIA exam with the support of your colleagues!  
*Note: Computers are not provided; please bring your own laptop. In addition, you must have applied for and met the eligibility requirements in advance of sitting the exam.* |
| 10:00AM – 4:30PM | Exhibit Hall Open                                                    |
| 8:45AM – 12:15PM | **SCIENTIFIC SYMPOSIUM: CURING DISEASE WITH CELLULAR THERAPY**       |
| 9:15AM – 10:15AM | **EDUCATION SESSION III: CHANGE MANAGEMENT AND ERROR PREVENTION STRATEGIES** |
| 10:15AM – 10:45AM | Break in Exhibit Hall                                               |
| 10:45AM – 12:15PM | **EDUCATION SESSION IV: INTERNATIONAL APHERESIS SESSION**           |
| 12:30PM – 1:30PM | **CONCURRENT CORPORATE LUNCH SYMPOSIUM** *(open to all registered delegates)* |
| 12:30PM – 1:30PM | **CONCURRENT CORPORATE LUNCH SYMPOSIUM** *(open to all registered delegates)* |
| 12:45PM – 1:30PM | Lunch in Exhibit Hall                                               |
Friday, May 5, 2017

1:45PM – 2:30PM  **ASFA ANNUAL GENERAL MEETING AND SWEETS** *(ASFA members only)*

Members – please join us for coffee and dessert and to learn more about ASFA’s activities, financials and leadership.

2:30PM – 4:30PM  **QUALIFICATION IN APHERESIS (QIA) EXAM**

Bring your laptop and write the QIA exam with the support of your colleagues!

*Note: Computers are not provided, please bring your own laptop. In addition, you must have applied for and met the eligibility requirements in advance of sitting the exam.*

2:45PM – 5:15PM  **ABSTRACT SESSION I: THERAPEUTIC APHERESIS**

2:45PM – 5:15PM  **ABSTRACT SESSION II: DONOR APHERESIS**

2:45PM – 3:45PM  **EDUCATION SESSION V: PEDIATRIC CASE STUDIES: APHERESIS IN THE TINIEST PATIENTS**

3:45PM – 4:15PM  **Break in Exhibit Hall**

4:15PM – 5:15PM  **EDUCATION SESSION VI: TANDEM PROCEDURES**

4:30PM – 5:30PM  **Poster Move Out**

4:30PM – 8:00PM  **Exhibit Hall Move Out**

5:00PM – 6:00PM  **NEW MEMBER AND FIRST TIME ATTENDEE MEET AND GREET**

*New members welcome!*

Saturday, May 6, 2017

7:00AM – 12:30PM  **Meeting Registration**

7:00AM – 8:30AM  **Continental Breakfast in Atlantic Foyer**

7:00AM – 8:30AM  **BREAKFAST WITH THE EXPERT III** *(First-come, first-served – arrive early for your favorite topic!)*

Join us for roundtable discussions with experts in the field on the topics below.

8:45AM – 12:15PM  **CLOSING SYMPOSIUM**

8:45AM – 10:15AM  **EDUCATION SESSION VII: APHERESIS ACCESS: TIPS & TRICKS/BEST PRACTICES** *(pre-registration required)*

10:15AM – 10:45AM  **Break in Atlantic Foyer**

10:45AM – 12:15PM  **EDUCATION SESSION VIII: ASFA & AABB JOINT SESSION - RBC TRANSFUSION PRACTICE FOR SICKLE CELL DISEASE PATIENTS**

12:15PM – 1:30PM  **POST-CONFERENCE ASFA BOARD OF DIRECTORS MEETING** *(by invitation only)*
## ACADEMIC PROGRAM

### PRECONFERENCE: Tuesday, May 2, 2017

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<th>Time</th>
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<td>3:00PM – 6:00PM</td>
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### PRECONFERENCE: Wednesday, May 3, 2017

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<tbody>
<tr>
<td>7:00AM – 6:00PM</td>
<td>Meeting Registration</td>
<td>Las Olas Foyer</td>
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### PRECONFERENCE WORKSHOP: APHERESIS REVIEW SESSION

(Pre-registration with ASFA and Additional Registration Fees Required)

The Apheresis Review Session will provide a basic overview of the theory and applications of apheresis medicine. Experts in the field will provide a broad overview of each of the topics and participants will have an opportunity to work with case studies. The Review Session is an appropriate preparatory course for the Qualification in Apheresis (QIA) Exam, offered by ASCP.

**Morning Chairs:** Debbie Ferrell, MSN, RN, HP(ASCP) & Christina Gallagher, RN

**Afternoon Chairs:** Emily McLain, RN, BSN & Peggy Reid, RN

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<tr>
<th>Time</th>
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<th>Location</th>
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<tbody>
<tr>
<td>7:00AM – 7:30AM</td>
<td>Continental Breakfast</td>
<td>Atlantic I,II,V,VI</td>
</tr>
<tr>
<td>7:30AM – 7:45AM</td>
<td>Welcome</td>
<td>Christina Gallagher, RN</td>
</tr>
<tr>
<td>7:45AM – 8:15AM</td>
<td>Introduction to ASCP Qualification in Apheresis (QIA) Exam</td>
<td>Christina Anderson, RN, BSN, HP(ASCP)</td>
</tr>
<tr>
<td>8:15AM – 9:00AM</td>
<td>Basic Science in Apheresis</td>
<td>Nicole Aqui, MD</td>
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<tr>
<td>9:00AM – 10:00AM</td>
<td>Clinical Applications: Therapeutics</td>
<td>Jeffrey L. Winters, MD</td>
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<tr>
<td>10:00AM – 10:30AM</td>
<td>Break</td>
<td>Atlantic I,II,V,VI</td>
</tr>
<tr>
<td>10:30 AM – 11:30 AM</td>
<td>Clinical Applications: Donor and Cellular Therapy</td>
<td>Jay S. Raval, MD</td>
</tr>
<tr>
<td>11:30 AM – 12:15PM</td>
<td>Apheresis Instrumentation</td>
<td>Edwin A. Burgstaler, MT, HP(ASCP)</td>
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<tr>
<td>12:15 PM – 1:15PM</td>
<td>Lunch &amp; Equipment Fair</td>
<td>Atlantic I,II,V,VI</td>
</tr>
<tr>
<td>1:15 PM – 2:45PM</td>
<td>Donor/Patient Care</td>
<td>Lindsay Palomino, BSN, RN, HP(ASCP) &amp; Eileen Galvin Karr, RN, BSN, HP(ASCP)</td>
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<tr>
<td>2:45 PM – 3:30PM</td>
<td>Apheresis Program Management Essentials</td>
<td>Darlene Cloutier, MT, HP</td>
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<tr>
<td>3:30PM – 3:45PM</td>
<td>Break</td>
<td>Atlantic I,II,V,VI</td>
</tr>
<tr>
<td>3:45PM – 4:30 PM</td>
<td>Apheresis Math, Standards, Guidelines, and Regulations</td>
<td>Huy Phu Pham, MD, MPH, &amp; Rawlinson Isaac, BSc, MPA</td>
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<tr>
<td>4:30PM – 5:00PM</td>
<td>Wrap Up</td>
<td>Peggy Reid, RN</td>
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### FACT CELLULAR THERAPY COLLECTION WORKSHOP

(Pre-registration with FACT Required and Additional Registration Fees Required)

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<tr>
<td>7:00AM – 5:00PM</td>
<td>FACT CELLULAR THERAPY COLLECTION WORKSHOP</td>
<td>Bonnet I &amp; II</td>
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<tr>
<td>8:00AM – 3:00PM</td>
<td>ASFA BOARD OF DIRECTORS MEETING (by invitation only)</td>
<td>Rio Vista II</td>
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<tr>
<td>8:00AM – 4:30PM</td>
<td>Exhibit Hall Move In</td>
<td>Las Olas</td>
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<tr>
<td>1:30PM – 5:30PM</td>
<td>TOUR FOR ASFA DELEGATES (pre-registration with ASFA required)</td>
<td>Offsite</td>
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<tr>
<td>2:00PM – 5:00PM</td>
<td>WAA BOARD OF DIRECTORS MEETING (by invitation only)</td>
<td>Sawgrass</td>
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<tr>
<td>3:00PM – 5:00PM</td>
<td>JOURNAL OF CLINICAL APHERESIS EDITORIAL BOARD MEETING (by invitation only)</td>
<td>Rio Vista I</td>
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<tr>
<td>3:15PM – 4:00PM</td>
<td>COMMITTEE CHAIRS MEETING WITH THE PRESIDENTS (by invitation only)</td>
<td>Rio Vista II</td>
</tr>
<tr>
<td>4:30PM – 5:30PM</td>
<td>Poster Move In</td>
<td>Las Olas &amp; Foyer</td>
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<tr>
<td>5:00PM – 6:00PM</td>
<td>ASFA BOARD OF DIRECTORS AND SPONSORS MEETING (by invitation only)</td>
<td>Rio Vista II</td>
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<tr>
<td>5:00PM – 6:00PM</td>
<td>NEW MEMBER AND FIRST TIME ATTENDEE MEET AND GREET</td>
<td>Atlantic I,II,V,VI</td>
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<tr>
<td>6:00PM – 8:00PM</td>
<td>Exhibit Hall Open</td>
<td>Las Olas</td>
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### ACADEMIC PROGRAM

#### PRECONFERENCE: Wednesday, May 3, 2017

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<th>Time</th>
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<tr>
<td>6:00PM – 8:00PM</td>
<td><strong>WELCOME RECEPTION IN EXHIBIT HALL</strong>&lt;br&gt;Please join us for a drink, hors d’oeuvres, and to network with your colleagues!</td>
<td>Las Olas &amp; Foyer</td>
</tr>
<tr>
<td>8:00PM – 10.00PM</td>
<td><strong>ASFA PAST PRESIDENTS’ DINNER</strong> (by invitation only)</td>
<td>Offsite</td>
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#### CONFERENCE DAY 1: Thursday, May 4, 2017

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<tr>
<td>7:00AM – 6:00PM</td>
<td>Meeting Registration</td>
<td>Las Olas Foyer</td>
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<tr>
<td>7:00AM – 8:15AM</td>
<td><strong>BREAKFAST WITH THE EXPERT I</strong>&lt;br&gt;First-come, first-served – arrive early for your favorite topic!&lt;br&gt;Join us for roundtable discussions with experts in the field on the topics below.</td>
<td>Sky Terrace</td>
</tr>
<tr>
<td>7:00AM – 8:15AM</td>
<td>Breakfast with the Expert I&lt;br&gt;Chair: Jay S. Raval, MD&lt;br&gt;Unexpected Events during Therapeutic Apheresis: Marisa B. Marques, MD&lt;br&gt;IV Access Challenges and Best Practices: Peggy Reid, RN&lt;br&gt;HPC/MNC Collection: Laura Weller, RN, BSN&lt;br&gt;Photopheresis: Robin Willis, RN, HP, BSN&lt;br&gt;Online Documentation: Darlene Cloutier, MT, HP&lt;br&gt;APPs &amp; Apheresis: Matthew Strunk, PA-C&lt;br&gt;Tandem Procedures: Christina Gallagher, RN&lt;br&gt;Cellular Therapy (Spanish): Christine Fernandez, RN, MSN, OCN&lt;br&gt;Pediatric Apheresis – Special Patient Care Considerations: Christina Anderson, RN, BSN, HP(ASCP)&lt;br&gt;Staff Training and Competency Assessment: Betty Doggett, AT(ASCP)&lt;br&gt;Graduate Medical Education: Teaching and Evaluation Techniques and Strategies: Gay Wehrli, MD, MBA, MEd&lt;br&gt;ASFA Leadership Opportunities</td>
<td>Sky Terrace</td>
</tr>
<tr>
<td>8:30AM – 12:15PM</td>
<td>OPENING COMBINED SYMPOSIUM – PHOTOPHERESIS UPDATE AND APERESIS IN AUTOIMMUNE NEUROLOGICAL DISORDERS&lt;br&gt;Chairs: Jay S. Raval, MD &amp; Laura Collins, RN, BSN, HP(ASCP)&lt;br&gt;Opening Remarks: Laura Collins, RN, BSN, HP(ASCP)&lt;br&gt;Advances in ECP: Richard Edelson, MD &amp; Jennifer Schneiderman, MD, MS&lt;br&gt;Update for CMS Study: Use of Extracorporeal Photopheresis to Arrest Decline in Lung Function and Improve Outcomes: George Despotis, MD&lt;br&gt;Break in Exhibit Hall: Las Olas &amp; Foyer&lt;br&gt;Autologous Encephalitis: Angela Vincent, MD, FRCP, FMedSci, FRCS&lt;br&gt;Autologous Hematopoietic Stem Cell Transplantation for Autoimmune Neurologic Diseases: Multiple Sclerosis and Stiff Person’s Syndrome: George Georges, MD</td>
<td>Atlantic I,II,V,VI</td>
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## ACADEMIC PROGRAM

### CONFERENCE DAY 1: Thursday, May 4, 2017

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<tr>
<td>10:00AM – 8:00PM</td>
<td>Exhibit Hall Open</td>
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<tr>
<td>12:30PM – 1:30PM</td>
<td><strong>CORPORATE LUNCH SYMPOSIUM</strong> (open to all registered delegates)</td>
<td>Oceanside I &amp; II</td>
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<tr>
<td>12:30PM – 1:30PM</td>
<td><strong>CORPORATE LUNCH SYMPOSIUM</strong> (open to all registered delegates)</td>
<td>Atlantic III, IV</td>
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<td>12:45PM – 1:30PM</td>
<td>Lunch in Exhibit Hall</td>
<td>Las Olas &amp; Foyer</td>
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<tr>
<td>1:45PM – 2:30PM</td>
<td><strong>FRANCIS S. MORRISON, MD MEMORIAL LECTURE</strong></td>
<td>Atlantic I, II, V, VI</td>
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<td>Chair: Laura Collins, RN, BSN, HP(ASCP)</td>
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<td></td>
<td>We are pleased to honor <strong>Susan F. Leitman, MD</strong> as this year's recipient of the Francis S. Morrison, MD Memorial Lecture award.</td>
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<tr>
<td></td>
<td><strong>How Much Can We Ask of an Apheresis Donor</strong></td>
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<tr>
<td>2:45PM – 3:45PM</td>
<td><strong>PLENARY ABSTRACT SESSION</strong></td>
<td>Atlantic I, II, V, VI</td>
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<tr>
<td></td>
<td>Chairs: Anand Padmanabhan, MD, PhD &amp; Christina Anderson, RN, BSN, HP(ASCP)</td>
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<td></td>
<td>Clinical and Molecular Characterization of Patients with Lipoprotein(A)-Hyperlipoproteinemia and Progressive Cardiovascular Disease Treated by Long-Term Lipoprotein Apheresis</td>
<td>Reinhard Klingel, MD, PhD</td>
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<td>2:45 PM – 3:00 PM</td>
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<tr>
<td></td>
<td>Therapeutic Efficacy of Plasma Exchange for Idiopathic Pulmonary Fibrosis (IPF)</td>
<td>Sierra Simmons, MD, MPH</td>
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<td>3:00 PM – 3:15 PM</td>
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<tr>
<td></td>
<td>Hemostasis Management Associated with Therapeutic Plasma Exchange: Results of a Practice Survey</td>
<td>Nicole Zantek, MD, PhD</td>
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<td>3:15 PM – 3:30 PM</td>
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<td></td>
<td>Hemoglobin Species in Plasma of Acquired Thrombotic Thrombocytopenic Purpura Patients: A Novel Therapeutic Target?</td>
<td>Jay S. Raval, MD</td>
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<td>3:30 PM – 3:45 PM</td>
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<td>A Liquid Calcium + Vitamin D Supplement is Effective Prophylaxis against Hypocalcemic Toxicity During Apheresis Platelet Donation</td>
<td>Robert Weinstein, MD</td>
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<td>4:15 PM – 4:30 PM</td>
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<td>Ultrasound-Guided Peripheral Cannulation Reduces the Need for Central Venous Catheterization to Undertake Apheresis Procedures</td>
<td>Michaela Mayhew, MSc</td>
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<td>4:30 PM – 4:45 PM</td>
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<td></td>
<td>Red Cell Mean Corpuscular Volume Predicts Mononuclear Cell Apheresis Collection Efficiency and Yield</td>
<td>Cathy Cantilena, MD</td>
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<td>4:45 PM – 5:00 PM</td>
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<tr>
<td></td>
<td>Impact of a Data-Driven Prediction Algorithm for Blood Volume Processing in Peripheral Blood Stem Cell Collection in Unrelated (NMDP) HPC Donors</td>
<td>Anand Padmanabhan, MD, PhD</td>
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<td>5:00 PM – 5:15 PM</td>
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<tr>
<td>2:45PM – 3:45PM</td>
<td><strong>EDUCATION SESSION I: BASIC DONOR: DONOR CENTER CHALLENGES</strong></td>
<td>Oceanside II</td>
</tr>
<tr>
<td></td>
<td>Chairs: Antonia Hagen-Coonradt &amp; Tanya Ferber, MSN, RN</td>
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<td>AABB Uniform Donor History Questionnaire Challenges</td>
<td>Sheryl M. Kempin, RN, MA</td>
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<td>2:45PM – 3:15PM</td>
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<tr>
<td></td>
<td>Fallout from Implementing Final Rule, Zika Testing, and More!</td>
<td>Paul Eastvold, MD, MT(ASCP)</td>
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<td>3:15PM – 3:45PM</td>
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<tr>
<td>3:45PM – 4:15PM</td>
<td>Break in Exhibit Hall</td>
<td>Las Olas &amp; Foyer</td>
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</table>
CONFERENCE DAY 1: Thursday, May 4, 2017

EDUCATION SESSION II: ADVANCED THERAPEUTICS
Chairs: Matthew Strunk, PA-C & Andrew Nord, PA-C

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker(s)</th>
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</thead>
<tbody>
<tr>
<td>4:15PM – 4:35PM</td>
<td>Bridging the Gap: Improving Sickle Cell Disease Transition from Pediatric- to Adult-Focused Care</td>
<td>Kim Smith-Whitley, MD</td>
</tr>
<tr>
<td>4:35PM – 4:55PM</td>
<td>Building a Successful Transition Program – Adult Perspective</td>
<td>Sonja Vozniak, RN, BSN</td>
</tr>
<tr>
<td>4:55PM – 5:15PM</td>
<td>Q&amp;A</td>
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COMMITTEE MEETINGS *New members welcome!

<table>
<thead>
<tr>
<th>Committee</th>
<th>Room</th>
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<tbody>
<tr>
<td>Applications Committee</td>
<td>Bonnet I &amp; II</td>
</tr>
<tr>
<td>Membership Committee</td>
<td>Oceanside II</td>
</tr>
<tr>
<td>Allied Health Committee</td>
<td>Rio Vista II</td>
</tr>
<tr>
<td>International Affairs Committee</td>
<td>Rio Vista I</td>
</tr>
</tbody>
</table>

JOURNAL OF CLINICAL APHERESIS 2019 SPECIAL ISSUE COMMITTEE

<table>
<thead>
<tr>
<th>Committee</th>
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<tbody>
<tr>
<td>Allied Health Committee</td>
<td>Rio Vista</td>
</tr>
<tr>
<td>International Affairs Committee</td>
<td>Rio Vista</td>
</tr>
<tr>
<td>Applications Committee</td>
<td>Bonnet II</td>
</tr>
</tbody>
</table>

CONFERENCE DAY 2: Friday, May 5, 2017

5K FUN RUN
(Pre-registration with ASFA and Additional Registration Fees Required)

Get your blood flowing and join your colleagues for a fun run through the beautiful Westin Beach Resort property! All proceeds from the 5K Fun Run will be donated to the B+ Foundation.

BREAkFAST WITH THE EXPERT II
(First-come, first-served – arrive early for your favorite topic! Join us for roundtable discussions with experts in the field on the topics below.)
Chair: Margaret Hannan, BS, LPN, AT(ASCP), CQA(ASQ)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>Red Cell Exchange – Hemodilution</td>
<td>Maureen O’Neill, RN</td>
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<tr>
<td>Pediatric IV Access</td>
<td>Kathy Grouchy, RN</td>
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<tr>
<td>Therapeutic Apheresis (Spanish)</td>
<td>Tomas Armendariz, BSN</td>
</tr>
<tr>
<td>Validation</td>
<td>Mandi Kaiser, RN, HP(ASCP)</td>
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<tr>
<td>Gene Cell Therapy</td>
<td>John Manis, MD</td>
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<tr>
<td>Mobile Apheresis Challenges</td>
<td>Lila Wojciechowski RN, HP, NP-BC</td>
</tr>
<tr>
<td>Cellular Collections and Mobilization</td>
<td>Laura Connelly-Smith, MD</td>
</tr>
<tr>
<td>Lipoprotein Apheresis</td>
<td>Nicole Aqui, MD</td>
</tr>
<tr>
<td>Credentialing for Apheresis Medicine Physicians &amp; Practitioners</td>
<td>Chester Andrzejewski, MD</td>
</tr>
<tr>
<td>Therapeutic Plasma Exchange - How Much and for How Long?</td>
<td>David Ward, MD</td>
</tr>
<tr>
<td>Graduate Medical Education: Implementation of New Apheresis Procedures and Maintenance of Competency for Rare Procedures</td>
<td>Eileen Galvin Karr, RN, BSN, HP(ASCP)</td>
</tr>
<tr>
<td>Donor Hemoglobin and Iron Depletion Mitigation</td>
<td>Gay Weinli, MD, MBA, MSEd</td>
</tr>
</tbody>
</table>
### CONFERENCE DAY 2: Friday, May 5, 2017

**QUALIFICATION IN APHERESIS (QIA) EXAM**  
(Pre-Registration with ASFA Required)

Bring your laptop and write the QIA exam with the support of your colleagues!  

*Note: Computers are not provided; please bring your own laptop. In addition, you must have applied for and met the eligibility requirements in advance of sitting the exam.*  

### 7:00AM – 9:00AM – Concurrent Session

<table>
<thead>
<tr>
<th>7:00AM – 9:00AM</th>
<th>Exhibit Hall Open</th>
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<td>Las Olas</td>
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### 10:00AM – 4:30PM

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<tr>
<th>10:00AM – 4:30PM</th>
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<td>Las Olas</td>
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### 8:45AM – 12:15PM – Concurrent Session

**SCIENTIFIC SYMPOSIUM**  
Chairs: Amber Sanchez, MD & Lance Williams, MD

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speakers</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:45AM – 9:30AM</td>
<td>ADAMTS13, TTP and Beyond</td>
<td>Xinglong Zheng, MD, PhD</td>
</tr>
<tr>
<td>9:30AM – 10:15AM</td>
<td>What’s New in the Treatment of TTP?</td>
<td>Paul Coppo, MD</td>
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<tr>
<td>10:15AM – 10:45AM</td>
<td>Break in Exhibit Hall</td>
<td>Las Olas</td>
</tr>
<tr>
<td>10:45AM – 11:30AM</td>
<td>Research Donor Collections for Cell-Based Therapies: How do you Build this into your Busy Practice?</td>
<td>Michael Linenberger, MD, FACP</td>
</tr>
<tr>
<td>11:30AM – 12:15PM</td>
<td>Pathogen Reduced Platelets</td>
<td>Sherrill Slichter, MD</td>
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</tbody>
</table>

### 8:45AM – 10:15AM – Concurrent Session

**EDUCATION SESSION III: CHANGE MANAGEMENT AND ERROR PREVENTION STRATEGIES**  
Chairs: Alicia Garcia, RN, HP(ASCP) & Peggy Reid, RN

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speakers</th>
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</thead>
<tbody>
<tr>
<td>8:45AM – 9:15AM</td>
<td>Change Management in a Donor Apheresis Program: A Program Management Approach</td>
<td>Margaret Hannan, BS, LPN, AT(ASCP), CQA(ASQ)</td>
</tr>
<tr>
<td>9:15AM – 10:15AM</td>
<td>Change Control in an Apheresis Collection Center</td>
<td>Lorna Riach, MA, MT(ASCP), BS</td>
</tr>
<tr>
<td>9:45AM – 10:15AM</td>
<td>Error Analysis &amp; Prevention</td>
<td>Lynne O’Hearn, BS, MT(ASCP)</td>
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### 10:15AM – 10:45AM

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<tr>
<th>10:15AM – 10:45AM</th>
<th>Break in Exhibit Hall</th>
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<td></td>
<td>Las Olas &amp; Foyer</td>
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</tbody>
</table>

### 10:45AM – 12:15PM – Concurrent Session

**EDUCATION SESSION IV: INTERNATIONAL APHERESIS SESSION**  
Chairs: Quentin Eichbaum, MD, PhD, MPH, MFA, FCAP, FASCP

Join us to learn more about offline ECP from an expert panel of international speakers. The pros and cons of offline ECP, the potential advantages and its perceived potential impact in the treatment of patients with immunological diseases will be discussed.

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speakers</th>
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</thead>
<tbody>
<tr>
<td>12:30PM – 1:30PM</td>
<td>CORPORATE LUNCH SYMPOSIUM (open to all registered delegates)</td>
<td>Johannes Fischer, MD</td>
</tr>
<tr>
<td>12:30PM – 1:30PM</td>
<td>CORPORATE LUNCH SYMPOSIUM (open to all registered delegates)</td>
<td>Atlantic I, II, V, VI</td>
</tr>
<tr>
<td>12:45PM – 1:30PM</td>
<td>Lunch in Exhibit Hall</td>
<td>Las Olas</td>
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<tr>
<td>1:45PM – 2:30PM</td>
<td>ASFA ANNUAL GENERAL MEETING AND SWEETS (ASFA members only)</td>
<td>Atlantic I, II, V, VI</td>
</tr>
</tbody>
</table>

### 2:30PM – 4:30PM – Concurrent Session

**QUALIFICATION IN APHERESIS (QIA) EXAM**  
(Pre-Registration with ASFA Required)

Bring your laptop and write the QIA exam with the support of your colleagues!  

*Note: Computers are not provided; please bring your own laptop. In addition, you must have applied for and met the eligibility requirements in advance of sitting the exam.*
### ABSTRACT SESSION I: THERAPEUTIC APHESIS

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>2:45 PM – 3:00 PM</td>
<td>Efficacy of Therapeutic Plasma Exchange on Angiotensin II Type 1 Receptor Antibodies in Renal Transplant Recipients</td>
<td>Chisa Yamada, MD</td>
</tr>
<tr>
<td>3:00 PM – 3:15 PM</td>
<td>RBC Alloantibody Formation is not Associated with RBC Age in Pediatric Sickle Cell Disease Patients Receiving Chronic Apheresis RBC Exchange</td>
<td>Jennifer Crimmins, MD</td>
</tr>
<tr>
<td>3:15 PM – 3:30 PM</td>
<td>The ASFA Disease Registry: A Progress Report</td>
<td>Edward Wong, MD</td>
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<tr>
<td>3:30 PM – 3:45 PM</td>
<td>A Retrospective Analysis of Extracorporeal Photopheresis to Treat Graft-Versus-Host Disease</td>
<td>Manasa Reddy, MD</td>
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<tr>
<td>4:15 PM – 4:30 PM</td>
<td>How to Maintain Hemoglobin S Below 30% for Sickle Cell Anemia Patients</td>
<td>Ding Wen Wu, MD, PhD, FCAP</td>
</tr>
<tr>
<td>4:30 PM – 4:45 PM</td>
<td>Rate of Bacteremia in Neurologic Apheresis Patients with Long-Term Vascular Access</td>
<td>Cori Breslauer, MD</td>
</tr>
<tr>
<td>4:45 PM – 5:00 PM</td>
<td>Retrospective Analysis of Plasmic in Diagnosing (Rapid) TTP</td>
<td>Ryan Jajosky, MD</td>
</tr>
<tr>
<td>5:00 PM – 5:15 PM</td>
<td>Use of Single Needle Access in Therapeutic Plasma Exchange: A Single Institution’s Experience</td>
<td>Betty Doggett, AT(ASCP)</td>
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### ABSTRACT SESSION II: DONOR APHESIS

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>2:45 PM – 3:00 PM</td>
<td>Dietary Citrate and Plasma Ionized Calcium: What Should we Advise our Platelet Donors?</td>
<td>Stefanie Haynes, MSN, APRN</td>
</tr>
<tr>
<td>3:00 PM – 3:15 PM</td>
<td>In Vitro Function of Triple Dose Apheresis Platelet Components Suspended in 40% Plasma/60% PAS After Photochemical Treatment Using a Triple Storage (TS) Set</td>
<td>Elan Weiner, MS, MPH, MT, SBB</td>
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<tr>
<td>3:15 PM – 3:30 PM</td>
<td>Modeling CD34 Transplant Does and Engraftment Times in Morbidly Obese Patients at Actual and Adjusted Body Weights</td>
<td>Laura Cooling, MD, MS</td>
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<tr>
<td>3:30 PM – 3:45 PM</td>
<td>Comparison of Hematopoietic Progenitor Cell (HPC) Collection Using the Spectra Optia Continuous Mononuclear Cell Collection(CMNC) Collections with a 26:1 Anticoagulant Ration versus an Anticoagulant Ration Ramping Technique</td>
<td>Edwin A. Burgstaler, MT, HP(ASCP)</td>
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<tr>
<td>4:15 PM – 4:30 PM</td>
<td>Use of a Custom Made Prediction Algorithm (PA) with the Spectra Optia CMNC to Collect for the National Marrow Donor Program (NMDP)</td>
<td>James Mason, MD</td>
</tr>
<tr>
<td>4:30 PM – 4:45 PM</td>
<td>Beyond Mobilization: Factors Affecting Peripheral Blood CD34+ Cell Collection by Large Volume Leukapheresis</td>
<td>Aaron Shmookler, MD</td>
</tr>
<tr>
<td>4:45 PM – 5:00 PM</td>
<td>Neutrophil and Platelet Engraftment is not Significantly Different when the CD34+ Hematopoietic Stem Cell Transplant Dose is Calculated Based on Actual vs Adjusted Ideal Body Weight</td>
<td>Carrie Karlene, RN</td>
</tr>
<tr>
<td>5:00 PM – 5:15 PM</td>
<td>Telemedicine in Apheresis</td>
<td>Mehraboon Irani, MD</td>
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</table>
CONFERENCE DAY 2: Friday, May 5, 2017

2:45PM – 3:45PM
Concurrent Session

EDUCATION SESSION V: PEDIATRIC CASE STUDIES: APHERESIS IN THE TINIEST PATIENTS
Chairs: Sonja Vozniak, RN, BSN & Debbie Ferrell, MSN, RN, HP(ASCP)

2:45PM – 3:15PM  
A Case Review: Collection of HPC from a Baby under 10kg  
Jennifer Collins, RN

3:15PM – 3:45PM  
Performing Plasmapheresis on a Newborn  
Jennifer Anderson, RN, BSN, HP(ASCP)

3:45PM – 4:15PM
Break in Exhibit Hall

4:15PM – 5:15PM
Concurrent Session

EDUCATION SESSION VI: TANDEM PROCEDURES
Chairs: Eileen Galvin Karr, RN, BSN, HP(ASCP) & Margaret Hannah, BS, LPN, AT(ASCP), CQA(ASQ)

4:15PM – 4:35PM  
Tandem Procedures: The Tale of Two Circuits  
Joan Myers, RN, BSN

4:35PM – 4:55PM  
Therapeutic Apheresis Performed in Tandem with Dialysis and Left Ventricular Assist Devices  
Vishesh Chhibber, MD

4:55PM – 5:15PM
Panel Discussion & Q&A

4:30PM – 5:30PM
Poster Move Out

4:30PM – 8:00PM
Exhibit Hall Move Out

5:00PM – 6:00PM
NEW MEMBER AND FIRST TIME ATTENDEE MEET AND GREET

5:15PM – 6:00PM
COMMITTEE MEETINGS *New members welcome!

COMMUNICATIONS COMMITTEE  
Bonnet I & II

PHYSICIANS COMMITTEE  
Atlantic III, IV

RESEARCH COMMITTEE  
Atlantic III, IV

EDUCATION COMMITTEE  
Atlantic III, IV

PUBLIC AFFAIRS & ADVOCACY COMMITTEE  
Atlantic III, IV

CONFERENCE DAY 3: Saturday, May 6, 2017

7:00AM – 12:30PM
Meeting Registration

7:00AM – 8:30AM
Continental Breakfast

7:00AM – 8:30AM  
BREAKFAST WITH THE EXPERT III  
(First-come, first-served – arrive early for your favorite topic!  
Join us for roundtable discussions with experts in the field on the topics below.)  
Chair: Alicia Garcia, RN, HP(ASCP)

Quality & Regulatory Concerns  
Rawlinson Isaac, BSc, MPA

Renal Indications for Therapeutic Apheresis  
David Lin, MD

Immunotherapy and Collection of the Unstimulated Donor  
Lee Clough, BSN, RN, HP(ASCP)

Emerging Infectious Diseases and Pathogen Reduction  
Alexandra Jimenez, MD & Bruce Sachais, MD, PhD

Pediatric Apheresis – Modified Blood Primes and Use of CMNC  
Elizabeth Valdez, RN

Meet the JCA Editor  
Jeffrey L. Winters, MD

Advancing Apheresis Practice through Research  
Edward Wong, MD

Red Cell Exchange  
Alicia Garcia, RN, HP(ASCP)

Atypical HUS  
Eileen Galvin Karr, RN, BSN, HP(ASCP)

Apheresis Demand Planning / Challenges in the Face of Regulation Changes  
Tanya Ferber, MSN, RN

ASFA Mentorship  
Deanna Duvall, RN, BSN, HP(ASCP)
### ACADEMIC PROGRAM

#### CONFERENCE DAY 3: Saturday, May 6, 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00AM – 8:30AM</td>
<td>Concurrent Session</td>
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<tr>
<td>Graduate Medical Education: Quality and Health Care Effectiveness Metrics in Apheresis</td>
<td>Sarita Joshi, MD &amp; Joseph Kiss, MD</td>
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<tr>
<td>Plasma Tears: The Utility, The Process and the Regulations</td>
<td>Tina Ipe, MD</td>
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<tr>
<td>8:45AM – 12:15PM</td>
<td>Concurrent Session</td>
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<tr>
<td>CLOSING SYMPOSIUM – STEM CELL COLLECTION/TRANSPLANTATION IN PEDIATRIC PATIENTS AND DRUG REMOVAL IN APERESIS</td>
<td>Atlantic I,II,VI</td>
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<tr>
<td>Chairs: Huy Phu Pham, MD, MPH &amp; Bruce Sachais, MD, PhD</td>
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<tr>
<td>8:45AM – 9:30AM</td>
<td>Pediatric Peripheral Blood Cellular Collections: Lines, Primes, and Kinds</td>
<td>Kelley Capocelli, MD</td>
</tr>
<tr>
<td>9:30AM – 10:15AM</td>
<td>Stem Cell Transplant in Pediatric Patients</td>
<td>Erin Meyer, DO, MPH</td>
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<tr>
<td>10:15AM – 10:45AM</td>
<td>Break in Foyer</td>
<td>Atlantic Foyer</td>
</tr>
<tr>
<td>10:45AM – 11:30AM</td>
<td>Drug Removal by Therapeutic Plasma Exchange: A Wellness Check</td>
<td>Rami Ibrahim, MSc, Pharm.D.</td>
</tr>
<tr>
<td>11:30AM – 12:15PM</td>
<td>Anticoagulant Removal in Apheresis</td>
<td>Oluwatoyosi Onwuemene, MD, MS</td>
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<tr>
<td>8:45AM – 10:15AM</td>
<td>Concurrent Session</td>
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<tr>
<td>EDUCATION SESSION VII - APERESIS ACCESS: TIPS &amp; TRICKS/BEST PRACTICES</td>
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<td>(pre-registration required)</td>
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<tr>
<td>Chairs: Alicia Garcia, RN, HP(ASCP) &amp; Margaret Hannan, BS, LPN, AT(ASCP), CQA(ASQ)</td>
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<td>Join us for a hands-on session to learn more about apheresis access tips, tricks and best practices! A number of experts in the field will facilitate interactive round tables focused on ports, central lines and peripheral access. Participants will have the opportunity to visit each of the tables during the session. This session has been developed for and is targeted to those who are providing direct patient care.</td>
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<tr>
<td>10:15AM – 10:45AM</td>
<td>Break in Foyer</td>
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<tr>
<td>10:45AM – 12:15PM</td>
<td>Concurrent Session</td>
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<tr>
<td>EDUCATION SESSION VIII: ASFA &amp; AABB JOINT SESSION - RBC TRANSFUSION PRACTICE FOR SICKLE CELL DISEASE PATIENTS</td>
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<td>Chairs: Mike Perez, MD &amp; Andrew Nord, PA-C</td>
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<tr>
<td>10:45AM – 11:15AM</td>
<td>The Optimal RBC Products for RBC Exchange in Sickle Cell Patients – Two approaches</td>
<td>Nicole Draper, MD &amp; Stella Chou, MD</td>
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<tr>
<td>11:45AM – 12:15PM</td>
<td>Molecular Typing of Red Cell Antigens (When, Why and How?)</td>
<td>Connie Westhoff, MT(ASCP), SBB(ASCP), PhD</td>
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<td>12:15PM – 1:30PM</td>
<td>POST-CONFERENCE ASFA BOARD OF DIRECTORS MEETING (by invitation only)</td>
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<td>POST-CONFERENCE ASFA BOARD OF DIRECTORS MEETING (by invitation only)</td>
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SPEAKERS

APHERESIS REVIEW SESSION SPEAKERS
Christina Anderson, RN, BSN, HP(ASCP)
Nicole Aqui, MD
Jeffrey L. Winters, MD
Jay S. Raval, MD
Edwin A. Burgstaler, MT, HP(ASCP)
Lindsay Palomino, BSN, RN, HP(ASCP)
Eileen Galvin Karr, RN, BSN, HP(ASCP)
Darlene Cloutier, MT, HP
Huy Phu Pham, MD, MPH
Rawlinson Isaac, BSc, MPA

OPENING COMBINED SYMPOSIUM SPEAKERS
Richard Edelson, MD
Jennifer Schneiderman, MD, MS
George Despotis, MD
Angela Vincent, MD, FRCP, FMedSci, FRS
George Georges, MD

FRANCIS S. MORRISON, MD MEMORIAL LECTURE SPEAKER
Susan F. Leitman, MD

SCIENTIFIC SYMPOSIUM SPEAKERS
Xinglong Zheng, MD, PhD
Paul Coppo, MD
Michael Linenberger MD, FACP
Sherrill Slichter, MD

CLOSING COMBINED SYMPOSIUM SPEAKERS
Kelley Capocelli, MD
Eran Meyer, DO, MPH
Rami Ibrahim, MSc, Pharm.D
Oluwatoyosi Onwuemene, MD, MS

EDUCATION SESSION SPEAKERS
Sheryl M. Kempin, RN, MA
Paul Eastvold, MD, MT(ASCP)
Kim Smith-Whitley, MD
Sonja Vozniak, RN, BSN
Margaret Hannan, BS, LPN, AT(ASCP), CQA(ASCP)
Lorna Riach, MA, MT(ASCP), BS
Lynne O’Hearn, BS, MT(ASCP)
Volker Witt, MD
Jennifer Collins, RN, BSN
Jennifer Anderson, RN, BSN, HP(ASCP)
Joan Myers, RN, BSN
Vishesh Chhibber, MD
Nicole Draper, MD
Stella Chou, MD
Connie Westhoff, MT(ASCP), SBB(ASCP), PhD
Alicia Garcia, RN, HP(ASCP)
Lindsay Palomino, BSN, RN, HP(ASCP)
Robin Willis, RN, HP, BSN
Betty Doggett, AT(ASCP)
Elizabeth Valdez, RN
Kathy Grouchy, RN
Mandi Kaiser, RN, HP(ASCP)
Christina Gallagher, RN
Jennifer Collins, RN, BSN
Sonja Vozniak, RN, BSN
Johannes Fischer, MD
Volker Witt, MD

BREAKFAST WITH THE EXPERTS
Marisa B. Marques, MD
Peggy Reid, RN
Laura Weller, RN, BSN
Robin Willis, RN, HP, BSN
Darlene Cloutier, MT, HP
Matthew Strunk, PA-C
Christina Gallagher, RN
Christine Fernandez, RN, MSN, OCN
Christina Anderson, RN, BSN, HP(ASCP)
Betty Doggett, AT(ASCP)
Gay Wehrli, MD, MBA, MSEd
Bruce Sachais, MD, PhD
Eileen Galvin Karr, RN, BSN, HP(ASCP)
Laura Collins, RN, BSN, HP(ASCP)
Joseph Schwartz, MD, MPH
Antonia Hagen-Coonradt
Maureen O’Neill, RN
Kathy Grouchy, RN
Tanya Ferber, MSN, RN
Deanna Duvall, RN, BSN, HP(ASCP)
Sarita Joshi, MD
Joseph Kiss, MD
Tina Ipe, MD

PLENARY SPEAKERS
Reinhard Klingel, MD, PhD
Sierra Simmons, MD, MPH
Nicole Zantek, MD, PhD
Jay S. Raval, MD
Robert Weinstein, MD
Michaela Mayhew, MSc
Cathy Cantilena, MD
Anand Padmanabhan, MD, PhD

ORAL ABSTRACT PRESENTERS
Chisa Yamada, MD
Jennifer Crimmins, MD
Edward Wong, MD
Manasa Reddy, MD
Ding Wen Wu, MD, PhD, FCAP
Cori Breslauer, MD
Ryan Jajosky, MD
Betty Doggett, AT(ASCP)
Stefanie Haynes, MSN, APRN
Evan Weiner, MS, MPH, MT, SBB
Laura Cooling, MD, MS
Edward A. Burgstaler, MT, HP(ASCP)
James Mason, MD
Aaron Shmookler, MD
Carrie Karliene, RN
Mehraboon Irani, MD

Lorna Riach, MA, MT(ASCP), BS
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Tina Ipe, MD
SPEAKER PRESENTATION SUMMARIES

APHERESIS REVIEW SESSION

INTRODUCTION TO ASCP QUALIFICATION IN APHERESIS (QIA) EXAM
Christina Anderson, RN, BSN, HP(ASCP)

Topics Covered:
1. Overview of the application and examination process.
2. The various routes of eligibility.
3. Recommendations on preparing for the exam.

ASFA is pleased to offer the Qualification in Apheresis (QIA) in partnership with The Board of Certification (BOC) of the American Society for Clinical Pathology (ASCP). The new credential in Apheresis excellence went into effect in December of 2015. The review session will cover the steps necessary to apply, test, and become Qualified In Apheresis.

An eligible applicant does not have to be a member of ASFA or ASCP but must satisfy the requirements of at least one of the six routes of eligibility.

BASIC SCIENCE IN APHERESIS
Nicole Aqui, MD

Apheresis procedures are used for both donor and therapeutic purposes. For donor procedures, it is important for the operator to have an understanding of basic transfusion medicine. For therapeutic procedures, the operator should have an understanding of immunology and the mechanisms underlying broad categories of disease. This session will review important topics in transfusion medicine, including ABO, HLA, and blood component therapy. We will then examine immune responses, specifically type II and type III hypersensitivity, followed by a brief discussion of classic diseases that illustrate these two types of hypersensitivity reactions. Finally, we will review apheresis principles, including methods of separation, alteration in plasma constituents, and adverse reactions.

CLINICAL APPLICATIONS: THERAPEUTICS
Jeffrey L. Winters, MD

This session will review the common hematologic, neurologic, and nephrologic conditions treated with apheresis. Diseases/disorders discussed will include: hyperleukocytosis, thrombocytosis, sickle cell anemia, thrombotic thrombocytopenic purpura, hyperviscosity due to monoclonal paraproteins, acute inflammatory demyelinating polyradiculopathy (Guillain-Barré syndrome), chronic demyelinating polyradiculopathy, myasthenia gravis, multiple sclerosis, anti-basement membrane antibody disease (Goodpasture’s syndrome), and ANCA vasculitis. Therapeutic apheresis procedures discussed will include leukocytapheresis, thrombocytapheresis, red cell exchange, and therapeutic plasma exchange. In addition, the 2016 American Society for Apheresis Guidelines will be discussed, including the ASFA categories and recommendation grades. The previously mentioned diseases will be discussed in the context of these guidelines. The presentation, pathophysiology, and use of apheresis will be presented.

CLINICAL APPLICATIONS: DONOR AND CELLULAR THERAPY
Jay S. Raval, MD

This session will review the utilization of apheresis technology for the collection of traditional blood components (red blood cells, platelets, plasma, and granulocytes) and collections of hematopoietic progenitor cells for stem cell transplantation. Characteristics of traditional blood components, indications for their transfusion, and adverse events that occur during the donation will be described. For hematopoietic progenitor cell collection, clinical indications for collection (autologous versus allogeneic), mobilization agents, specific points relating to apheresis collection, adverse events associated with mobilizing agents and apheresis collection, and a brief discussion of what occurs to the products after collections will be presented.

APHERESIS INSTRUMENTATION
Edwin A. Burgstaler, MT, HP(ASCP)

Instruments are a part of apheresis. Without instruments, apheresis could not be performed. Early apheresis
equipment used centrifuge separators that resembled the cream separator, but those designs have continually evolved into more sophisticated separators. Apheresis employs three principles of operation: 1) Draw and separate the blood, 2) remove the desired component, and 3) return or replace the remaining components. This is done using centrifugation, filtration, or a combination of both. Components are separated by size or specific gravity (weight). Apheresis instruments have common features such as pumps, valves, sensors, separators, and microprocessors. Cleaning and maintenance is very important in ensuring the instruments are safe and efficient.

Selective removal therapy allows removal of specific elements in the plasma or blood and the return of the remaining components by means of filtration or adsorption. Extracorporeal photopheresis allows the collection of patient cells, photoactivation, and then return to the patient as treatment. Immunotherapy and bone marrow transplant are rising as a major form of treatment in the future and apheresis instruments are essential in collecting the initial cells, as well as provide hematopoietic progenitor cells for bone marrow transplants. A good team of apheresis instruments and operators provides a valuable resource in the practice of medicine.

DONOR/PATIENT CARE

Lindsay Palomino, BSN, RN, HP(ASCP) & Eileen Galvin Karr, RN, BSN, HP(ASCP)

This presentation will discuss the challenges and details of donor and patient care during therapeutic and collection apheresis procedures. Topics covered include:

- Assessment and monitoring
- Anticoagulation
- Medication consideration and reactions
- Venous Access
- Extracorporeal volume management
- Platelet loss with cellular collections
- Donation limits and deferral ranges
- Fluid Balance
- Age-related considerations
- Adverse reactions

APHERESIS PROGRAM MANAGEMENT ESSENTIALS

Darlene Cloutier, MT, HP

Management of an apheresis program requires balancing multiple resources and talents in a coordinated effort to support patient care in a highly specialized area of medicine. An effective apheresis program requires a quality plan, the availability of sophisticated medical equipment and highly skilled and qualified apheresis operators. Apheresis operators must possess distinctive qualities acquired through training and experience to perform complex tasks in a systematic fashion and the flexibility to quickly adjust to an ever-changing patient care environment. This presentation will introduce the challenges and essential characteristics of an apheresis program with attention to organizational structure, resources, financial considerations, quality concerns, and regulatory issues. The unique features of a mobile apheresis setting will also be included as well as a discussion of the relevance of staff qualification in the field of apheresis.

APHERESIS MATH, STANDARDS, GUIDELINES, AND REGULATIONS

Huy Phu Pham, MD, MPH, & Rawlinson Isaac, BSc, MPA

Although apheresis device has built-in essential calculator to perform many calculations, it is important for an apheresis practitioner to understand the basis of these calculations and thus, allowing for better patient care. Many times, to facilitate care, such as in preparation for a red blood cell exchange procedure, it is useful for a physician to estimate the replacement fluid in order to place an advanced order to avoid delay in procedure. In the first part of this session, basic calculations in apheresis, such as blood volume, replacement fluid volume, and collection efficiency, for various procedures will be reviewed. Additionally, advanced calculations, will also be discussed.

As regulatory compliance is being discussed more and more within healthcare settings the second part of this presentation focuses on few key items in this area. Differentiating between standards, guidelines and regulations is very helpful when maneuvering the regulatory world as well as issues surround licensure and accreditation. We'll discuss the purpose of quality assurance and how validations and inform consents impact the apheresis industry.
OPENING COMBINED SYMPOSIUM:

ADVANCES IN ECP

Richard Edelson, MD

Extracorporeal photochemotherapy (ECP) is a widely-used immunotherapy for cutaneous T cell lymphoma (CTCL), reversal of rejection of transplanted organs and graft-versus-host disease (GVHD), follow allo-stem cell transplants. ECP is distinguished by its efficacy on both sides of the immunologic equation (immunizing against malignant CTCL cells, while tolerizing against transplant antigens). These properties have suggested that ECP therapeutically forges a potent partnership with the normal immune. This talk summarizes the experimental verification of this premise. Using a mouse-to-man replica of the ECP apparatus to study both human and mouse systems, we demonstrated that the treatment efficiently induces processed blood monocytes to differentiate into fully functional dendritic antigen presenting cells (DC), the master-switch of the T cell system, in the absence of those cytokines, typically used to artificially accomplish this maturation. The DC maturation from monocytes is signaled by platelets, which were initially activated by their adherence to the gamma chain of fibrinogen coating the ECP exposure plate. These p-selectin on these activated platelets then interacts with p-selectin glycoprotein ligand-1 (PSGL-1) on passaged monocytes, which within a single day express the phenotype and antigen-presenting function of DC. In a mouse melanoma model (YUMM1.7), these ECP-induced DC, after loading with apoptotic YUMM cells, initiated therapeutic anti-melanoma CD8 and CD4 immunity in each of 111 mice. By individually subtracting individual elements, we demonstrated the dependence of ECP-induced anti-melanoma immunity on monocyte-to-DC maturation, on platelet signaling, on DC processing of apoptotic melanoma cells and on intact CD4 and CD8 compartments. These mechanistic insights encourage clinical trials of enhanced ECP in the treatment of immunogenic solid tumors, potentially expanding ECP’s applications beyond CTCL and transplant reactions.

Jennifer Schneiderman, MD, MS

Solvent organ transplant (SOT) is a potentially life-saving procedure. Despite advances in the field, patients face several long-term problems following SOT; most notably repeated episodes of rejection with the potential for graft loss. Chronic use of immune suppression (IS) significantly increases the risk of infection, secondary malignancies, cardiovascular disease, and other metabolic derangements. These challenges highlight the need to investigate novel approaches that minimize the use of lifelong IS through the induction of transplant tolerance, a state of donor-specific hypo-responsiveness. More effective and less toxic treatments are needed. Extracorporeal photopheresis (ECP) is an FDA approved immune therapy. The patient’s circulating leukocytes are collected with an apheresis device, treated with 8-methoxypsoralen (8-MOP), exposed to UV-A light, and returned. This leads to apoptosis of treated cells; cellular debris is phagocytosed by antigen presenting cells and through receptor mediated signaling, the production of pro-inflammatory cytokines falls and a T-regulatory cell population emerges. Monocytes exposed to UV-A light within the treatment plate shift to an immature phenotype; culmination of these changes results in clinical tolerance. ECP is effective in the prevention and treatment of rejection in heart, lung, kidney, and liver transplant. In prior experiments utilizing rodent models of heart, liver, and kidney transplants, we have demonstrated a significant prolongation of graft survival with a single infusion of ECP-treated donor type immune cells (ECP-DLs). It is this novel approach which distinguishes our work from the current clinical paradigm of ECP treatment of host cells following SOT; we believe our approach will be effective in the setting of living donor transplantation in which the donor is available for peripheral leukocyte collection prior to SOT. If successful, we believe that ECP-DLs therapy will result in the development of tolerance and allow tapering and subsequent withdrawal of IS, thereby improving overall outcome in patients undergoing SOT.

UPDATE FOR CMS STUDY: USE OF EXTRACORPOREAL PHOTOPHERESIS TO ARREST DECLINE IN LUNG FUNCTION AND IMPROVE OUTCOMES

George Despotis, MD

Lung transplant recipients have a 1-year post-transplant survival rate of 80%, however, long term survival remains a challenge with a median overall five year survival of 5.7 years. The two leading causes of death beyond the first year after lung transplantation are rejection and infection. Allograft
Rejection after the first year is predominately manifested by the emergence of irreversible Bronchiolitis Obliterans Syndrome (BOS) which is the leading cause of morbidity and mortality in lung allograft recipients beyond the first year and occurs at an approximate annual rate of 6-7%.

Extracorporeal photopheresis (ECP) has been used as a treatment for BOS since the 1990s with more recent studies demonstrating a significant reduction in the rate of FEV1 decline (e.g., 116 to 28 mL/month, p<0.001) following initiation of ECP therapy when compared to the rate of decline prior to ECP in up to 80% of patients.

The primary objective in our initial CMS approved study (CAG-00324R2 (Ver 6), NCT 02181257) was to confirm our previous single-center findings of efficacy i.e., that ECP results in an overall 50% decline in the rate of decline of FEV1 using patients’ pre-intervention rate of decline as the reference. After one year of enrollment, an interim analysis revealed a higher-than-expected level of early mortality related to respiratory failure despite preliminary data that indicated that there was stabilization of the rate of FEV1 decline with ECP therapy. The respiratory specific early mortality was associated with both lower enrollment (pre-intervention) lung function (i.e., FEV1 values) and increased rate of decline of lung function. These findings highlighted the importance of early detection and expedited management of BOS with early use of ECP (i.e., rather than as rescue therapy for refractory BOS) to arrest disease progression before lung function reaches a critical level, especially in patients with accelerated rates of FEV1 decline.

CMS recently approved our revised protocol that will facilitate early detection of BOS and initiation of earlier treatment in patients with either refractory BOS (n=240) and newly diagnosed BOS (i.e., via a randomized controlled cohort involving 652 patients, of which, 50% would receive ECP at the initial diagnosis). Our primary goals are to demonstrate prolonged survival, a reduction in the rate of lung function decline and improved quality of life. We are also pursuing a prospective cohort lung function monitoring study that will be reviewed under the CED platform. This lung function monitoring study will compare two forms of frequent pulmonary function monitoring in patients under surveillance for BOS or refractory BOS using either office-based spirometry (i.e., with measurements every 1-2 months) or a standardized home spirometry method (i.e., with measurements obtained 2-3 times per week).

AUTOIMMUNE ENCEPHALITIS

Angela Vincent, MD, FRCP, FMedSci, FRS

Over the last 40 years much has been learnt about the importance of antibodies to specific muscle proteins such as the acetylcholine receptor or muscle specific kinase in myasthenia gravis; detection of antibodies to these membrane proteins can assist the diagnosis, and knowledge of the pathogenic mechanisms helps inform treatment strategies. Until around 2000, however, the possibility of specific neuronal antibodies causing central nervous system (CNS) disorders was barely considered, largely because the blood brain barrier was thought to prevent all access of antibodies into the brain parenchyma. However, it is now widely recognised that antibodies to a variety of neurotransmitter receptors, ion channels or associated proteins can be the cause of inflammatory brain diseases. These conditions are generally subacute in onset, can progress rapidly requiring extensive management, and can be life-threatening, but they respond to immunotherapies with marked and sometimes complete recovery.

Autoimmune encephalitides are a group of antibody-mediated conditions of the grey matter. The most common is associated with antibodies to the N-methyl-D-aspartate (NMDA) receptor which is one of the main CNS excitatory receptors. The condition occurs most frequently in children and younger adults and in young females is often associated with an ovarian teratoma. In addition to seizures, cognitive impairment and psychiatric disturbance, the patients develop distinctive movement disorders, autonomic instability and loss of consciousness; nevertheless, sustained immunotherapies including steroids, plasma exchange, intravenous immunoglobulins, and often rituximab or cyclophosphamide, can lead to substantial or complete recovery. The next most common form is limbic encephalitis which is classically a syndrome of memory loss, seizures and psychological changes, usually associated with high signal intensity in the medial temporal lobes on MRI and sometimes hyponatraemia. Antibodies to voltage-gated potassium channel (VGKC) associated proteins such as leucine glioma inactivated 1 (LGI1) are common and the patients frequently develop a specific epilepsy type called
faciobrachial dystonic seizures. Antibodies to other CNS receptors such as the inhibitory gamma-amino butyric acid (GABA) receptors are found in fewer cases but have a stronger association with certain cancers. The presentation will illustrate the clinical presentations, the antibody targets and mechanisms, and treatment responses in this group of recently-discovered diseases.

AUTOLOGOUS HEMATOPOIETIC STEM CELL TRANSPLANTATION FOR AUTOIMMUNE NEUROLOGIC DISEASES: MULTIPLE SCLEROSIS AND STIFF PERSON’S SYNDROME

George Georges, MD

High dose immunosuppressive therapy and autologous hematopoietic stem cell transplantation (HDIT-AHSCT) has been evaluated as a treatment option for patients with relapsing remitting multiple sclerosis (RRMS) who have disease that is refractory standard disease-modifying therapy (DMT). Recently, several phase II clinical trials have been completed for patients with RRMS and demonstrate remarkable long term efficacy with approximately 70% no evidence of disease activity (NEDA) at 5 years after HDIT-AHSCT without the need for ongoing DMT, and with no or very low rates of treatment-related mortality. The results of the studies will be reviewed and critically assessed. A randomized phase III trial comparing HDIT-AHSCT versus best available highly active antibody therapy for RRMS is planned.

Using the successful treatment platform of HDIT-AHSCT for MS, we have explored whether other autoimmune neurologic diseases may be effectively treated with this technology. Stiff Person’s Syndrome (SPS) is a rare disease characterized by stiffness of skeletal muscles, episodic painful muscle spasms, and in severe cases, prevention of volitional movements and ambulation. Electromyography shows continuous motor activity. The majority of patients have autoantibodies against glutamic acid decarboxylase (GAD). Because SPS is thought to be due to an autoimmune process, intravenous immunoglobulin, plasma exchange and rituximab have been used to control disease activity. Nine patients with severe, treatment-refractory SPS, anti-GAD positive, have undergone HDIT-AHSCT per protocol. All 9 patients tolerated transplant well, and all have shown significant reduction in stiffness and recovered mobility to pre-morbid state with significant tapering or complete discontinuation of anti-spasmodic treatment. Additional follow-up and assessment of long term disease response is needed. HDIT-AHCT may be a new potentially effective treatment for SPS.

FRANCIS S. MORRISON, MD MEMORIAL LECTURE

HOW MUCH CAN WE ASK OF AN APHERESIS DONOR

Susan F. Leitman, MD

EDUCATION SESSION I: BASIC DONOR CENTER CHALLENGES

Sheryl M. Kempin, RN, MA

The AABB Uniform Donor History Questionnaire Challenges presentation will provide a high level review of the AABB Uniform Donor History Questionnaire (UDHQ) requirements and its use in the collection of apheresis donors. Donor qualification for the use of the Abbreviated Uniform Donor History Questionnaire (aUDHQ), challenges for the mitigation of TRALI risk donors, and the challenges presented by a transgender donor will be discussed.

FALLOUT FROM IMPLEMENTING FINAL RULE, ZIKA TESTING, AND MORE!

Paul Eastvold, MD, MT(ASCP)

As the blood collection agencies of America hustled to comply with the FDA May 22, 2015 final rule (a complete revision of the 600 series of the CFR that governs blood collection and manufacturing), many of them ran into issues that required some real work to comply with it. Items such as a chosen method to control bacterial contamination of platelets, new donor qualifications including hemoglobin cutoffs and weighing of all plasmapheresis donors, relevant transfusion transmitted infections (RTTI), the definition of responsible physician and a plethora of other items, some of which waited from 2007 to be more clearly defined. A quick discussion of background regulations, impact to donors and
Transition of health care from pediatric- to adult-focused care teams is complicated particularly for adolescents and young adults with chronic illness. Transition for patients with sickle cell disease often involves not only educating patients about their medical condition and therapies but also health care system challenges including maintenance of health insurance. For many of those with sickle cell disease, long-term therapies such as hydroxyurea and chronic transfusion therapy are ongoing during this transition period. This provides a unique opportunity to include the transfusion medicine and apheresis teams in the transition process. This discussion will outline the opportunities facing adolescents and young adults with sickle cell disease related to transition of medical care and establishing a job or post-high school education. Components of the American Academy of Pediatrics Got Transition Program will be presented particularly as opportunities to adapt this program for the sickle cell disease population. An overview of the challenges involved in the transition process including family involvement, transition readiness assessment, tracking the transition process and defining metrics to measure transition success will be discussed. Finally the lecture will address opportunities for including transfusion-related information in the transfer summary, patient education materials and other aspects needed for the development of formal transition processes for the sickle cell disease population.
sufficient for prophylaxis or treatment of hereditary TTP, daily plasma exchange remains the initial treatment of choice for acquired autoimmune TTP. Immunomodulatory therapies including corticosteroids, rituximab, vincristine, cyclophosphamide, splenectomy, etc. are added to eliminate autoantibodies against ADAMTS13. Several emerging therapeutic modalities are developed, including recombinant ADAMTS13, adeno-associated virus (AAV)-mediated gene therapy, platelet-delivered ADAMTS13, and antagonists targeting the interaction between platelet glycoprotein Ib and VWF. This presentation highlights the recent progress in our understanding of the pathogenesis, diagnosis, and current and potential novel therapies for hereditary and acquired TTP.

**WHAT’S NEW IN THE TREATMENT OF TTP?**

*Paul Coppo, MD*

Thrombotic thrombocytopenic purpura (TTP) is a particular form of thrombotic microangiopathy (TMA), characterized typically by microangiopathic hemolytic anemia, profound peripheral thrombocytopenia and severe deficiency in the von Willebrand factor-cleaving protease ADAMTS13 (acronym for A Disintegrin And Metalloproteinase with ThromboSpondin-1 motifs; 13rd member of the family). ADAMTS13 deficiency is usually severe (< 10%) and results from autoantibodies against ADAMTS13 (acquired TTP) or from biallelic mutations of the encoding gene. The standard treatment of autoimmune TTP consists mainly of daily therapeutic plasma exchange (TPE) that allows ADAMTS13 repletion and, to a lesser extent, removal of anti-ADAMTS13 antibodies and possibly pro-aggregatory substances. Daily TPE transformed the historically fatal prognosis of TTP, leading to the current overall survival rates of 80-85%. In the last several years, further significant changes have been introduced in the management of autoimmune TTP. The identification of the central role of anti-ADAMTS13 antibodies in the pathophysiology of TTP has led to wider use of immunosuppressive treatments. In this context, the introduction of rituximab has probably been the second major breakthrough in TTP management. Rituximab is now routinely recommended during the acute phase, typically in patients with a suboptimal response to treatment, or even as frontline therapy, with high response rates. In more severe patients, salvage strategies may include twice daily TPE, pulses of cyclophosphamide, vincristine, as well as splenectomy in more desperate cases. In this life-threatening disease, relapse prevention represents a major goal. Persistent severe acquired ADAMTS13 deficiency in patients who are otherwise in remission is associated with a high risk of relapse and preemptive treatment with rituximab may be considered in this context. In the coming years, the TTP therapeutic landscape should be enriched by original strategies stemming from clinical experience and new agents that are currently being evaluated in large, ideally international, clinical trials. Promising agents under evaluation include N-acetylcysteine, bortezomib, recombinant ADAMTS13 and inhibitors of the glycoprotein-Ib/IX-von Willebrand factor axis.

**RESEARCH DONOR COLLECTIONS FOR CELL-BASED THERAPIES: HOW DO YOU BUILD THIS INTO YOUR BUSY PRACTICE?**

*Michael Linenberger, MD, FACP*

Cell-based therapies include a number of treatment modalities that require as starting material peripheral blood cells that are collected from the patient or donor by leukocytapheresis. Mononuclear cell products collected by apheresis [MNC(A)] contain innate and adaptive immune cells that can be manipulated in vitro to generate highly active populations that induce robust antitumor responses after they are infused into the patient. Stem cells isolated from an hematopoietic progenitor cell, apheresis [HPC(A)] product can be genetically modified or further manufactured in vitro in order to correct an inherited defect. This session will briefly highlight different cell-based therapies that are initially derived from donor or patient MNC(A) or HPC(A) products. The importance of product quality will be discussed, including the potential impact of apheresis collection techniques on manufacturing efficiency, potency & product performance. The key elements of research project management will be emphasized, with focused summaries covering process development and planning, operational and logistical issues, the importance of administrative support, patient and donor screening, the role of quality and regulatory oversight and the need for close collaboration with the laboratory. At the end of the session, participants will have a broad and somewhat detailed appreciation of the challenges and rewards of implementing a service to provide apheresis products for cell-based therapies.
PATHOGEN REDUCED PLATELETS
Sherrill Slichter, MD

Potential Advantages / Disadvantages of Pathogen Reduced Platelets

Potential Advantages
- Reduces the incidence of bacterial and viral transmissions by transfusion.
- Eliminates the next unknown infectious agent from entering the blood supply.
- Permits extended storage of room temperature platelets without bacterial testing and expanded platelet inventories contributes to improved platelet availability.
- Prevents alloimmunization to transfused platelets when combined with filer leukoreduction.

Potential Disadvantages
- Reduces post-transfusion platelet viability by approximately 25% leading to more platelet transfusions.
- Associated with a higher risk of bleeding in some but, certainly not most, clinical trials.
- Increases cost of transfused platelets.
- May have currently unrecognized adverse events.

Conclusion
Overall, the potential benefits of pathogen reduction far outweigh the increased costs if one considers the possibility of eliminating the need for developing new infectious disease tests, extending platelet storage times allowing better platelet inventory management without the need for bacterial testing, and replacing gamma irradiation to prevent TAGVHD.

EDUCATION SESSION III: CHANGE MANAGEMENT AND ERROR PREVENTION STRATEGIES

CHANGE MANAGEMENT IN A DONOR APHERESIS PROGRAM: A PROGRAM MANAGEMENT APPROACH
Margaret Hannan, BS, LPN, AT(ASCP), CQA(ASQ)

vCJD, Zika, bacterial risk control strategies for platelets, AABB UDHQ, Final Rule, Zika, T Cruzi, and Ebola! These are the subjects of some of the FDA Guidance for Industry documents which you may have had to implement in the last year. Implementation of new or revised procedures, processes, products or services should be performed in a standardized and systematic fashion. Random and inconsistent change results in chaotic implementation without realization of the change’s impact on surrounding systems or departments. Change control is a methodical approach to managing changes to a system or process that helps to ensure that the change is evaluated, tested, documented, and that there are no unexpected interruptions to business. However, that is easier said, than done. Changes within the blood banking industry seem to be more complex and have more far-reaching effects than other industries, and staff responsible for implementing these changes often has to do this in addition to their “day job.”

During this session we will present one blood center’s approach to change control using the discipline of project management through its Program Management Office (PMO). The PMO provides support in the areas of process design, risk management, change management and project portfolio management, and provides project management support for organizational projects and initiatives. If you’re thinking that this sounds too big for your organization, think again! Join us for this exiting session where you will learn how a PMO with a department of one can make change control and project implementations more successful no matter what the size of your organization.
CHANGE CONTROL IN AN APHERESIS COLLECTION CENTER
Lorna Riach, MA, MT(ASCP), BS

Change control is a fundamental element of any Quality Management System. It can also be one of the most daunting...as change is always happening in current times. While it’s appropriate to think of change as a journey, and not just the destination, an apheresis collection center must plan for it as both a journey and destination!

The first step in ensuring a successful journey is to provide in the Quality Plan the process by which an apheresis collection center identifies, reviews, approves, plans, documents, implements and communicates changes in a controlled fashion. Change may be identified in a collection center in any of the following: processes, procedures, policies, operational model, computer/information systems, physical location or infrastructure, forms or equipment. A successful change management plan – also known as a change control plan – is, at its core, a plan to successfully reach your destination. A change control plan must be robust enough to serve any size, combination or type of change. Plans must be flexible enough to manage large scale changes and ensure comprehensive planning while also being flexible enough to manage small scale changes to allow for operational efficiency. With the right plan (ensuring the right journey/approach) any change can be a success! (And like any journey the fun can be had in both the journey and the destination.)

In this session, the presenter will share examples and tools for managing change control in an apheresis collection center.

ERROR ANALYSIS & PREVENTION
Lynne O’Hearn, BS, MT(ASCP)

Errors, accidents, episodes and occurrences are continual challenges in a healthcare environment in which staff is tasked with being very productive, highly skilled and extremely adaptable to new technologies and ever growing responsibilities. Errors can be reduced through a robust organizational design and management system that documents occurrences, analyzes errors, focuses on process improvement, and engages front line staff in the analytic process. This presentation will underscore factors that contribute to errors, discuss strategies used in error analysis that identify root causes and offer suggestions for error reduction and prevention.

EDUCATION SESSION IV: INTERNATIONAL APHERESIS SESSION

Join us to learn more about offline ECP from an expert panel of international speakers. The pros and cons of offline ECP, the potential advantages and its perceived potential impact in the treatment of patients with immunological diseases will be discussed.

THE NEED FOR INDIVIDUALIZED PROCEDURES IN ECP, THE EUROPEAN PERSPECTIVE!
Volker Witt, MD

NETWORK EXTRACORPOREAL PHOTOPHERESIS
Johannes Fischer, MD

EDUCATION SESSION V: PEDIATRIC CASE STUDIES: APHERESIS IN THE TINIEST PATIENTS

A CASE REVIEW: COLLECTION OF HPC FROM A BABY UNDER 10KG
Jennifer Collins, RN

Background: Pediatric patients with high risk neuroblastoma are referred for autologous stem cell apheresis for future high dose chemotherapy and stem cell rescue. Most pediatric apheresis nurses are proficient with priming a circuit with blood or albumin when indicated. However apheresis can be challenging when patients are smaller than 13kg or have a total blood volume less than 1 liter.

Case Report: A 14 month, 9.5kg old baby with a total blood volume (TBV) of 712ml presents for collection of hematopoietic progenitor cells. He was mobilized with granulocyte stimulating factor (G-CSF) 10 micrograms/kg for 4 days prior to apheresis using the Optia MNC procedure which utilizes a chamber to concentrate target buffy coat for collection rather than a continuous pumped volume into a collect bag. Acid Citrate Dextrose Formula-A (ACDA) was used for anticoagulation; the infusion rate was increased to 1.2ml/kg/Liter of TBV in order to achieve the minimal inlet rate
of 10ml/minute. Calcium gluconate was given as continuous infusion to maintain the patient’s ionized calcium levels, which were monitored periodically during the collection. The patient’s peripheral WBC was 59,000 with 52,000 platelets. We processed 4x total blood volume (2876ml) over 314 minutes, and collected 120ml; the patient ended with a positive fluid balance of 148ml. Product yield was 12.5 x 106 CD34+/kg with a hematocrit of 9%.

Conclusion: The product had a hematocrit higher than desired likely due to adjustments made in response to alarms such as “Cells seen too soon” following the 1st collection phase. Data entry was checked and the procedure continued without changes. When the same alarms recurred during the 3rd harvest phase, changes were made to collect at specified volume then to collect lighter. Making this change later likely allowed more red cells into the chamber and eventually into the product bag. A successful collection was performed, with no side effects for the patient.

PERFORMING PLASMAPHERESIS ON A NEWBORN

Jennifer Anderson, RN, BSN, HP(ASCP)

Term female infant born at 39 weeks via vaginal delivery with induction of labor for intrauterine growth restriction (weight 2825gms) to a healthy G2P1 32-year-old mother. Delivery was uneventful with APGAR scores of 8 and 9 at 1 and 5 minutes. Four hours after birth she developed worsening respiratory distress, was transferred to the NICU, intubated and given surfactant. Transferred to another hospital where echocardiogram showed evidence of possible cardiac thrombus. She was then transferred to our institution for persistent pulmonary hypertension of the newborn and cardiopulmonary failure. Patient was immediately put on ECMO for worsening oxygenation and blood pressure instability. Plasmapheresis was ordered for possible unidentified coagulating antibodies causing thrombosis.

EDUCATION SESSON VI: TANDEM PROCEDURES

TANDEM PROCEDURES: THE TALE OF TWO CIRCUITS

Joan Myers, RN, BSN

Extracorporeal Membrane Oxygenation (ECMO) is a treatment used for patients with heart and/or lung failure that is unresponsive to other therapies. EMCO can provide respiratory and/or circulatory support while allowing the patient’s heart and or lungs time to rest. On occasion, patients undergoing ECMO may also require therapeutic plasma exchange (TPE) as part of their treatment regimen. Since the patient cannot be removed from the ECMO circuit, the therapeutic plasma exchange kit must be connected in tandem to the ECMO circuit to perform the procedure. Additional considerations such as blood prime and calcium administration should be discussed with the apheresis and ECMO team prior to the initiation of the therapy. During the presentation I will discuss the special considerations my team utilizes before initiating treatments in a pediatric setting.

THERAPEUTIC APHERESIS PERFORMED IN TANDEM WITH DIALYSIS AND LEFT VENTRICULAR ASSIST DEVICES

Vishesh Chhibber, MD

This session will provide an overview of therapeutic apheresis performed in tandem with dialysis and left ventricular assist devices. We will review some of the important technical aspects of performing these tandem procedures including mapping of blood flow through the devices and the options available for anticoagulation. We will also discuss the risks and benefits of these procedures being performed in tandem.

CLOSING SYMPOSIUM

PEDIATRIC PERIPHERAL BLOOD CELLULAR COLLECTIONS: LINES, PRIMES, AND KINDS

Kelley Capocelli, MD

This presentation will discuss the logistics of performing pediatric peripheral blood cellular collections. The first part of the talk will review the types of lines that may be used
for collections and discuss advantages and disadvantages of each category of line. The second portion of the talk will discuss the options available for apheresis machine primes, including standard blood primes, modified blood primes, and albumin primes. Finally, the presentation will review the kinds of cellular collections that are commonly undertaken in the pediatric setting with review of the differences between collection platforms and the advantages and disadvantages of each.

STEM CELL TRANSPLANT IN PEDIATRIC PATIENTS
Erin Meyer, DO, MPH

The focus of my portion of the talk on stem cell collection in pediatrics will be on adverse events in these patients. I will also focus on the utility of peripheral blood progenitor cell collection for stem cell transplant in pediatrics as compared to adult patients. I will also discuss the efficacy of mid-point CD34 counts off the stem cell collection bag in pediatrics.

DRUG REMOVAL BY THERAPEUTIC PLASMA EXCHANGE: A WELLNESS CHECK
Rami Ibrahim, MSc, PharmD

Therapeutic Plasma Exchange (TPE) is gradually carving out an important role in the treatment of various diseases that cut across many specialties. With this expansion comes the concern of its effect on the disposition of the medication(s) patients are receiving. At present, the state of biomedical evidence evaluating this predicament (drug removal by TPE) is far from ideal. The literature landscape is predominately dotted with case reports, mostly describing TPE use in drug overdose situation – and a scarcity of rigorous pharmacokinetics trials. This state of affairs hasn’t changed much over the years despite many calls in the medical community to the opposite. The presentation will showcase the important contributions made to the drug removal by TPE literature. At the same time it will highlight areas in the field that are found wanting.

ANTICOAGULANT REMOVAL IN APHERESIS
Oluwatoyosi Onwuemene, MD, MS

This session presents an overview of the effects of therapeutic apheresis on systemic anticoagulant therapy. We will review the mechanisms by which therapeutic apheresis impacts anticoagulant drug levels to modify anticoagulant effect. We will discuss how modulation of anticoagulant drug effect may impact both thrombus and bleeding risk. With an emphasis on therapeutic plasma exchange (TPE), we will review the known effects of therapeutic apheresis on plasma coagulation protein removal. The implications of coagulation protein removal on patient outcomes and bleeding risk will also be discussed. Finally, we will review published reports on the effects of therapeutic apheresis on various oral and parenteral anticoagulants. Recommendations for best practices in therapeutic apheresis anticoagulant drug management will be given.

EDUCATION SESSION VII: APHERESIS ACCESS: TIPS & TRICKS/BEST PRACTICES

Join us for a hands-on session to learn more about apheresis access tips, tricks and best practices! A number of experts in the field will facilitate interactive round tables focused on ports, central lines and peripheral access. Participants will have the opportunity to visit each of the tables during the session. This session has been developed for and is targeted to those who are providing direct patient care.
EDUCATION SESSION VIII: ASFA & AABB
JOINT SESSION – RBC TRANSFUSION
PRACTICE FOR SICKLE CELL DISEASE PATIENTS

THE OPTIMAL RBC PRODUCTS FOR RBC EXCHANGE IN SICKLE CELL PATIENTS – TWO APPROACHES
Nicole Draper, MD & Stella Chou, MD

This program will provide a discussion of the optimal RBC products for RBC exchange in Sickle Cell Patients. First, presenters from two different institutions will provide their approach to RBC antigen matching for RBC exchange. Second, a discussion of molecular testing for red cell antigens, including the use of Next Generation Sequencing (NGS), will be presented, with a focus on testing for sickle cell patients.

MOLECULAR TYPING OF RED CELL ANTIGENS (WHEN, WHY AND HOW?)
Connie Westhoff, MT(ASCP), SBB(ASCP), PhD

Typing for red cell and platelet antigens by DNA methods (genotyping) has become an important part of the practice of transfusion medicine over the last decade. The results are reliable and highly correlated with serologic phenotyping, and are superior in some situations. DNA-based typing has revealed increased allelic variation and diversity in a number of blood group genes, particularly Rh. These antigenic variants are not detected using conventional serologic typing.

A molecular genetic approach is particularly relevant for patients with Sickle Cell Disease in who red cell transfusion results in alloimmunization in approximately 20-50% of patients. The discovery that RH genes have increase diversity in these patients has led to our current studies to address alloimmunization to Rh by implementing genetic matching and provision of precise matched donor units to prevent alloimmunization and transfusion reactions.

Next generation sequencing is rapidly being applied in many areas of medicine. Individuals with chronic illness may soon get routine whole genome sequencing for diagnosis and treatment. This data can be used in transfusion medicine and this session will discuss the speaker experience applying whole genome and exome sequencing to transfusion, with emphasis on patients receiving chronic transfusions.
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