Medical Advisory Board Meeting Minutes
Friday, June 7, 2019
Fairmont Scottsdale Princess – Scottsdale, Arizona

I. Call to Order

Dr. Jennifer Li called the meeting to order at 1:00pm.

The following members were present:

Jennifer Li, MD	Medical Advisory Board Chair
Winston Chamberlain, MD, PhD	Medical Advisory Board Vice Chair
Woodford Van Meter, MD	EBAA Chair
Kevin Corcoran,	EBAA President & CEO
Jennifer DeMatteo	EBAA Director of Regulations & Standards
Eric Meinecke, CEBT	Medical Advisory Board Secretary
Tony Bavuso, CEBT	
Beth Binnion, CEBT	
Jason Brosious, CEBT	
Brychan Clark, MD	FDA Liaison
Patricia Dahl, CEBT	
Donna Drury, CEBT	
Sander Dubovy, MD	
Sean Edelstein, MD	
Josh Galloway, CEBT	Tech Ed & Certification Board Chair
Brian Ha, CEBT	
Holly Hindman, MD	
Bernie Iliakis, CEBT	
Christopher Ketcherside, MD	Accreditation Board Co-Chair
David Korroch, CEBT	
W. Barry Lee, MD	
Marian Macsai, MD	Medical Review Subcommittee Chair

Kristin Mathes
Shahzad Mian, MD
Tom Miller, CEBT
Brian Philippy, CEBT
Jim Quirk, CEBT
Michelle Rhee, MD
George Rosenwasser, MD, CEBT
Chris Stoeger, CEBT — Accreditation Board Co-Chair
Michael Titus, CEBT — Technical Procedures Manual Subcommittee
David Verdier, MD

II. Approval of Minutes

Dr. Li called for a motion to accept the minutes from the October 25, 2018 meeting held in Chicago.

A motion was made and seconded to approve the minutes as submitted, without change. Motion Passed.

III. Committee Reports

A. Medical Review Subcommittee

Dr. Marian Macsai reviewed OARRS summary data and graphs.

68 Primary Graph Failures (PGFs) were reported in 2018, compared with 55 in 2017. 10% from PK, 90% from EK, with the majority following DSEK; 50% in patients with Fuchs' dystrophy and a mean endothelial density of 2863. 48 Early Regrafts were reported in 2018, up slightly from 2017; 10% PK, 52% DSEK, 38% DMEK; 54% in patients with Fuchs' and a mean endothelial cell density of 2861. The rising trend of PGF and Early regraft cases may reflect the transition from PK to EK.

Endophthalmitis decreased from 21 cases in 2017 to 13 cases in 2018; 31% following PK, 54% DSEK, and 15% DMEK; 38% had concordant positive cultures; 4 were Candida species or Yeast, 3 were bacterial, and 4 cultures were not done. Infectious keratitis also decreased from 21 cases in 2017 to 13 cases in 2018; 23% PK, 69% DSEK, and 8% DMEK; 5 cases of Candida infections and 6 cultures were not done. There was a dramatic decrease in overall infections from 8.25 infections per 10,000 grafts in 2017 to 5.07 infections in 2018, which may be due to decreased warming times.

Kristin Mathes, from Lions VisionGift, presented a case where research tissue was errantly transplanted into a patient. The surgeon had requested a preloaded DMEK tissue to practice with. After practicing in the OR, the surgeon placed the tissue back into its packaging and placed the box back into storage. The research tissue was mistakenly

transplanted into a patient in place of the transplant tissue. The errant tissue was explanted upon discovery. The patient developed a whitish plaque behind the posterior capsule which grew Staphylococcus epidermidis, which cleared with Vancomycin and Ceftazidime intravitreal therapy.

The investigation and root cause analysis (RCA) showed no violation or deviation from core CGTP manufacturing steps by the eye bank. The tissue was labeled correctly and shipped separately from transplant tissue. The surgeon and OR staff did not perform the necessary surgical time-out to verify donor and recipient information or review labels on the viewing chamber. Although the biohazard label was present, the wording "For nonclinical use only" may not mean the same thing to eye bankers and OR staff.

A motion was made and seconded to revise H1.000 to read:
"The use of ocular tissue from a donor determined to be ineligible is not prohibited for non-clinical uses, so as long as they bear the Biohazard legend and are labeled "For Non-clinical Use Only" and "Not for Transplant."

Tissue distributed for non-clinical purposes (e.g., teaching and/or research) from a donor who has been determined to be ineligible for transplantation due to results of required testing and/or screening or from donors who have not been tested for required infectious diseases, must have a label affixed to the individual tissue container which contains the information below.

1. "For Non-clinical Use Only"
2. "Biohazardous" or biohazard legend
3. "Not for Transplant""

Motion Passed. Eye banks will have 3 months to implement this change.

B. Policy & Position Research Subcommittee

No report.

C. Accreditation Board

Chris Stoeger reported that 18 banks had been inspected during the past accreditation cycle. 4 banks had no findings and all 18 banks received a 3-year accreditation. Mr. Stoeger noted that there had been no potential threats identified for any of the banks.

Kevin Corcoran has informed the Accreditation Board (AB) that EBAA is beginning to formulate plans for the accreditation of non-member organizations.

During the AB meeting, members were trained on how to score inspections. This function was previously done by the AB co-chair but going forward, inspectors will be expected to calculate the scores and the AB co-chair will verify for accuracy.

Dr. Ketcherside also updated the AB on the use of live video (e.g. FaceTime) for some inspections. There will be more evaluation on the use of this technology and Dr. Ketcherside will report back at the fall AB meeting.

D. Certification Board

The Spring Exam took place March 23-April 6 and 27 candidates took the exam in the US, Canada, and Saudi Arabia. Out of the 27 people who took the exam, 17 people passed, which means that for this exam period there was a 62.9% passing rate. This was the first time that an exam was given with the new Exam Outline that was created (and approved by the Certification Board and Board of Directors) last year. Some of the members of the Exam Committee met last summer to re-categorize all the questions in the item bank based on the new outline and then a group met in December in Washington, DC to edit the new exam. While the passing rate seems lower than historical norms, Mr. Galloway said the testing company indicates it is not out of statistical expectations and is in line with performance on past exams immediately after revisions.

The Exam Committee held a webinar in January to prepare candidates for the exam. The session highlighted recent changes and updates as well provided tips and tools for those planning to take the exam. The webinar is now located on eyeLEARN. The Exam Committee reviewed the exam application and updated the Practical Performance Competency Verification to include the option of a laboratory excision or an in situ excision.

Mr. Galloway announced that the Fall 2019 CEBT exam would take place October 12-26. Applications to take the exam outside of the US and Canada are due August 9, while applications to take the exam in the US and Canada are due September 4. The application is available on the EBAA website and features the new Practical Performance Competency Verification.

E. Technician Education

The 2019 Technician Education Seminar was hosted by the Lions Eye Bank of Delaware Valley and took place in Philadelphia (January 31 – February 2). There were 40 attendees from the US and Canada. The TES featured a wide range of new elements, including an online portion where half of the sessions were offered online via EBAA's online education portal, eyeLEARN, prior to the course. The 2019 TES was more interactive and had more hands-on learning opportunities. The faculty were Dr. George Rosenwasser (Gift of Life Donor Program Eye Bank), Josh Galloway (Lions VisionGIft), Sam Ramos (Sierra Donor Services Eye Bank), Ingrid Schunder (Miracles in Sight), and Troy Win'E (SightLife). The attendees were able to hear from a donor family member and a cornea transplant recipient. Josh thanked the faculty and the Lions Eye Bank of Delaware Valley.

The Slit Lamp Microscopy Seminar will take place in October at Lions Gift of Sight in St. Paul, Minnesota. Registration is open and will be limited to 18 attendees.

The Technician Education Committee hosted the webinar, “Let’s Get Together: Enhancing Collaboration on Shared Cases,” on February 28 which featured working on cases with tissue banks. The speakers were Jon Boyd from AATB, Troy Win’E (SightLife), and Esteban Rangel (CorneaGen). This session is available on eyeLEARN.

The Technician Education Committee will be hosting a webinar, “Research Tissue: From the Eye Bank to the Researcher,” on Wednesday, August 28th at 1pm. The speakers for this session are Kristen McCoy (Eversight), Sung Lee (Lions Gift of Sight), David Ammar (Lions Eye Institute for Transplant and Research), and Dan Stamer (ARVO).

F. Technical Procedures Manual

Michael Titus reported that the Technician Procedures Manual Subcommittee was tasked with including the tissue evaluation recommendations of the Tissue Suitability Subcommittee during the last MAB meeting. At the same time, another subcommittee was formed to finalize the Medical Standard verbiage on tissue surgical suitability, which will be voted on at this meeting. Pending approval, the subcommittee with incorporate the remaining recommendations for inclusion in the technical procedures and report back at the next MAB meeting.

IV. Old Business

A. Tissue Surgical Suitability Subcommittee

Brian Philippy reported on the work of the Tissue Surgical Suitability Subcommittee since the previous MAB. The Subcommittee is proposing to separate tissue suitability concepts from donor eligibility concepts in Medical Standard D1.110 and add the tissue suitability concepts to F1.100 and F1.300. The proposed changes to the three Medical Standards were presented and voted on separately.

The subcommittee added the traditional concept of clear zone and introduced the concept of “arcus only clear zone.” A motion was made and seconded to approve changing F1.100 Slit Lamp Examination to read, "Document the observations of the slit lamp examination with particular attention to the epithelium, stroma, and endothelium such as, but not limited to, scars, edema, arcus, pterygia, neovascularization, striae, epithelial defects, guttata, polymegathism, pleomorphism, infiltrates, or foreign bodies.

The eye bank should delineate a “clear zone” on each cornea as a measurement of diameter (in millimeters) of the clear central cornea, free of neovascularization, pterygia, arcus, or other stromal anomalies. Anterior stromal scars may be omitted from clear zone

measurement, as long as details of scar location, size, and relative depth are made available to the transplanting surgeon. Clear zone measurements are acknowledged to impact surgical suitability determination more significantly for surgery types utilizing the anterior corneal segment (e.g. PK, ALK, K-Pro). Eye banks are encouraged to provide a measurement of an arcus clear zone (a measurement of clear central cornea free of arcus only), if that measurement may responsibly improve or otherwise clarify surgical suitability determination." Motion passed.

The subcommittee is recommending changing the name of F1.300 to "Determination of Surgical Suitability," and limiting this standard to tissue suitability exclusions only

A motion was made and seconded to revise F1.300 Determination of Surgical Suitability to read, "The eye bank responsible for evaluation of ocular tissue shall specify whether the tissue meets the criteria for penetrating keratoplasty (PK), anterior lamellar keratoplasty (ALK/DALK), Descemet's stripping endothelial keratoplasty (DSEK/DSAEK), Descemet's membrane endothelial keratoplasty (DMEK), keratolimbal allograft, and "other" surgical use (e.g. keratoprosthesis, long-term preservation for later shunt patch/ALK/tectonic use, experimental surgical use, etc.)..

Corneoscleral Disc Minimum Suitability Standards

Minimum suitability for penetrating keratoplasty (PK):

- No stromal infiltrates
- No pterygia, neovascularization, foreign bodies, or visually significant stromal scars within intended graft area
- No evidence of endothelial dystrophy
- Minimum endothelial cell density (as defined in eye bank's policy)
- No Down syndrome or evidence of ectatic dystrophy (e.g. keratoconus, keratoglobus, etc,
- No prior laser or incisional refractive surgery (e.g. radial keratotomy, lamellar inserts, photoablation, etc.)

Minimum suitability for anterior lamellar keratoplasty (ALK/DALK):

- No stromal infiltrates
- No pterygia, neovascularization, foreign bodies, or visually significant stromal scars within intended graft area
- No Down syndrome or evidence of ectatic dystrophy (e.g. keratoconus, keratoglobus, etc.)
- No prior laser or incisional refractive surgery (e.g. radial keratotomy, lamellar inserts, photoablation, etc.)

Minimum suitability for Descemet's stripping endothelial keratoplasty (DSEK/DSAEK):

- No stromal infiltrates

- No foreign bodies or visually significant scars affecting posterior stroma within intended graft area
- Minimum endothelial cell density as defined in eye bank's policy
- Sufficient rim size and corneoscleral disc size to facilitate mounting on artificial anterior chamber

Minimum suitability for Descemet's membrane endothelial keratoplasty (DMEK):
- No stromal infiltrates
- No foreign bodies
- Minimum endothelial cell density (as defined in eye bank's policy)

Minimum suitability for keratolimbal allograft (KLA):
- No stromal infiltrates
- Sufficient scleral rim (minimum must be defined in eye bank's policy)
- Conjunctiva must be intact over sufficient portion of rim to facilitate allograft (rim portions may be considered from mated pairs)
- No history of melanoma or metastatic cancer of a solid organ

Minimum suitability for Long-Term Cornea Preservation/Other:
- No stromal infiltrates
- No pterygia on graft segments

Sclera Minimum Suitability Standards

Minimum suitability for sclera for any surgical use:
- No stromal infiltrates on cornea from the eye that produced scleral grafts
- No history of melanoma or metastatic cancer of a solid organ"

Motion passed

The proposed verbiage for standard D1.110 has been limited to donor *eligibility* items and has been stripped of all surgical *suitability* elements.

A motion was made and seconded to change D1.110 EBAA Contraindications for Transplant to read," Determination of donor eligibility is an eye banking function including considerations listed in multiple sources (e.g. US Food and Drug Administration, Health Canada, various state departments, Medical Director input, etc.). In addition to these sources, the EBAA Medical Advisory Board has determined that tissues from persons with the following are potentially health threatening for the recipient(s) or pose a risk to the success of the surgery and shall not be offered for surgical purposes:

A. All Ocular Donors

1. death of unknown cause and there is likelihood of other exclusionary criteria;

2. congenital rubella;
3. Reye syndrome within the past three months;
4. Active viral encephalitis of unknown origin or progressive encephalopathy (e.g., subacute sclerosing panencephalitis, progressive multifocal leukoencephalopathy, etc.);
5. active bacterial or viral meningitis;
6. active bacterial or fungal endocarditis;
7. suspected rabies and persons who, within the past six months, were bitten by an animal suspected to be infected with rabies;
8. intrinsic eye disease;
    a. retinoblastoma;
    b. malignant tumors of the anterior ocular segment or known adenocarcinoma in the eye of primary or metastatic origin;
    c. active ocular or intraocular inflammation: conjunctivitis, keratitis, scleritis, iritis, uveitis, vitreitis, choroiditis, or retinitis
9. active leukemias;
10. active disseminated lymphomas;
11. Parkinson, amyotrophic lateral sclerosis, multiple sclerosis, and Alzheimer disease;
12. Creutzfeldt-Jakob disease (CJD), variant Creutzfeldt-Jakob Disease (vCJD), or family member with CJD;
13. history of Ebola Virus Disease (EVD);
14. history of melanoma with known metastatic disease*

* Excluded from this contraindication are tissues subjected to terminal sterilization methods that deactivate neoplastic cells (e.g. gamma irradiation of corneas preserved in albumin)"
Motion passed

The subcommittee also made a few small revisions to the previously submitted matrix. The Technical Procedures Manual Subcommittee will make the necessary changes and will report back at the next MAB.

B. ISBT 128 Standardization

Patricia Dahl presented an update from the ISBT 128 Standardization Subcommittee. The Subcommittee members were Pat Dahl (Chair), Brian Philippy, Victoria Adler, Kristin Mathes, Tiffany Ramirez, Jared Brown, Dr. Holly Hindman, and Jennifer DeMatteo. The Committee was changed with creating a guidance document for EBAA members and end users to better understand the ISBT 128 tissue product label.

The subcommittee created a two-sided PDF document that identifies the required elements included on an ISBT 128 label and lists the recommended Product Codes for various tissue types on the other side. A short video entitled "The Anatomy of ISBT 128 Labels" was also developed and both resources will be added to the EBAA website. The

Technical Procedures Manual Subcommittee was also asked to incorporate this guidance into their procedures.

C. Preservation Time Data Collection

Donna Drury presented the report from the Cornea Preservation Time Data Collection Subcommittee to help track the impact of the CPTS study on surgeon practice. Subcommittee members were Donna Drury (Chair), Brian Philippy, Dr. Jonathan Lass, Dr. Sadeer Hannush, Dr. Tony Aldave, Dr. Barry Lee, and Jennifer DeMatteo.

The subcommittee proposed adding nine fields to the current data collected in EBAA Connect to track the Preservation Time (from preservation date to surgery date) for domestic surgeries for PK, DSAEK, and DMEK. These fields would break preservation time into three subcategories (1-7 days, 8-11 days, and 12-14 days) to mirror the periods from the CPTS study. A quote was requested from Transplant Connect to add these nine fields to EBAA Connect, however the company was not willing to provide a quote until the MAB decided to add this information to the report.

A motion was made and seconded to add these nine fields to EBAA Connect and revise M1.600 to read, "Each source eye bank shall report information on surgery date for domestic tissue placements, in addition to surgery technique, indications for surgery, and destination country for all tissue. Motion passed conditional on EBAA Board of Directors financial review and approval.

V. New Business

A. Proposed change to Medical Standards Appendix V

Zahra Abdullahi requested that Appendix V be revised to read that adverse reactions be reported to Health Canada within 24 hours.

A motion was made and seconded to revise Appendix V to read, "The eye bank's quality assurance program shall include a method for the receiving surgeon to report adverse reactions from the transplantation of corneal, scleral, or other ocular tissue to the distributing eye bank. The distributing eye bank must forward the adverse reaction information to the source eye bank, which made the donor eligibility determination. The source bank must perform an investigation and must report the adverse reaction information within 30 days to the EBAA office for review by the Medical Advisory Board. In accordance with Health Canada, adverse reactions involving a relevant communicable disease must be reported to Health Canada within 24 hours of receipt of the information if the adverse reaction is fatal, life-threatening, results in permanent impairment or damage or requires medical or surgical intervention." Motion passed.

B. QA Committee recommendations for EBAA Procedures Manual

Kristen Pereira presented two QA-specific procedures written by the EBAA Quality Assurance Committee for inclusion in the Technical Procedures Manual. The *Deviation Investigation and Reporting* procedure outlines the steps for investigation and reporting deviations and departures from procedures, regulations, and standards. *Infectious Disease Testing and Screening* outlines the infectious disease testing required by EBAA, FDA, and other regulatory agencies.

A motion was made and seconded to add these procedures with minor edits to the Procedures Manual. Motion passed

C. Neurological Exclusionary Criteria

George Rosenwasser, MD requested the addition of Guillain-Barre and Chronic Inflammatory Demyelinating Polyneuropathy (CIDP) to the listing of neurological contraindications in D1.110.

The suggestion was made to instead add a listing of demyelinating disorders to Appendix II: FDA-defined Contraindications to Transplant. Text in ***bold/italics*** is an interpretation or amendment by the EBAA for clarification purposes.

A motion was made and seconded to revise Appendix II., I. Risk Factors, q to read,
"q. Persons who have been diagnosed with dementia or any degenerative or demyelinating disease of the central nervous system or other neurological disease of unknown etiology. ***Examples include Parkinson, amyotrophic lateral sclerosis, multiple sclerosis, Alzheimer disease, Guillain-Barre and Chronic Inflammatory Demyelinating Polyneuropathy (CIPD).*** Potential donors who have a diagnosis of delirium (e.g., delirium caused by toxic/metabolic diseases or recent head trauma) would not necessarily be considered to have a diagnosis of dementia and should be evaluated by the Medical Director. (Ocular tissue from donors with dementia confirmed by gross and microscopic examination of the brain to be caused by cerebrovascular accident or brain tumor and who are confirmed not to have evidence of TSE on microscopic examination of the brain may be acceptable based on an evaluation by the Medical Director)."
Motion passed

D. Standardized Data Collection for Surgeons

Holly Hindman, MD proposed that MAB work with the Statistical Review Committee to develop a standardized Tissue Utilization Form to accurately collect data on procedures and surgical diagnosis. A subcommittee was formed to create recommendations for a standardized form and report back at the next MAB. Subcommittee members: Holly Hindman, MD (Chair), Pat Dahl, Kristin Mathes, Jason Brosious, Michelle Rhee, MD and Jennifer DeMatteo.

E. B1.200

Chris Stoeger reported that the Accreditation Board had a robust discussion about EBAA notification requirements when eye banks are inspected by official agencies. For clarification, the AB requested that B1.200 be revised to include "notices of inspection" with emphasis to the word "written."

A motion was made and seconded to revise B1.200 to read, "Any *written* documentation of notices of inspection, observations, findings, or results (including but not limited to Food and Drug Administration (FDA) Form 483) received by an eye bank which are related to any inspection by an official agency shall be sent to the EBAA office within ten (10) business days of receipt. The EBAA office shall be copied on all future related correspondence." Motion passed

F. Online Adverse Reaction Reporting System (OARRS) Updates

Jennifer DeMatteo presented a summary of the recent changes to the Online Adverse Reaction Reporting System (OARRS). The current system was developed in 2006 and required updates to the programming language and SSL encryption to make the website more secure. The updated OARRS system has enhanced features and real-time saving. The system includes a link to the updated Change Form, which can be completed and submitted online. The go-live date is June 8, 2019 and the new URL for the website is: https://oarrs.restoresight.org/banks/sign_in.

Jennifer thanked the Medical Review Subcommittee members and especially Susan Hurlbert (Eversight) and Marie Engstrom (Lions VisionGift) for helping to test the OARRS system.

VI. Late Additions

None

VII. For Information and Review

A. CINRYZE®

VIII. Adjournment

A motion was made and seconded to adjourn the Medical Advisory Board meeting. Motion Passed.