Certified Eye Bank Technician (CEBT) Exam Study Guide

This document has been prepared and approved by members of the EBAA Exam Committee. It is intended to be used as a guide for candidates taking the Certified Eye Bank Technician Exam. The information contained in this document follows the format of the current exam content outline and is designed to highlight resources that may be used to study for the exam.

General study resources include, but are not limited to:

- EBAA Medical Standards
  - Including appendices and glossary of terms
  - The current edition is available at www.restoreight.org.
- EBAA Technical Procedures Manual
  - Including glossary of terms
  - The current edition is available at www.restoreight.org.
- Food and Drug Administration CFR 1271
  - FDA Final Guidance for Industry: Current Good Tissue Practice (cGTP)
  - FDA Final Guidance for Industry: Eligibility Determination for Donors of HCT/Ps
- Introduction to Eye Banking, A Handbook and Atlas, Rosenwasser and Nicholson
- Corneal Surgery and Technique, Brightbill, McDonnell, McGhee, Farjo, Serdarevic
- Berry and Kohn's Operating Room Technique, Phillips

Study Tips:

- When an EBAA Medical Standard (MS) and/or Procedure Manual (PM) section is referenced as ‘1.000’, the entire section should be reviewed, as opposed to a specific sub-section.
- The MS and PM includes additional references for each section, which are good study resources.
- Use Tabers Medical Dictionary or an online resource to look up any unfamiliar words.
- Don't study from your eye bank's SOPs. Use original sources for practice such as CFRs or EBAA Medical Standards, or any source that is referenced, i.e. Berry and Kohn's OR Technique.
### Exam Outline

#### I. Anatomy and Physiology (12%)

<table>
<thead>
<tr>
<th>A. Ocular</th>
<th>Study References</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Conditions of the eye</td>
<td>4. Clinical Slit Lamp Biomicroscopy and Photo Slit Lamp Biomicrography, Martonyi, Bahn and Meyer, Time One Ink</td>
</tr>
<tr>
<td>1. Refractive properties</td>
<td>7. internet searches, including images</td>
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<tr>
<td>ii. Accommodation</td>
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<tr>
<td>iii. Other</td>
<td></td>
</tr>
</tbody>
</table>

| B. Cornea                                                                |                                                                                 |
| i. General Characteristics                                               |                                                                                 |
| ii. Corneal Layers                                                       |                                                                                 |

| 1. Epithelium                                                           | study function, relative location, thickness, etc.                             |
| 2. Bowman's Membrane                                                   |                                                                                 |
| 3. Stroma                                                               |                                                                                 |
| 4. Descemet Membrane                                                   |                                                                                 |
| 5. Endothelium                                                         |                                                                                 |
| iii. Metabolic Functions                                                |                                                                                 |
| iv. State of hydration                                                  |                                                                                 |
| v. Factors affecting transparency                                       |                                                                                 |
| 1. Rejection                                                           |                                                                                 |
| 2. Edema                                                               |                                                                                 |
| 3. Other                                                               |                                                                                 |
## Exam Outline

### II. Quality Assurance and control (24%)

#### A. Professional standards

1. Accreditation
   - EBAA MS: B1.000
   - EBAA PM: B1.000

2. Certification
   - EBAA MS: C2.000
   - EBAA PM: C2.000

3. Personnel
   - EBAA MS: C1.000
   - EBAA PM: C2.000

4. Reporting requirements
   - EBAA MS: C1.400
   - EBAA PM: B1.000

#### B. Legislation and regulatory requirements

1. FDA registration
   - EBAA MS: C3.300
   - EBAA PM: C3.300
   - FDA 21 CFR 1271.210

2. FDA Donor Eligibility Rule
   - EBAA MS: C3.200
   - EBAA PM: C3.100
   - FDA 21 CFR 1271.200, 1271.260

3. FDA Good Tissue Practices
   - EBAA MS: C3.000, C3.300
   - EBAA PM: C3.200

4. CMS Conditions of Participation (CoP)

#### C. Facilities

1. Instrument inspection, cleaning and handling
   - EBAA MS: C3.300
   - EBAA PM: C3.300
   - FDA 21 CFR 1271.210

2. Refrigeration and temperature recording
   - EBAA MS: EBAA MS: C3.200
   - EBAA PM: C3.100
   - FDA 21 CFR 1271.200, 1271.260

#### D. Infection control and personnel safety

1. Aseptic Technique
2. Standard Precautions
3. Communicable disease
4. Environmental monitoring

#### E. Quality assurance

1. Auditing
   - EBAA PM Guidance Document: Effective Quality Assurance of the Donor Risk Assessment Interview

2. Microbiology
   - 1. Organisms
   - Gram positive/negative bacteria
   - 2. Cultures
     - a. Requirements
     - EBAA PM: C3.200, G1.210
     - b. Reporting
     - c. Environmental control

3. Record keeping and documentation
   - EBAA MS: C3.200, D1.300, L1.000, M1.000
   - EBAA PM: M1.050
   - FDA 21 CFR: 1271.55, 1271.90, 1271.270

4. Adverse reaction reports
   - EBAA MS: G1.000, M1.400, M1.500
   - EBAA PM: M1.550
   - EBAA PM Guidance Document - Guidance Document for Investigating and Reporting Adverse Reactions to the EBAA
   - FDA 21 CFR 1271.350

5. Recalls and withdrawals
   - EBAA MS: E1.300, G1.300
   - EBAA PM: G1.300
   - FDA 21 CFR 1271.440

6. Other
   - Post-operative requirements, etc.

### F. Other

#### Study References

Study source documents, as applicable
### Exam Outline

#### III. Donor-related Issues (20%)

**A. Authorization**

1. Required Request Law (42 U.S.C.A. § 1320b–8)
2. Uniform Anatomical Gift Act

**B. Donor history, screening, and evaluation**

1. Donor Risk Assessment Interview (DRAI)
   - Donor Risk Assessment Interview (DRAI)
   - Serology testing
     - Blood sample qualification
     - EBAA required tests
     - FDA required tests

2. Determination of donor eligibility for transplant
   - EBAA contraindications
   - FDA contraindications

3. Known transmissible disease
   - Rabies
   - Infection
   - Hepatitis B
   - Melanoma
   - Transmissible Spongiform
   - Other

**IV. Technical Procedures (24%)**

**A. Preparatory Procedures**

1. Blood drawing procedures
2. Physical inspection
3. Ocular area prep
4. Sterile field setup
   - Open-container processing
     - Laminar flow hood vs. 'clean' room
     - Sterile field setup

**B. Whole eye enucleation**

1. Equipment, supplies, and reagents
2. Procedure

### Study References

- www.uniformlaws.org
- EBAA MS: D1.400
- EBAA PM: D1.300
- EBAA MS: Appendix III
- EBAA PM Guidance Document: Effective Quality Assurance of the Donor Risk Assessment Interview
- FDA 21 CFR 1271.3, 1274.47, 1271.75
- EBAA MS: D1.200, Appendix IV
- FDA 21 CFR 1271.3, 1271.80, 1271.85
- EBAA MS: D1.200, Appendix I, IV
- EBAA PM: G1.200
- EBAA MS: D1.100
- EBAA MS: D1.000, Appendix I, II, III
- FDA 21 CFR 1271.50, 1271.75
- EBAA MS: E1.100, E1.210
- EBAA PM: E1.110
- EBAA MS: E1.200
- EBAA PM: E1.000, E1.200
- EBAA PM: E1.200, E1.224
- EBAA MS: D1.100, D1.210
- EBAA PM: D1.120
- EBAA PM: E1.120
- EBAA PM: E1.110

Version 2019.1.0
### C. Corneal excisions

| Equipment, supplies, and reagents | EBAA MS: E1.100, E1.300  
EBAA PM: E1.110, E1.130 |
|----------------------------------|-------------------------|
| 1. Flow hood excision            | EBAA MS: E1.200  
EBAA PM: E1.221 |
| 2. In-situ excision              | EBAA MS: E1.100  
EBAA PM: E1.130 |
| ii. Procedure                    | EBAA MS: E1.220, E1.221  
EBAA PM: E1.130, E1.221 |

### D. Scleral preservation

| Equipment, supplies, and reagents | EBAA MS: E1.230  
EBAA PM: E1.230 |
|----------------------------------|-------------------------|
| ii. Procedure                    | EBAA MS: E1.230  
EBAA PM: E1.231 |

### E. Tissue processing

| Equipment, supplies, and reagents | EBAA MS: E1.200, E1.222, E1.400  
EBAA PM: E1.222 |
|----------------------------------|-------------------------|
| ii. Procedure                    | EBAA MS: E1.222, E1.223  
EBAA PM: E1.000 |

### V. Tissue-related Procedures (20%)

#### A. Tissue evaluation and determination of suitability

1. Introduction to Eye Banking, A Handbook and Atlas, Rosenwasser and Nicholson  
2. Current and New Technologies in Corneal Donor Tissue Evaluations: Comparative Image Atlas, Cornea 2018; S1- S36, 37  
https://journals.lww.com/corneajrnl/toc/2018/06001

| Slit lamp biomicroscopy | EBAA MS: F1.100, F1.300  
EBAA PM: F1.100, F1.200 |
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<tbody>
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<td>1. Procedure</td>
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<td>2. Surgical suitability</td>
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| Specular microscopy | EBAA MS: F1.200  
EBAA PM: F1.300 |
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<td>1. Procedure</td>
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<tr>
<td>2. Suitability</td>
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#### B. Surgical procedures

1. YouTube is a great resource for surgical videos. Search for the surgical procedure preceded by 'cornea'
2. Understand the relationship between tissue surgical suitability and pre-operative diagnoses
3. Frederick Brightbill’s Corneal Surgery and Technique

<table>
<thead>
<tr>
<th>Penetrating keratoplasty</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamellar keratoplasty</td>
<td></td>
</tr>
<tr>
<td>Anterior</td>
<td></td>
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<tr>
<td>Posterior</td>
<td></td>
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<tr>
<td>Patch graft</td>
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<td>Refractive keratoplasty</td>
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<td>Trabeculectomy</td>
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<td>Sclera use</td>
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<tr>
<td>Keratolimbal allograft</td>
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<tr>
<td>Other</td>
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</table>
### C. Storage and distribution of tissue

**i. Storage**

- EBAA MS: J1.000
- EBAA PM: J1.000
- FDA CFR 1271.260

**ii. Labeling**

- EBAA MS: J1.000
- EBAA PM: J1.000
- ISBT 128 ICCBBA ST-002
- FDA 21 CFR 1271.250, 1271.370

**iii. Packaging**

- EBAA MS: L2.000
- EBAA PM: L2.000
- FDA 21 CFR 1271.265

**iv. Accompanying documentation requirements**

- EBAA MS: L1.000, Appendix III
- EBAA PM: L1.000
- FDA 21 CFR 1271.55, 1271.370

**v. Distribution of tissue**

- EBAA MS: K1.000
- EBAA PM: K1.000
- FDA CFR 1271.265

**vi. Other**

### D. Use of tissue in research and education

- EBAA MS: H1.000
- EBAA PM: H1.000
- FDA CFR 1271.65