

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
 - o Including appendices and glossary of terms
 - o The current edition is available at www.restoresight.org.
-) EBAA Technical Procedures Manual
 - o Including glossary of terms
 - o The current edition is available at www.restoresight.org.
-) Food and Drug Administration CFR 1271
 - o [FDA Final Guidance for Industry: Current Good Tissue Practice \(cGTP\)](#)
 - o [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.

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Exam Outline	Study References
I. Anatomy and Physiology (12%)	<ol style="list-style-type: none"> 1. <u>General Ophthalmology</u>, Vaughn and Asbury, Lange Medical Publications, Los Altos, CA. Parts of the Eye, and Optics and Refraction 2. <u>Ophthalmic Assistant: A Guide to Ophthalmic Medical Personnel</u>, Stein, Stein and Slatt, Anatomy 3. <u>Smolin and Thoft's The Cornea</u>, Smolin, Gilbert and Thoft, Richard 4. <u>Clinical Slit Lamp Biomicroscopy and Photo Slit Lamp Biomicrography</u>, Martonyi, Bahn and Meyer, Time One Ink 5. <u>Cornea Atlas</u>, Krachmer and Palay. Elsevier Mosby: Normal Anatomy 6. <u>Ocular Surface Disease: Medical and Surgical Management</u>, Holland and Mannis. Springer Verlag, New York. Anatomy and Physiology of the Ocular Surface. 7. internet searches, including images
A. Ocular <ol style="list-style-type: none"> i. General Characteristics <ol style="list-style-type: none"> 1. Anatomy of the eye 2. Function 3. Conditions of the eye <ol style="list-style-type: none"> I. Contraindications II. Pre-operative diagnoses ii. Refractive Power of the eye <ol style="list-style-type: none"> 1. Refractive properties 2. Refractive errors iii. Accommodation iv. Other 	<p>definition, how refraction works, structures involved</p> <p>myopia, hyperopia, presbyopia, astigmatism</p> <p>theories, effects of age</p>
B. Cornea <ol style="list-style-type: none"> i. General Characteristics ii. Corneal Layers <ol style="list-style-type: none"> 1. Epithelium 2. Bowmans Membrane 3. Stroma 4. Descemet Membrane 5. Endothelium iii. Metabolic Functions iv. State of hydration v. Factors affecting transparency <ol style="list-style-type: none"> 1. Rejection 2. Edema 3. Other 	<p>study function, relative location, thickness, etc.</p>

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II. Quality Assurance and control (24%)	
A. Professional standards	
i. Accreditation	EBAA MS: B1.000 EBAA PM: B1.000
ii. Certification	EBAA MS: C2.000 EBAA PM: C2.000
iii. Personnel	EBAA MS: C1.000 EBAA PM: C2.000
iv. Reporting requirements	EBAA MS: C1.400 EBAA PM: B1.000
B. Legislation and regulatory requirements	Study source documents, as applicable
i. FDA registration	
ii. FDA Donor Eligibility Rule	
iii. FDA Good Tissue Practices	
iv. CMS Conditions of Participation (CoP)	
C. Facilities	
i. Instrument inspection, cleaning and handling	EBAA MS: C3.300 EBAA PM: C3.300 FDA 21 CFR 1271.210
ii. Refrigeration and temperature recording	EBAA MS: EBAA MS: C3.200 EBAA PM: C3.100 FDA 21 CFR 1271.200, 1271.260
iii. Sterilization methods	EBAA MS: C3.000, C3.300 EBAA PM: C3.200 ANSI/AAMI Standard 79:2010/A2:2011
iv. Other	
D. Infection control and personnel safety	
i. Aseptic Technique	
ii. Standard Precautions	
iii. Communicable disease	
iv. Environmental monitoring	
E. Quality assurance	EBAA MS: G1.000
i. Auditing	EBAA PM Guidance Document: Implementation Guidance Document, Donor Risk Assessment Interview Forms EBAA PM Guidance Document: Effective Quality Assurance of the Donor Risk Assessment Interview
ii. Microbiology	
1. Organisms	Gram positive/negative bacteria
2. Cultures	EBAA PM: C3.200, G1.210
a. Requirements	
b. Reporting	
c. Environmental control	
iii. 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
iv. 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
v. Recalls and withdrawals	EBAA MS: E1.300, G1.300 EBAA PM: G1.300 FDA 21 CFR 1271.440
vi. Other	Post-operative requirements, etc.
F. Other	

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III. Donor-related Issues (20%)	
A. Authorization	
i. Required Request Law (42 U.S.C.A. § 1320b-8)	
ii. Uniform Anatomical Gift Act	www.uniformlaws.org
iii. Authorization procedures and documentation	EBAA MS: D1.400 EBAA PM: D1.300
B. Donor history, screening, and evaluation	
i. Donor Risk Assessment Interview (DRAI)	EBAA MS: Appendix III EBAA PM Guidance Document: Implementation Guidance Document, Donor Risk Assessment Interview Forms EBAA PM Guidance Document: Effective Quality Assurance of the Donor Risk Assessment Interview FDA 21 CFR 1271.3, 1274.47, 1271.75
ii. Serology testing	
1. Blood sample qualification	EBAA MS: D1.200, Appendix IV FDA 21 CFR 1271.3, 1271.80, 1271.85
2. EBAA required tests	EBAA MS: D1.200, Appendix I, IV EBAA PM: G1.200
3. FDA required tests	EBAA MS: D1.220 FDA 21 CFR 1271.3, 1271.80, 1271.85
iii. Determination of donor eligibility for transplant	
1. EBAA contraindications	EBAA MS: D1.100
2. FDA contraindications	EBAA MS: D1.000, Appendix I, II, III EBAA PM: Guidance Document: Effective Quality Assurance of the Donor Risk Assessment Interview FDA 21 CFR 1271.50, 1271.75
3. Known transmissible disease	
a. Rabies	
b. Infection	
c. Hepatitis B	
d. Melanoma	
e. Transmissible Spongiform	
f. Other	
IV. Technical Procedures (24%)	
A. Preparatory Procedures	
i. Donor	
1. Blood drawing procedures	EBAA PM: E1.140
2. Physical Inspection	EBAA MS: E1.100 EBAA PM: E1.110
3. Ocular area prep	EBAA MS: E1.100 EBAA PM: E1.110
4. Sterile field setup	EBAA PM: E1.110
ii. Open-container processing	
1. Laminar flow hood vs. 'clean' room	EBAA MS: E1.200 EBAA PM: E1.000, E1.200
2. Sterile field setup	EBAA PM: E1.200, E1.224
B. Whole eye enucleation	
i. Equipment, supplies, and reagents	EBAA MS: E1.100, E1.210 EBAA PM: E1.120
ii. Procedure	EBAA MS: E1.210 EBAA PM: E1.120

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C. Corneal excisions	
i. 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
1. Flow hood excision	
2. In-situ excision	
D. Scleral preservation	
i. 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	
i. 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. <u>Introduction to Eye Banking, A Handbook and Atlas</u> , Rosenwasser and Nicholson 2. <u>Current and New Technologies in Corneal Donor Tissue Evaluations: Comparative Image Atlas</u> , Cornea 2018; S1- S36, 37 https://journals.lww.com/corneajrnl/toc/2018/06001
i. Slit lamp biomicroscopy	EBAA MS: F1.100, F1.300 EBAA PM: F1.100, F1.200
1. Procedure	
2. Surgical suitability	
ii. Specular microscopy	EBAA MS: F1.200 EBAA PM: F1.300
1. Procedure	
2. Suitability	
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 <u>Corneal Surgery and Technique</u>
i. Penetrating keratoplasty	
ii. Lamellar keratoplasty	
1. Anterior	
2. Posterior	
iii. Patch graft	
iv. Refractive keratoplasty	
v. Trabeculectomy	
vi. Sclera use	
vii. Keratolimb allograft	
viii. Other	

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C. Storage and distribution of tissue	
i. Storage	EBAA MS: I1.000 EBAA PM: I1.000 FDA CFR 1271.260
ii. Labeling	EBAA MS: J1.000 EBAA PM: J1.000 EBAA PM Guidance Document: Implementation Guide, Use of ISBT128 in North American Eye Banks ISBT 128 ICCBBA ST-002 FDA 21 CFR 1271.250, 1271.370
1. ISBT	EBAA PM Guidance Document: Implementation Guide, Use of ISBT128 in North American Eye Banks ISBT 128 ICCBBA ST-002
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