



Candidate

Handbook

July 2022

Clinical Transplant Coordinators **CCTC** Procurement Transplant
Coordinators **CPTC** Transplant Preservationists **CTP**
Clinical Transplant Nurses **CCTN**

TABLE OF CONTENTS**SECTION I – ADMINISTRATIVE POLICIES**

AND RULES FOR THE EXAMINATION	1
Introduction and Purpose	1
DEI Statement	1
Benefits of Certification	1
Testing Agency	1
Qualifications for the Examinations	2
Applying for an Exam	2
Scheduling an Examination Appointment	2
Request for International Test Center	2
Special Arrangements for Candidates with Disabilities ..	2
Credential Designation	3
Change of Address	3
Test Center Locations	3
Examination Fees	3
Missed Appointments and Forfeitures	3
Application Refusal	3
Appeals	3
Examination Appointment Changes	4
Inclement Weather, Power Failure or Emergency ..	4
Taking the Examination	4
Identification	4
Security	4
Personal Belongings	5
Examination Restrictions	5
Misconduct	5
Copyrighted Examination Questions	6
Computer Login	6
Practice Examination	6
Timed Examination	6
Candidate Comments	6
Scores Canceled by ABTC	6
Receiving Your Score Report	7
Score Verification	7
Duplicate Score Reports	8
If You Pass the Examination	8
If You Do Not Pass the Examination	8
Recertification with ABTC	8
Release of Information	8

SECTION II – PREPARING FOR THE

EXAMINATION	9
Examination Structure and Content	9
Who Writes the Examination Items?	9
About the Examinations	9
Scope of the Examinations	9
Test Specifications	10
Detailed Content Outline	11
Certified Clinical Transplant Coordinator (CCTC) Examination	12
Certified Procurement Transplant Coordinator (CPTC) Examination	15
Transplant Preservationist Certification Examination	17
Certified Clinical Transplant Nurse (CCTN)* Examination	19
Sample Questions	23
Best Way to Prepare for the Examination	23
References for Study	23
Suggested Study Tips	24
Suggested References	24

SECTION I – ADMINISTRATIVE POLICIES AND RULES FOR THE EXAMINATION

Introduction and Purpose

The Candidate Handbook was developed to assist you in preparing for the ABTC Certification Examinations for Transplant Professionals. Our examinations are designed to assess the knowledge and skills of transplant professionals.

DEI Statement

The American Board for Transplant Certification is an independent, not for profit organization that was founded in 1988. ABTC is the certifying agency offering voluntary credentialing examinations in the field of organ transplantation. ABTC is incorporated as an independent corporation and performs the following services:

- Establishing educational and competency standards for the transplant professional.
- Defining transplant coordination, nursing and organ preservation as a profession.
- Credentialing transplant professionals.
- Maintaining a list of credentialed practitioners.
- Promoting continued professional growth of practitioners through education and recertification.

ABTC's Statement on Diversity and Inclusion

We are committed to the inclusion of all cultures, ethnicities, and levels of experiences. It drives us as we uphold our mission, strive to attain our vision, and keeps us connected with members at large and the transplant community we serve.

Benefits of Certification

Certification offers potential benefits for the professional, the employer and the public which include:

- Creating a standard for professionals in a particular discipline.
- Identifying professional achievement.
- Offering validation of skills and knowledge and increasing professional credibility.
- Furthering knowledge in targeted areas.
- Demonstrating continuing competence through the requirements of maintenance of certification process.
- Assuring the public and employers that the certification has met and continues to meet rigorous requirements.
- Providing possible employment advantages over non-certified job candidates.

Testing Agency

PSI Services is the professional testing agency contracted by ABTC to support the development, administration, scoring, and analysis of ABTC examinations. PSI provides research, development and measurement services to credentialing programs as well as test administration services. PSI reports scores to candidates upon completion of the examination.

Qualifications for the Examinations

Certified Clinical Transplant Coordinator (CCTC), Certified Procurement Transplant Coordinator (CPTC), and Certified Transplant Preservationist (CTP) Examinations

Candidates for the CCTC, CPTC and the CTP examination are eligible to sit for the exam after completing a minimum of 12 months as a transplant coordinator or preservationist and are confident that have obtained the knowledge about the field through independent study or formal training programs by the date of the application.

Certified Clinical Transplant Nurse (CCTN) Examination

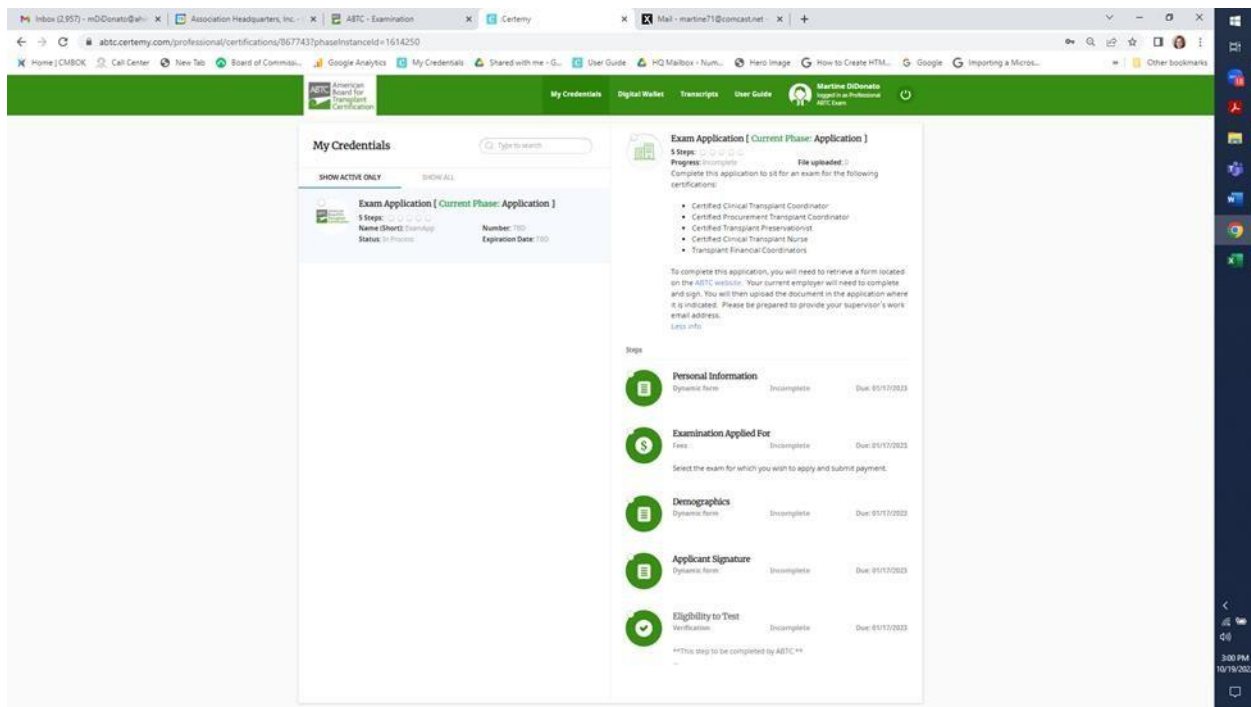
Eligibility requirements for the CCTN examination are: (1) 12 months of general experience as a Registered Nurse (RN) and (2) an additional 12 months of experience while working as a transplant nurse.

Applying for an Exam

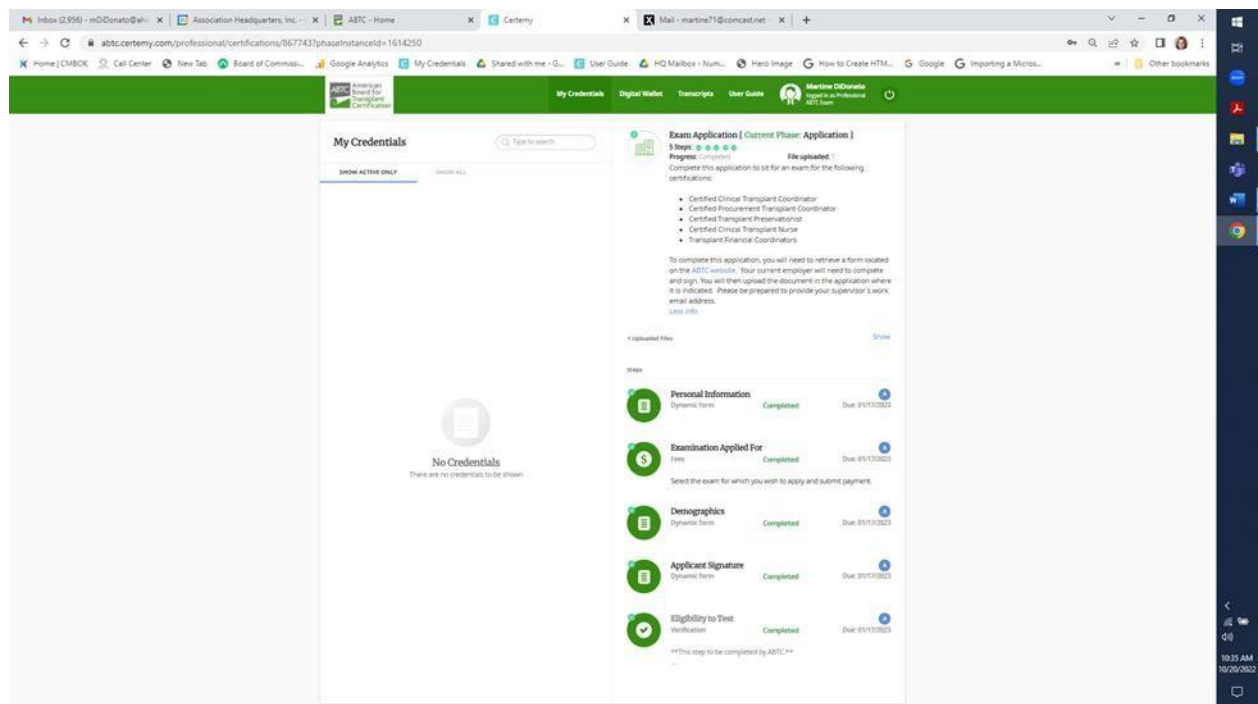
You may complete an online electronic application by creating an account in [Certemy](#).

1. To create an account, follow the [Apply for an ABTC Certification exam](#) link on the ABTC website.

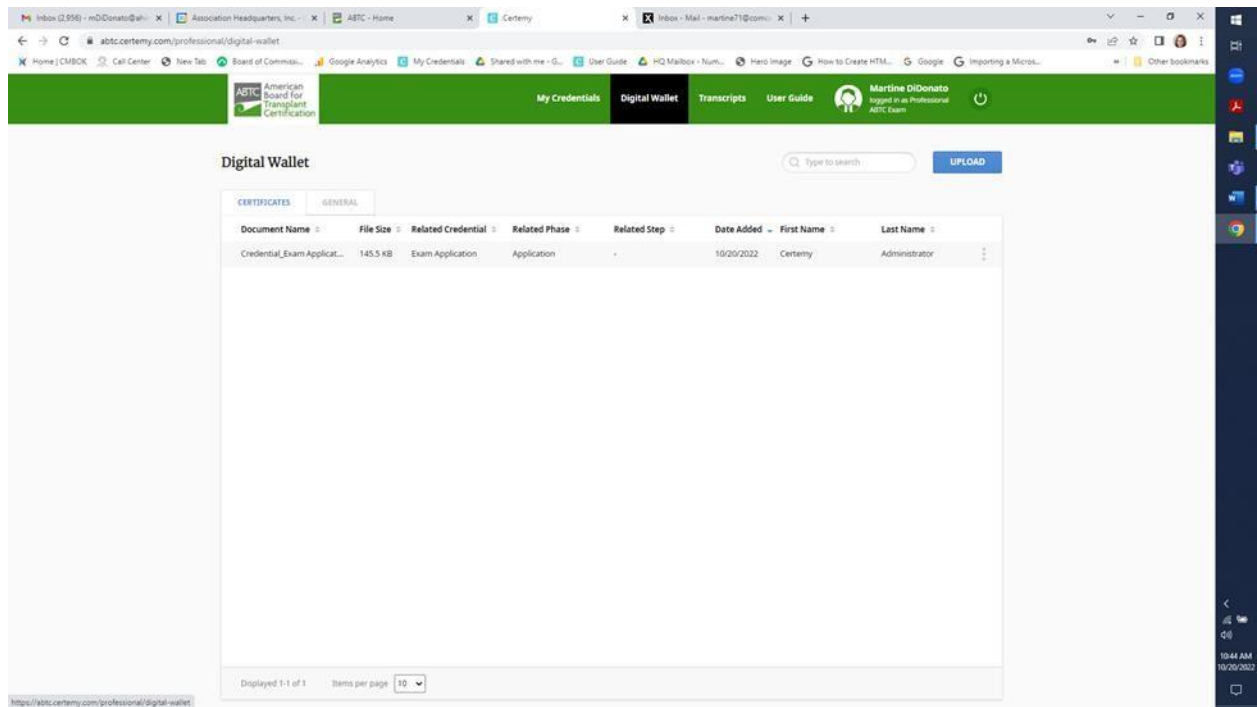
2. You will click on the steps to the right to complete; **Personal Information, Examination Applied For, Demographics** (applicant will upload the [Employer Attestation Form](#) in this section), and **Applicant Signature**. Once you have entered all the information required it will change from “Incomplete” to “Pending Verification”. The **Eligibility to Test** step is completed by ABTC Staff.
3. A “Credential step was verified” email from Certemy will be sent once each step is approved. If one of the steps is rejected, you will receive an “Attention Required:” email indicating what action(s) need to be taken. Log back into your Certemy account to rectify and rejected steps.



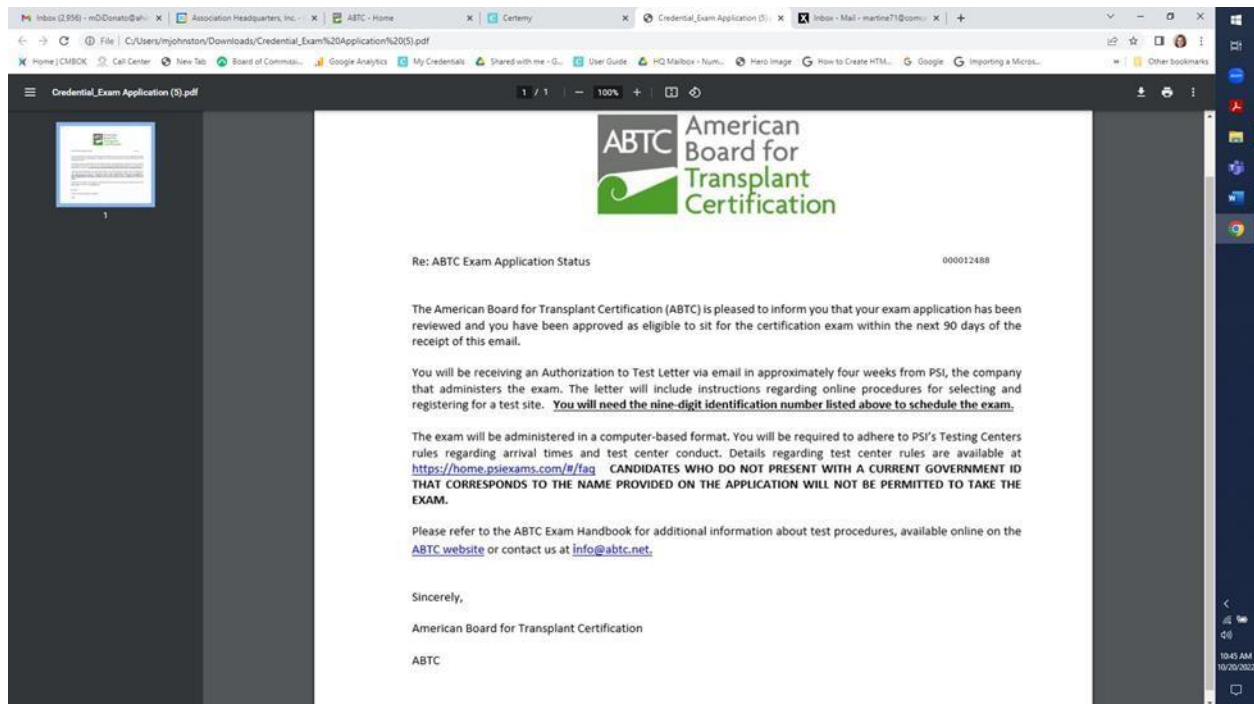
After you have completed all of the steps, please allow approximately one week for your application to be approved.



4. A final email from Certemy will be sent titled "Credential of completion is available". Please check your spam or junk mail if you have not received this email.
5. You will be directed to log back into Certemy to go to your Digital Wallet.



6. In your Digital Wallet is where you will find the nine-digit number you will need to schedule your exam with PSI.



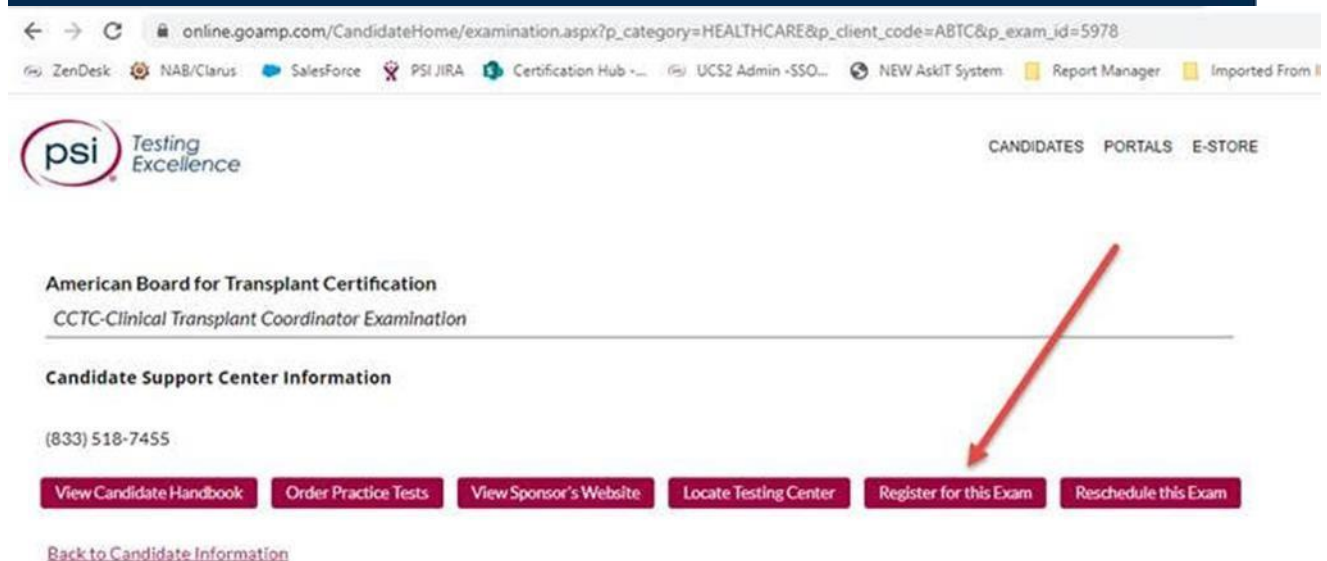
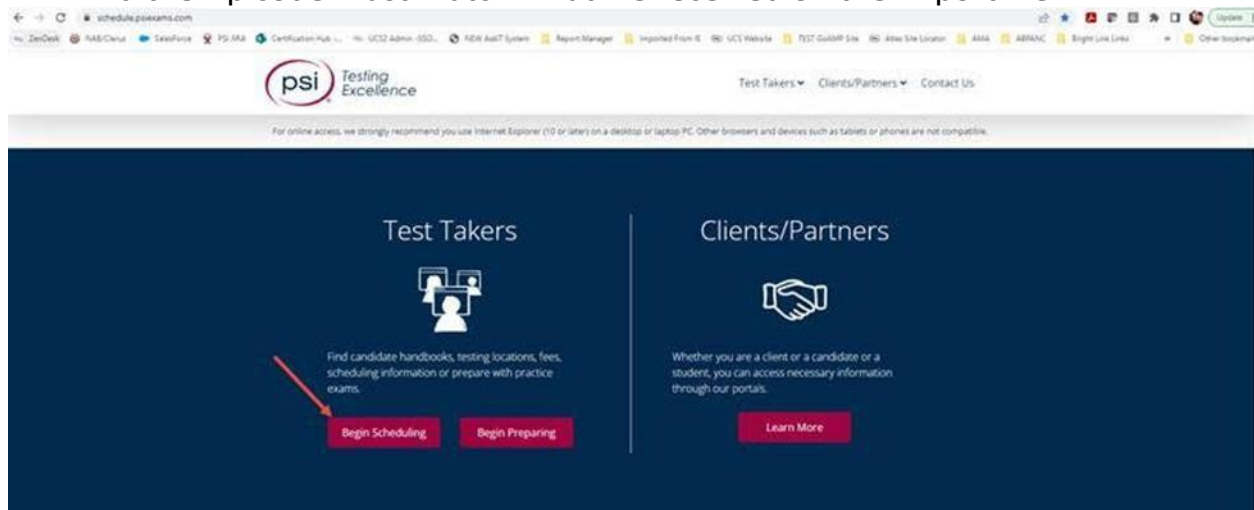
7. In approximately 1 to 2 weeks, PSI will send you an email with instructions to schedule your ABTC exam. If you do not receive an email within that time, please reach out to ABTC at info@abtc.net.
8. Acceptance is valid for 90 days from the date the candidate is confirmed exam eligible (as specified in the confirmation notice). A candidate who fails to schedule an appointment for examination within the 90-day period forfeits the application and all fees paid to take the examination. The candidate will be required to reapply for a future examination.

Scheduling an Examination Appointment

Approximately 1 to 2 weeks from the time you have received your eligibility email from Certemy, you will receive a scheduling email with instructions from PSI. You will then be able to schedule your exam. (The screenshots and instructions below can assist you in the online scheduling process.) You will have 90 days from the approval of your exam application to schedule your exam.

Steps for online account creation/scheduling:

- Go to: schedule.psiexam.com
- Click on Begin Scheduling
- Input the required information on the "Everything You Need is Three Steps Away"
- Click on "Register for this Exam"
- Click on "New User"
- And follow the prompts for the creation of their account
- You must use your Certemy ID in place of CD ID/SSN
- And the zip code must match what we received on the import file.



Log In



Please enter your login information. Passwords are case sensitive.

User name:

Password:

Log In

[New user?](#)

[Forgot your password?](#)

[Forgot your user name?](#)

If special accommodations are being requested, do not continue with the online registration process and contact PSI at 800-367-1565, ext. 6750 to schedule your examination.

If you are trying to schedule a Retake, you must wait 90 days from your last exam attempt. Please see the ***“If You Do Not Pass the Examination”*** section of this handbook for further details.

ABTC examinations are administered by computer at approximately 300 PSI Test Centers geographically distributed throughout the United States.

When contacting PSI, please be prepared to confirm a date and location for testing and to provide your nine-digit unique identification number. Examinations are administered *by appointment only* Monday through Saturday. Appointment starting times may vary by location. Individuals are scheduled on first-come, first-served basis.

Request for International Test Center

International test centers may be arranged for candidates living outside of the United States.

The ABTC examinations will be offered in a computerized format.

For a complete list of international PSI Test Centers please visit <https://schedule.psiexams.com>. PSI is working toward continued expansion of the Test Center Network and ABTC recommends that you continue to check the available list for additional sites.

Special Arrangements for Candidates with Disabilities

The ABTC will provide reasonable accommodations for exam candidates with disabilities that are covered under the Americans with Disabilities Act Amendments Act (ADAAA). Requests for testing accommodations must be made as indicated during the online application process by completing the [Special Accommodation form](#). You will upload the request into your application along with a letter from a licensed medical professional. Once reviewed, you will be contacted by ABTC to confirm the exam accommodations. Candidates whose requests are approved must call PSI at 833-333-4755 to schedule an examination appointment.

PSI has created a pre-approved list of comfort aids including specific medicine and medical devices including those attached to a person's body, communication aids, mobility devices, and service animals. Test Center Administrators and online proctors will perform an inspection of the aids prior to testing.

What this means for the accommodations process:

- In instances where test takers apply for accommodations with PSI directly, they will no longer need to submit requests for these specific items.
- Test Sponsors who send PSI approved accommodations will no longer need to include them.
- For any accommodations not appearing on the list, the formal request process is required.

This policy goes into effect on 1 May 2023. Please refer to the [link](#) for the complete list of pre-approved aids.

Credential Designation

Your certification will be conferred when you pass the examination. All successful candidates will receive an official certificate. The certificate provides visible evidence that you have achieved a level of competence in the field of transplantation. Passing the examination allows you to display the credential designation, CCTC, CPTC, CTP or CCTN after your name.

Change of Address

It is the candidate's responsibility report any changes of address to ABTC.

Examination Fees

Payment must be made when submitting the online application with a credit card (American Express, VISA or MasterCard) in U.S. dollars. Debit cards are not accepted.

Exam Fee:

CCTC, CPTC, CTP	\$495
-----------------	-------

CCTN	\$350
------	-------

Application Fee (Non-Refundable)	\$150
----------------------------------	-------

Addl International administration fee	\$225
---------------------------------------	-------

An exam fee must be submitted for each request to take the exam, including re-applications.

Missed Appointments and Forfeitures

You will forfeit your examination registration and all fees paid to take the examination under the following circumstances. A new, complete application and examination fee are required to reapply for the examination.

- You do not schedule an examination appointment within the 90-day eligibility period.
- You wish to reschedule an examination but fail to contact PSI at least two business days prior to the scheduled testing session.
- You wish to reschedule a second time.
- You appear more than 15 minutes late for an examination.
- You fail to report for an examination appointment.

If you experience a medical emergency that requires immediate attention and does not allow you to appear for the examination appointment, you may submit documentation of such in writing to ABTC for consideration of re-scheduling an appointment prior to forfeiting the entire fee.

Application Refusal

An application for ABTC examinations may be refused if ABTC receives evidence to indicate that an applicant may have committed one of the following violations:

1. obtaining or attempting to obtain Certification or Recertification by fraud, deception or artifice;
2. knowingly assisting another person or persons in obtaining or attempting to obtain Certification or Recertification by fraud, deception or artifice;
3. illegal use of a certificate of credential or falsification of credentials – either ABTC credentials or credentials used in qualifying for the examination;
4. unauthorized possession and/or distribution of any official ABTC testing or examination materials; or
5. conviction in a court of law or revocation of a license to practice for an offense directly related to the practice of vascular organ transplantation, which gives cause to question an individual's ability to practice in a safe and competent manner.

Appeals

All appeals regarding admission decisions must be submitted in writing by email to ABTC within 30 days after receipt of written notification of admission eligibility in order to be considered. These appeals should be emailed to the following address:
info@abtc.net

Examination Appointment Changes

Prior to testing, you may reschedule your examination appointment only ONCE at no charge by calling PSI at 833-333-4755 (toll-free) at least two (2) business days prior to the original scheduled testing appointment and within the 90-day eligibility period. (See following table).

If your examination is scheduled on...	You must contact PSI by 3:00 p.m. Central Time to reschedule the examination by the previous...
Monday	Wednesday
Tuesday	Thursday
Wednesday	Friday
Thursday	Monday
Friday	Tuesday

Inclement Weather, Power Failure or Emergency

In the event of inclement weather or unforeseen emergencies on the day of an examination, PSI will determine whether circumstances warrant the cancellation, and subsequent rescheduling, of an examination. The examination will usually not be rescheduled if the Test Center personnel are able to open the Test Center.

You may visit <https://schedule.psiexams.com> prior to the examination to determine if PSI has been advised that any Test Centers are closed. Every attempt is made to administer the examination as scheduled; however, should an examination be cancelled at a Test Center all scheduled candidates will receive notification following the examination regarding rescheduling or reapplication procedures.

If power to a Test Center is temporarily interrupted during an administration, your examination will be restarted. The responses provided up to the point of interruption will be intact, but for security reasons the questions will be scrambled.

Taking the Examination

Your examination will be given via computer at a PSI Test Center. You do not need any computer experience or typing skills to take your examination. On the day of your examination appointment, report to the Test Center no later than your scheduled testing time. IF YOU ARRIVE MORE THAN 15 MINUTES AFTER THE SCHEDULED TESTING TIME, YOU WILL NOT BE ADMITTED.

You will have three (3) hours to complete the CCTC, CPTC or the CCTN examination. Each of these examinations contains 175 items. Responses to 150 of these items will contribute to your score. You will have two (2) hours to complete the CTP examination. This examination contains 110 items. Responses to 100 of those items will contribute to your score. (See About the Examination Section for more information on scored and pre-test items). The computer will indicate the time remaining on the screen. If you find it distracting, the time feature may be turned off during the examination.

The time limit is intended to allow adequate time for a prepared candidate to read the items and submit responses.

Identification

To gain admission to the Test Center, you must present two forms of identification. The primary form must be government-issued, current and include your name, signature and photograph. No form of temporary identification will be accepted. You will also be required to sign a roster for verification of identity.

- Examples of valid primary forms of identification are: driver's license with photograph; state identification card with photograph; passport; military identification card with photograph.
- The secondary form of identification must display your name and signature for signature verification (e.g., credit card with signature, social security card with signature, employment/student ID card with signature).
- If your name on your registration is different than it appears on your identification, you must bring proof of your name change (e.g., marriage license, divorce decree or court order).

Security

PSI administration and security standards are designed to ensure all candidates are provided the same opportunity to demonstrate their abilities. The Test Center is continuously monitored by audio and video surveillance equipment for security purposes.

The following security procedures apply during the examination:

- Candidates must have proper identification to gain admission to the Test Center. Failure to provide appropriate identification at the time of the examination is considered a missed appointment. There will be no refund of examination fees.
- Examinations are proprietary. No cameras, notes, paper, recorders, pagers or cellular/smartphones are allowed in the testing room. Possession of a cellular/smart phone or other electronic devices is strictly prohibited and will result in dismissal from the examination.
- No calculators are allowed.
- No guests, visitors or family members are allowed in the testing room or reception areas.

Exam Personal Belongings

No personal items, valuables or weapons should be brought to the Test Center. Only wallets and keys are permitted. Large coats and jackets must be left outside the testing room. You will be provided a soft locker to store your wallet and/or keys with you in the testing room. The proctor will lock the soft locker prior to you entering the testing room. You will not have access to these items until after the examination is completed.

Please note the following items will not be allowed in the testing room except securely locked in the soft locker.

- phones
- watches
- hats
- wallets
- keys

Once you have placed your personal belongings into the soft locker, you will be asked to pull out your pockets to ensure they are empty. If you bring personal items that will not fit in the soft locker, you will not be able to test. The site will not store or be responsible for your personal belongings.

If any personal items are observed or heard (e.g., cellular/smart phones, alarms) in the testing room after the examination is started, you will be dismissed and the administration will be forfeited.

Examination Restrictions

- Pencils will be provided during check-in.
- You will be provided with one piece of scratch paper at a time to use during the examination, unless noted on the sign-in roster for a particular candidate. You must return the scratch paper to the supervisor at the completion of testing, or you will not receive your score report.
- No documents or notes of any kind may be removed from the Test Center.
- No questions concerning the content of the examination may be asked during the examination.
- Eating, drinking or smoking will not be permitted in the Test Center.
- You may take a break whenever you wish, but you will not be allowed additional time to make up for time lost during breaks.

Misconduct

If you engage in any of the following conduct during the examination you may be dismissed, your scores will not be reported and examination fees will not be refunded. Examples of misconduct are when you:

- create a disturbance, are abusive or otherwise uncooperative;
- display and/or use electronic communications equipment such as pagers, cellular/smart phones;
- talk or participate in conversation with other examination candidates;
- give or receive help or are suspected of doing so;
- leave the Test Center during the administration;
- attempt to record examination questions or make notes;
- attempt to take the examination for someone else;
- are observed with personal belongings, or
- are observed with notes, books or other aids without it being noted on the roster.

Copyrighted Examination Questions

All examination questions are the copyrighted property of ABTC. It is forbidden under federal copyright law to copy, reproduce, record, distribute or display these examination questions by any means, in whole or in part. Doing so may subject you to severe civil and criminal penalties.

Computer Login

After your identification has been confirmed, you will be directed to a testing station. You will be instructed on-screen to enter your identification number. Your photograph, taken before beginning the examination, will remain on-screen throughout your examination session. This photograph will also print on your score report.

Practice Examination

Prior to attempting the examination, you will be given the opportunity to practice taking an examination on the computer. The time you use for this practice examination is Not counted as part of your examination time or score.

When you are comfortable with the computer testing process, you may quit the practice session and begin the timed examination.

Timed Examination

Following the practice examination, you will begin the timed examination. Before beginning, instructions for taking the examination are provided on-screen.

Candidate's
Picture
Here

Shared governance is an example of a

- A centralized organizational model.
- B laissez-faire leadership style.
- C decentralized organizational model.
- D horizontal centralization.

Bookmark

The computer monitors the time you spend on the examination. The examination will terminate if you exceed the time allowed. You may click on the Time box in the lower menu bar on the screen to monitor your time. A digital clock indicates the time remaining for you to complete the examination. The Time feature may be turned off during the examination.

Only one examination question is presented at a time. The question number appears in the lower right of the screen. Choices of answers to the examination question are identified as A, B, C or D. You must indicate your choice by either typing in the letter in the response box in the lower left portion of the computer screen or clicking on the option using the mouse. To change your answer, enter a different option by typing in the letter in the box or by clicking on the option using the mouse. You may change your answer as many times as you wish during course of the examination.

To move to the next question, click on the forward arrow (>) in the lower right portion of the screen. This action will move you forward through the examination question by question. If you wish to review any question or questions, click the backward arrow (<) or use the left arrow key to move backward through the examination.

An examination question may be left unanswered for and be returned to later in the examination session. Questions may also be bookmarked for later review by clicking in the blank square to the right of the Time button. Click on the double arrows (>>) to advance to the next unanswered or bookmarked question on the examination. To identify all unanswered and bookmarked questions, repeatedly click on the double arrows (>>). When the examination is completed, the number of examination questions answered is reported. If all questions have not been answered and there is time remaining, return to the examination and answer those questions. Be sure to provide an answer for each examination question before ending the examination. There is no penalty for guessing.

Candidate Comments

During the examination, you may make comments for any question by clicking on the Comment button to the left of the Time button. This opens a dialogue box where comments may be entered. Comments will be reviewed, but individual responses will not be provided.

Scores Canceled by ABTC

PSI is obligated to ABTC to report scores that accurately reflect the performance of each candidate. For this reason, PSI maintains examination administration and security standards that are designed to assure all candidates are provided the same opportunity to demonstrate their competencies and to prevent some candidates from gaining an unfair advantage over others due to examination irregularities or misconduct. PSI routinely reviews irregularities and examination scores suspected of or resulting from unusual or non-standard circumstances and reports these to ABTC.

ABTC reserves the right to withhold certification or cancel examination scores if, in its sole opinion, there is reason to question their validity. Scores considered for cancellation by ABTC may be grouped into two categories:

1. Suspected candidate misconduct. In such cases, ABTC may initially withhold examination scores and notify the candidate to inform them they have the opportunity to provide additional information. ABTC may also undertake a confidential review of the circumstances giving rise to the questionable score validity. If determined that there is sufficient cause to question score validity, ABTC may cancel the score(s), withhold certification and inform the involved parties.
2. Irregularities. Scores may be withheld and/or canceled because of circumstances beyond the candidate's control, such as faulty examination materials or improper timing. In such cases, candidates will be informed and offered an opportunity to retake the examination if ABTC determines that scores must be canceled.

Receiving Your Score Report

After you finish the examination, you are asked to complete a short evaluation of your testing experience. You will be instructed to report to the Test Center Supervisor to receive your printed score report. Scores are not reported over the telephone, by electronic mail or by facsimile.

Your score report will indicate a “pass” or “fail.” Additional detail is provided in the form of raw scores by content category. A raw score is the number of questions you answered correctly. Examination scores are reported as raw scores and scaled scores. A RAW SCORE is the number of correctly answered questions. A SCALED SCORE is statistically derived from the raw score. Because different examination forms may vary slightly in difficulty, it is desirable to report examination scores as SCALED scores to ensure that all candidates have demonstrated the same level of competence regardless of which form of the examination they took.

Pass-fail decisions are based on overall performance on the exam and not on individual content categories. The examination is designed to provide a consistent and precise determination of your overall performance and is not designed to provide complete information regarding your performance in each content category.

You should remember that areas with a larger number of items (questions) will affect the overall score more than areas with a fewer number of items. The precision and consistency of scores diminishes with fewer items, and therefore, sub-scores should be interpreted with caution, especially those that correspond to content categories with very few items.

Score Verification

Candidates who wish to have results confirmed by the ABTC testing company, may request a verification of score. Please note that the verification process is solely meant to verify the accuracy of your exam result. Raw or scaled scores will not be provided.

The deadline for requesting a score verification is 30 days after the date of the candidate’s exam administration. A written request must be submitted to PSI via USPS mail:

PSI
18000 W. 105th St.
Olathe, KS 66061

The request must include candidate name, email, exam date, location, and \$25 fee to process (money order only). Once received in house processing is a minimum of 2 weeks for a response thru the mail.

CCTC/CPTC/CTP/CCTN

Duplicate Score Reports

You may purchase additional copies of your score report at a cost of \$25 per copy. Requests must be submitted to PSI, in writing, within 12 months following the examination. The request must include your name, address, telephone number, date of examination and examination taken. Submit this information with the required fee payable to PSI Services Inc. 18000 W. 105th St., Olathe, KS 66061

Duplicate score reports will be mailed within approximately five business days after receipt of the request.

If You Pass the Examination

When you pass an ABTC examination for the first time, you will be awarded the appropriate credential from ABTC within 30 to 45 days of passing the examination. Your certification is valid for a period of three years as indicated on your certificate.

If You Do Not Pass the Examination

If you do not pass the examination, you may reapply 90 days after your last exam attempt. You will need to reapply online by following the [Retakes Only](#) link on the ABTC website.

An exam cannot be scheduled for an examination appointment until 90 days after your last attempt of the examination. A candidate may only attempt an examination once every 90 days.

Recertification with ABTC

Certification is a method of assuring the public that an individual remains competent to practice one's profession. The credential symbolizes the ability to meet the profession's established standards of practice. For ABTC, assuring competence of a practitioner upon entry into the transplant profession is not enough. Rapid changes in methodology and technology may render a professional incompetent if he or she fails to keep current with new developments in the field.

In 1988, ABTC established a recertification policy as a mechanism for certificants to demonstrate their continued competence to their peers, employers and patients.

The policy requires recertification every three years and provides a choice between two routes for recertification: submission of continuing education documentation that meets specified requirements or re-examination. The recertification fee for maintaining a single certification is \$300. The fee for maintaining dual or more certifications is \$350. For more details, visit the ABTC website at www.ABTC.net.

Release of Information

While a listing of credentialed individuals will be maintained and distributed by ABTC, your individual examination results will not be released to any third party, by either ABTC or PSI, without your written consent.

SECTION II – PREPARING FOR THE EXAMINATION

Examination Structure and Content

To begin your preparation in an informed and organized manner, you should know what to expect from the actual examination in terms of the content areas and performance level tested. A job analysis study is conducted by ABTC to determine the appropriate content of each of its examinations, in accordance with the “Standards for Educational and Psychological Testing” (American Educational Research Association, American Psychological Association, and National Council on Measurement in Education, 1999) as well as the “Uniform Guidelines on Employee Selection Procedures” (Equal Employment Opportunity Commission, 1978).

Participants in each analysis study constituted a representative group of practitioners involved in the practice of vascular organ transplantation. The CCTN examination included international practitioners on both the committee and in the survey respondents. Task ratings these practitioners provided were objectively analyzed to determine the subset of tasks listed on the job analysis survey that were (1) at least very important to practice, and (2) extensively performed by practitioners. Analyses resulted in the determination of criterion-referenced specifications for ABTC certification examinations.

About the Examinations

The examinations include questions on competencies that a minimally competent first year transplant professional should be knowledgeable about in order to fulfill the job requirements.

Who Writes the Examination Items?

Once the examination topics have been identified, any certified transplant professional can write and submit items for the examination committee (e.g. those certified as CPTC may submit test questions to the Procurement examination committee). All examination committee members must be certified in that respective category.

All committee members are trained to write examination questions that are designed to measure your competency, rather than trick you.

Once the questions are written and submitted, the committee reviews them to ensure that they are referenced properly, taking into account any international differences in measurement reporting for the CCTN examination. The questions are then tested by including them as pretest items in actual examinations given to candidates. These pretest items do not count toward candidates' final scores. The performance statistics for the pretest items are reviewed by a specialist in the psychology and measurements associated with examination results. Any pretest item that is too hard (too many candidates fail the question), too easy (all candidates pass the question), or appears to be tricky is removed and rewritten. A large bank of questions has been developed over many years by this method, and this bank is used to create each examination. Multiple versions of the examination exist, which means that the examination you take may not be identical to the one taken by another person.

Scope of the Examinations

CCTC Examination

The scope of the CCTC examination will include all aspects of transplant coordination and/or care as it relates to the care of the following vascular organs: kidney, pancreas, liver, lung, intestine, heart, and transplants involving multiple organs at once. Clinical candidates may have experience with only one organ, but are expected to be aware of the other organ transplantation practices and should have a basic understanding of principles related to both adult and pediatric transplant recipients.

Overall the examination questions represent standard practices and are not center-specific. Approximately 50 percent of the examination questions on any one examination form are written such that they are general in nature (i.e., nonspecific to any one solid organ), while the remainder of the examination includes representative items relating to specific organs.

CPTC Examination

The scope of the CPTC examination includes all aspects of the organ donation process and/or procurement as it relates to the areas of consent, management, organ allocation as well as the actual procurement. Candidates should be aware of all aspects of organ donation, procurement and practices in both the pediatric and adult organ donor population.

Overall, the examination questions represent standard practices and are not OPO specific. The examination content ranges from general areas of the donor process or procurement as well as more specific questions. (i.e. policies).

Cut Score Study Methodology

The judges serving on the standard setting study panel were selected by ABTC, all of whom were deemed to possess subject matter expertise. They were selected to provide for an appropriate balance on potentially relevant professional characteristics, such as area of special expertise, practice setting, and geographical distribution.

The judges participated in a standard setting study that consists of the following three major steps:

1. Definition of Minimum Competence
2. Rating of Examination Items
3. Consideration of Empirical Data

Definition of Minimum Competence

In preparation of the rating process, a discussion regarding the definition of a minimally competent practitioner (MCP) was facilitated. An MCP is described as an individual who has enough knowledge to practice safely and competently but does not demonstrate the knowledge level to be considered an expert.

Rating of Examination Items

Judges were then trained on the rating process. Central to this process is the notion that each rating is provided individually by each rater and reflects the answer to this question: What percentage of MCPs do you expect will answer this item correctly?

The judges were shown each item one at a time and instructed to provide a rating for each item (round 1 rating) after reading the stem and the response options. Judges then recorded their ratings in a spreadsheet.

Consideration of Empirical Data

Following the initial rating for each item, the answer key and p-value were presented so that the judges could re-evaluate their thought process and revise their ratings (round 2 rating). For example, the judges were specifically advised to consider the possibility that their ratings might be too high on items that they answered incorrectly when the initial ratings were recorded or if their expectations of performance for MCPs were significantly different from the p-value, which represents the performance of a sample of examinees who represent all levels of competency and performance. Judges then recorded their round 2 ratings in the same spreadsheet.

Ratings were then collected from the raters, and items for which the average rating was higher than the p-value by 5 points or more were identified as well as those in which the highest and lowest ratings differed by 40 points or more. The judges discussed these items to determine why their expectations differed significantly from the difficulty for all examinees or from each other. All raters were then given the opportunity to revise their ratings (round 3 rating) for the subset of items identified, following this discussion. Judges called out their round 3 ratings for this subset of items and the facilitator entered those ratings on screen.

CTP Examination

The scope of the CTP examination includes all aspects of the organ preservation process as it relates to the areas of professional practices, organ recovery, aseptic technique, organ preservation, specimen collection and packing, labeling and shipping. Candidates should be aware of all aspects of organ preservation practices in both the pediatric and adult organ donor population as well as organ anatomy. The examination will include UNOS/OPTN organ allocation policy. Candidates should be aware of organ procurement practices as it relates to consent.

CCTN Examination

The CCTN examination includes questions on topics that allow for an individual to demonstrate an achieved level of competence in the field of transplant nursing.

The scope of the examination will include all aspects of transplant nursing including pre- and post-transplant care, living donation, pharmacology, patient/family education, and professional responsibilities of the transplant nurse. Transplant nurse candidates may have experience with only one organ, but are expected to be aware of other organ transplantation practices and should have basic understanding of principles related to both adult and pediatric recipients. Refer to specifications provided in the detailed content outline for the number of general items about no specific type of transplant and items about specific transplant types.

Test Specifications

Test specifications for the examination consist of multiple parts. The first part is the “Detailed Content Outline”. It is a two-way table that indicates the content areas and the number of questions by the “Performance Level” or level of difficulty for each content area, in an outline form. The Performance Level describes the three types of questions posed on the examination:

1. Recall: the ability to recall or recognize specific information.
2. Application: the ability to comprehend, relate or apply knowledge to new or changing situations.
3. Analysis: the ability to analyze information to arrive at solutions, and/or to evaluate the usefulness of the solutions.

All items are of the “one best response” type, where you are to select the one response that BEST answers the question (or completes the sentence). However, there are three distinct item formats, as described below.

1. Positively Worded – One best response
Most items are presented in this format. The stem is positively worded and four options (A, B, C, D) follow. You select the BEST response to your answer.
2. Negatively Worded – All of the following EXCEPT
A small portion of items is presented in this format. The stem is negatively worded, such as “All of the following are true EXCEPT”, and four options (A, B, C, D) follow. You select the EXCEPTION as your answer.
3. Complex Multiple-Choice – Element/phrase combinations
A small portion of items is presented in this format. The stem is followed by three to five elements preceded by Roman numerals. These are followed by four options (A, B, C, D) containing combinations of the elements. You select the one best element COMBINATION as your answer.

Detailed Content Outline

The Detailed Content Outline lists each task that MAY be tested content area and performance level. Every task listed for a given content area is not necessarily tested on each form of the examination. Rather, these tasks are representatively sampled such that the test specifications are met (i.e., appropriate number of recall, application and analysis items within each content domain).

These examinations are specific to VASCULAR ORGAN transplantation, and as such, the tasks listed should be interpreted to apply to vascular organs as defined by ABTC. ABTC’s definition of a “vascular organ” is as follows:

A part of the body having a special function; remains viable only when supported by adequate blood flow to and through intrinsic blood vessels. For purposes of these examinations, the following organs are included: heart, lung, liver, kidney, pancreas and intestine.

**Detailed Content Outline for the
Certified Clinical Transplant Coordinator (CCTC) Examination**

	Items			
	Recall	Application	Analysis	Total
1. EVALUATION AND PREPARATION FOR TRANSPLANT	30	35	8	73
A. Education	9	14	0	23
1. Instruct on risks, benefits, alternatives of transplantation and live donation				
2. Review indications and contraindications of transplantation and live donation				
3. Emphasize the importance of commitment for the candidate to long-term post-transplant follow-up				
4. Discuss with the potential living donor and/or transplant candidate the				
a. evaluation/selection process (e.g., medical, psychosocial, financial)				
b. donorselectioncriteria(e.g.,PHSincreasedrisk,Donationafter Circulatory Death)				
c. transplant recipient and living donor surgical procedures				
d. potential transplant drug regimen and effects				
e. signs/symptoms of infection and organ rejection				
f. diagnostic surveillance of rejection and infection				
g. potential short-term and long-term complications				
h. patient and graft survival				
i. donor/recipient confidentiality				
5. Respond to the individual educational needs of the living donor, candidate, and support system (e.g., age, culture, cognitive)				
B. Data Collection and Evaluation, and Recommendations	2	2	6	10
1. Obtain and review				
a. medical and surgical history, and physical examination				
b. laboratory data (e.g., histocompatibility, serology)				
c. diagnostic studies (e.g., radiology, pathology)				
2. Recommend consultations (e.g., infectious disease, psychosocial, dietitian)				
C. Suitability Assessment and Determination of the Potential Transplant Candidate and Living Donor	3	7	2	12
1. Identify multi-disciplinary recommendations (e.g., psychosocial, social work, dietitian, pharmacology, financial)				
2. Assess donor and/or candidate suitability and adherence				
3. Present findings and make recommendations to the transplant team regarding donor and/or candidate suitability				
4. Communicate the team's recommendations to a candidate and/or living donor (e.g., behavior modification, social/financial issues)				
5. Facilitate				
a. additional procedures and tests based on the team's recommendations (e.g., CT scan, cholecystectomy, arteriogram)				
b. coordination of care for additional testing or protocols as indicated (e.g., PRA desensitization, incompatible ABO)				
D. Wait List Management	5	8	0	13
1. List a candidate per OPTN policies				
2. Verify listing documentation for accuracy				
3. Maintain effective communication with candidate and local care provider				
4. Maintain listing status per OPTN policies				
a. document and record updated diagnostic and lab results (e.g., PRA, MELD, weight variance)				
b. recognize potential problems and/or changes in eligibility criteria during the waiting period				
c. amend listing status as indicated				
5. Remove candidate or recipient from wait list per OPTN policies				

**Detailed Content Outline for the
Certified Clinical Transplant Coordinator (CCTC) Examination**

	Items			
	Recall	Application	Analysis	Total
E. Candidate/Deceased Donor Selection Criteria:	6	2	0	8
1. Identify exclusion criteria for potential donor organs and candidates				
2. Communicate donor information (e.g., demographics, ABO, anatomy, organ condition, medical and social history)				
3. Review candidate's current medical condition and crossmatch status with physicians				
4. Verify candidate's acceptance of a donor (e.g., PHS increased risk, Donation after Circulatory Death)				
F. Living Donor and Candidate Preoperative Care	5	2	0	7
1. Notify staff in appropriate departments (e.g., preoperative area, ICU, blood bank, admissions, research) of a potential transplant				
2. Facilitate preoperative procedures (e.g., dialysis, final crossmatch, pre-op orders)				
3. Inform the living donor and/or candidate (e.g., timing of surgical procedures, surgical consent)				
2. POST-TRANSPLANT CARE	22	43	12	77
A. Education	11	15	0	26
1. Educate transplant recipient and support system about				
a. the transplant drug regimen and effects				
b. applicable self-monitoring data (e.g., temperature, BP, weight)				
c. signs and symptoms of infection and organ rejection				
d. diagnostic surveillance of rejection and infection				
e. potential short-term and long-term complications				
f. transplant team personnel and roles				
g. available support services (e.g., social worker, patient assistance, home health nursing, pharmacy)				
h. recipient and graft survival				
i. long-term health maintenance (e.g., cancer screening, bone health, behavior modification)				
j. strategies involving health promotion, illness prevention, and injury (e.g., cancer screening, bone health, behavior modification)				
k. adherence to follow-up visits and laboratory studies				
l. reporting abnormalities to transplant center/primary care provider				
2. Educate living donor and support system about				
a. immediate postsurgical care (e.g., wound care, activity limitations, pain management)				
b. reporting abnormalities to transplant center/primary care provider				
c. adherence to follow-up visits and laboratory studies				
d. follow-up of required UNOS data (e.g., vital signs, laboratory results, demographics, health status)				
B. Postoperative Monitoring, Evaluation, and Reporting	11	28	12	51
1. Evaluate abnormalities in				
a. pertinent physical examination findings				
b. laboratory values				
c. diagnostic tests				
2. Assess for complications				
a. surgical				
b. medical				
c. immunologic				
d. psychosocial issues				
e. adverse effects of the drug regimen (e.g., drug interaction, poly-pharmacy risk)				
f. long-term				


**Detailed Content Outline for the
Certified Clinical Transplant Coordinator (CCTC) Examination**

	Items			Total
	Recall	Application	Analysis	
3. Consult with the recipient's healthcare team to determine interventions for complications				
4. Facilitate				
a. additional laboratory and/or diagnostic studies				
b. follow-up clinic visits				
c. consultation (e.g., social work, psychologist)				
d. outpatient therapies				
e. hospital admission				
f. discharge medications and renewals (e.g., prior authorization forms, medicine change for insurance reasons)				
g. the patient's transition between healthcare settings (e.g., primary care provider, case managers)				
5. Refer recipient for emergency evaluation and treatment				
6. Report required data to the OPTN/UNET				
7. Evaluate recipient's adherence with the treatment regimen				
8. Reinforce need for health maintenance (e.g., cancer screening, behavior modification)				
9. Facilitate a return to optimal health status (e.g., work, school)				
Totals	52	78	20	150

In addition to the content and cognitive level specifications described above, each multiple-choice item will be associated with one of the following organ specifications:

Organ Specifications	# of
Kidney	31
Liver	18
Heart	8
Lung	10
Kidney-pancreas	3
Pancreas	2
Intestine	1
Heart-lung	2
Organ Specific Sub Total	75
General Sub Total	75
Total	150

*Each test form will include 1 set of 25 unscored pretest items in addition to the 150 scored items.

 American Board for Transplant Certification Certified Procurement Transplant Coordinators (CPTC) Examination Content Outline*		Cognitive Level			Total
		Recall	Application	Analysis	
1. Donation Process Support		5	8	2	15
A. Predonation Activities <ol style="list-style-type: none"> 1. Establish clinical triggers to encourage timely referrals of potential donors from each hospital 2. Develop collaborative relationships with key hospital staff and physicians at all levels that impact the donation process 3. Follow up routinely on each potential referral 4. Provide hospital-based education in collaboration with hospital development staff B. Postauthorization Activities <ol style="list-style-type: none"> 1. Refer to hospital profiles to identify key information in preparation for starting a case (for example, donation champions, policies) 2. Determine the impact of other agencies on the donation process (for example, eye/tissue bank, other OPOs, medical examiner/coroner) 3. Contribute to a formal process for timely follow-up communication (for example, post-donor case conference, unit visits, evaluation forms) 					
2. Donor Identification		10	16	4	30
A. Referral Management <ol style="list-style-type: none"> 1. Evaluate the pre-hospital and hospital course (for example, down-time, injuries, hemodynamics, organ function, infection status) 2. Determine donor registry status or advanced directives 3. Inform hospital staff of donor designation and subsequent donation process 4. Assess family dynamics, availability of hospital support system, and family needs (for example, cultural, religious, physical, emotional, informational) 5. Support hospital personnel throughout the donation process 6. Record the outcome of donor referral B. Donor Determination <ol style="list-style-type: none"> 1. Confirm a plan of care that includes a decision to withdraw support (for example, patient, family, physician) 2. Determine suitability for DCD 3. Support the family throughout the donation process 4. Confirm legal and hospital requirements for death declaration 					



American Board for Transplant Certification

Certified Procurement Transplant Coordinators (CPTC) Examination Content Outline*

Cognitive Level

Recall

Application

Analysis

Total

C. Authorization

1. Identify
 - a. the legal next of kin in the absence of a donor designation to obtain authorization
 - b. key individuals involved in authorization and end-of-life decisions (for example, family, friends, clergy, physician)
2. Coordinate the authorization process in collaboration with hospital staff
3. Assess a family's understanding of brain death
4. Inform a family of donor designation and subsequent donation process
5. Coordinate the donation request by facilitating an informed decision
6. Document the outcome of the authorization conversation
7. Confirm a properly executed authorization form (for example, next of kin, highest priority of authorization, directed donation) or donor disclosure form (for example, donor registry card, signed donor card, document of gift)
8. Complete and interpret the UDRAI (Uniform Donor Risk Assessment Interview)
9. Determine increased risk status (USPHS criteria)
10. Identify OPO financial responsibility (for example, hospital charges)

3. Donor Management

15

25

27

67

A. Assessment

1. Register a donor with OPTN
2. Perform a bedside assessment (for example, ventilator settings, hemodynamics, physical findings, neurologic examination)
3. Initiate standing orders
4. Initiate the confidential donor record (for example, ABO verifications, serologies/infectious disease testing, hemodilution status)
5. Document the pre-hospital and hospital course (for example, down-time, injuries, hemodynamics, infection status)



American Board for Transplant Certification

Certified Procurement Transplant Coordinators (CPTC) Examination Content Outline*

Cognitive Level

Recall

Application

Analysis

Total

6. Obtain samples for:
 - a. HLA / tissue-typing
 - b. Serologies / Infectious Disease Testing
 - c. laboratory values (for example, CBC, electrolytes, culture results, organ function tests)
7. Evaluate diagnostic procedure results (for example, cardiac, pulmonary, pathology)
8. Assess suitability of organs for donation

B. Interventions

1. Initiate interventions and/or modify orders to optimize organ viability (for example, ventilator settings, infusions, pharmacological support)
2. Optimize ongoing donor hemodynamic and pulmonary stability
3. Treat acute and chronic clinical abnormalities (donor management guidelines)

4. Allocation and Recovery

10

23

5


38

A. Allocation

1. Determine donor type (BD vs. DCD)
2. Identify donor allocation criteria (for example, KDPI, 2 -for- 1 Kidney Donors)
3. Disclose current and past medical and behavioral history
4. Adhere to OPTN allocation policies
5. Complete required documentation (for example, match-run list, Deceased Donor Registration)
6. Coordinate OR times
7. Arrange for transportation (for example, personnel, organs)
8. Provide required documentation to agencies (for example, transplant centers, OPTN, tissue recovery)
9. Place organ(s) for research and education

B. Organ Recovery and Preservation

1. Ensure necessary surgical personnel and supplies are present
2. Verify recovery surgeon credentials (for example, ACIN)
3. Maintain donor stability during transport to the OR (for example, IV line patency, oxygenation, vital signs)
4. Support OR and anesthesia staff (for example, management and documentation guidelines, scrub and assist during recovery)

 American Board for Transplant Certification Certified Procurement Transplant Coordinators (CPTC) Examination Content Outline*	Cognitive Level			Total
	Recall	Application	Analysis	
5. Coordinate the activity and interaction of the recovery team(s) 6. Ensure aseptic technique is used throughout the donor's time in the OR (for example, donor prep, organ packaging, preservation) 7. Facilitate organ preservation (for example, solutions, equipment, ice, pulsatile preservation) 8. Document data associated with organ recovery (for example, anatomy, flush, cross-clamp, warm time, biopsies, operative note) 9. Ensure all organs and specimens are obtained, packaged, and labeled in accordance with current OPTN policies 10. Complete post-mortem care 11. Notify agencies and individuals of case completion (for example, tissue agency, family, funeral home, medical examiner/coroner)				
TOTAL	40	72	38	150

* Each test form will include 25 unscored pretest items in addition to the 150 scored items.
 3 hours of testing time.
 Initial base form passing point by Angoff method to be approved by ABTC.
 Future passing points established through pre-equating.

**Detailed Content Outline for the Transplant
Preservationist Certification (CTP) Examination**

Open cells show an examination could include items from indicated cognitive levels.
Shaded cells prevent appearance of items on examinations.

	Items			
	Recall	Application	Analysis	Total
I. Professional Practice	4	6	0	10
A. Responsibilities	2	3	0	5
1. Identify roles and responsibilities of OPO, OPO staff, and transplant center staff in organ donation				
2. Adhere to all regulatory requirements				
B. Professional Conduct	2	3	0	5
1. Maintain donor/recipient confidentiality throughout the entire donation process				
2. Maintain appropriate behavior in accordance with established codes of conduct				
II. Organ Recovery	6	15	4	25
A. PreoperativePhase	3	6	1	10
1. Communicate with on-site OPO staff				
2. Review the scope of the recovery process (i.e., consent, research, allocated organs)				
3. Prepare supplies to bring to the donor hospital				
4. Instruct hospital staff on their roles during the recovery process				
5. Verify donor identification and documentation				
6. Ensure that appropriate staff are on-site and readily available				
7. Arrange for supplies at the recovery hospital				
8. Ensure donor is properly positioned for the procedure				
9. Obtain necessary blood samples				
B. Intraoperative Phase	3	9	3	15
1. Prepare preservation solution				
2. Set up back table with supplies				
3. Prepare flush lines				
4. Communicate with recovery staff (e.g., venting, donor stability, perfusion systems, flush status)				
5. Ensure medications have been administered				
6. Prepare for cannulation and cross-clamp				
7. Establish control for flush				
8. Ensure adequate suction is available				
9. Document critical information (e.g., Heparin administration, cross-clamp, warm ischemic time, anatomy, flush characteristics)				
10. Identify abnormalities in the recovery process				
11. Coordinate the recovery of biopsies				
12. Coordinate lymph node, spleen, and vessel recovery				
III. Aseptic Technique	4	6	0	10
A. Gowning and Gloving	3	4	0	7
1. Verify that all recovery staff are properly attired				
2. Utilize proper personal protective equipment (PPE)				
3. Perform standardized gowning technique				
4. Perform standardized gloving technique				
5. Perform standardized scrub technique				
B. BackTable Setup	1	2	0	3
1. Create a sterile field				
2. Introduce sterile supplies onto field				
3. Decant solutions				
IV. Organ Preservation	8	12	0	20
A. Heart, Lungs, Liver, Kidneys, Pancreas	6	9	0	15
1. Anatomy				
a) Identify anatomic structures (e.g., inflow, outflow)				
b) Document aberrant findings				

**Detailed Content Outline for the Transplant
Preservationist Certification (CTP) Examination**

Open cells show an examination could include items from indicated cognitive levels.
Shaded cells prevent appearance of items on examinations.

	Items			
	Recall	Application	Analysis	Total
2. Recovery Technique				
a) Identify most common cannulation sites				
b) Identify most common cross-clamp sites				
B. Solutions	2	3	0	5
1. Maintain temperature and sterility				
2. Regulate flow pressure				
3. Assess for stability				
V. Specimen Collection	3	6	1	10
A. Blood	1	1	0	2
1. Select proper type and quantity of blood tubes				
2. Facilitate specimen collection				
3. Label tubes with standard information				
B. Lymph Nodes and Spleen	1	2	0	3
1. Identify quantity of each specimen needed				
2. Facilitate specimen collection				
3. Store in preservative medium				
4. Label containers with standard information				
C. Vessels	1	3	1	5
1. Identify proper vessels to be recovered				
2. Facilitate vessel collection				
3. Store in preservation solution				
4. Label containers with standard information				
VI. Packaging, Labeling, and Shipping	10	15	0	25
A. Labeling Requirements	5	7	0	12
1. Prepare and verify accuracy of labels				
2. Follow standard procedures when affixing labels to organs				
3. Affix labels to shipping containers				
B. Packaging Requirements	5	8	0	13
1. Utilize standardized packaging materials (e.g., disposable transport boxes, coolers, hard containers)				
2. Maintain proper insulation and temperature				
3. Include required documentation				
4. Include required specimens				
5. Verify package contents				
6. Seal packaging containers				
Totals	35	60	5	100

**Detailed Content Outline for the
Certified Clinical Transplant Nurse (CCTN)* Examination**

	Recall	Application	Analysis	Total
1. PRETRANSPLANTATION CARE	3	9	3	15
A. Evaluate End-Stage Organ Failure				
1. History and physical assessment				
2. Vital signs and / or hemodynamic parameters				
3. Lab values				
4. Diagnostic tests				
B. Monitor a Patient Awaiting Transplantation				
1. Kidney				
2. Liver				
3. Pancreas				
4. Heart				
5. Lung				
6. Intestines				
C. Provide Education to a Patient Awaiting Transplantation				
1. Organ matching (e.g., HLA, living donor)				
2. Waitlist status (e.g., MELD/PELD, Lung Allocation Score, mechanical circulatory support, EPTS/KDPI)				
3. Post-operative course				
a. Lines, tubes, and wires that will be inserted				
b. Incision care				
c. Pain management plan				
4. Explanation of pre-operative tests / procedures				
5. Medications and side effects				
6. Immunizations				
7. Health maintenance (e.g., physical activity, dental, eye, GYN, etc.)				
D. Provide Support for Psycho-social Issues				
1. Changes in lifestyle and body image				
2. Adherence to the plan of care (e.g., consequences of non-adherence)				
3. Coping strategies while waiting				
4. Financial implications				
5. Support systems				
6. Cultural / religious issues				
7. Advance care planning / palliative care (e.g., POA, end-of-life, ethics, consults)				
8. Advocating for patient and family in decision making				
E. Prepare Pre-Transplant Patient for Surgery				
1. Administration of transplant-related medications as ordered				
2. Implementation of desensitization procedures				
3. Ensure consent for surgery has been obtained				
2. CARE IMMEDIATELY POSTTRANSPLANTATION	8	10	20	38
A. Evaluate Objective Criteria				
1. Vital signs				
2. Hemodynamic monitoring				
3. Cardiac monitoring				
4. Tubes, lines, and wires (e.g., t-tubes, VAD lines, pumps)				
5. Pain management				
6. Neurological status				
7. Volume status (e.g., intake / output, weight)				
B. Monitor Laboratory Results				
1. Evidence of organ function				
a. kidney				
b. liver				
c. pancreas				
d. heart				
e. lung				
f. intestines				

**Detailed Content Outline for the
Certified Clinical Transplant Nurse (CCTN)* Examination**

	Recall	Application	Analysis	Total
		Items		
2. Evidence of other postoperative complications				
a. hematological (e.g., bleeding, clotting)				
b. infection				
c. fluid/electrolyte imbalance				
C. Assess for Complications, Intervene, or Evaluate Response to Intervention				
1. Organ specific				
a. kidney (e.g., clots, leaks, dialysis therapy)				
b. liver (e.g., renal dysfunction thrombosis, bile duct complications, effusions, cholestasis)				
c. pancreas (e.g., pancreatitis, thrombosis, cystitis)				
d. heart (e.g., arrhythmias, ventricular failure, tamponade, pacemaker)				
e. lung (e.g., pneumothorax, effusion, stenosis)				
f. intestines(e.g.,stoma output)				
2. General				
a. Impaired wound healing				
b. Hypoglycemia and hyperglycemia				
c. Hypotension and hypertension				
d. Altered bowel function				
e. Altered nutrition				
f. Altered mobility / self-care deficit				
g. Respiratory				
h. Neurological (e.g., post-op delirium)				
i. Tubes, lines, and wires (e.g., malfunctions with t-tubes, VAD lines, pumps)				
D. Care for the Living Donor				
1. Pain control				
2. Psychological support				
3. Complications				
3. TRANSPLANTATION MANAGEMENT	8	19	10	37
A. Evaluate Graft Function				
1. Graft dysfunction (primary graft non-function, ATN, reperfusion injury)				
2. Rejection surveillance (e.g., cellular rejection and antibody-mediated rejection)				
a. signs and symptoms of rejection (e.g., cellular and AMR)				
b. diagnostic testing (e.g., cellular and AMR)				
c. treatments				
3. Post-biopsy monitoring and education				
B. Recognize Signs and Symptoms of Infections				
1. Viral				
2. Bacterial				
3. Fungal				
4. Protozoal				
5. Parasites				
C. Infection Control				
1. Implication of donor / recipient viral status (e.g., CMV, EBV, HSV)				
2. Pharmacological measures (e.g., medications, immunizations)				
3. Non-pharmacological measures (e.g., hand-washing, aspergillus precautions)				
D. Monitor for Long Term Complications				
1. Chronic rejection				
2. Malignancies (e.g., skin cancer, Post-Transplant Lymphoproliferative Disorder)				
3. Metabolic disorders (e.g., obesity, diabetes mellitus, dyslipidemia)				
4. Chronic Kidney Disease				
5. Cardiovascular disease (e.g., hypertension)				
6. Bone disease (e.g., osteoporosis, hypovitamin D, parathyroid, AVN)				
7. Transplant specific infections (e.g., BK Viremia)				
8. Recurrent primary disease (e.g., IGA nephropathy, GN)				

**Detailed Content Outline for the
Certified Clinical Transplant Nurse (CCTN)* Examination**

	Recall	Application	Analysis	Total
E. Provide Support for Psycho-Social Issues			Items	
1. Changes in lifestyle and body image				
2. Adherence to the plan of care (e.g., consequences of non-adherence)				
3. Coping strategies and mental health with chronic disease (e.g., intervening for changes in mood, psychosis, anxiety, depression, PTSD)				
4. Financial implications				
5. Support systems				
6. Cultural / religious issues				
7. Advance care planning / palliative care (e.g., POA, end-of-life, ethics, consults)				
8. Educating recipient and family regarding donor correspondence				
4. PHARMACOLOGICAL THERAPEUTICS	5	5	13	23
A. Administer Induction Agents and Immunosuppressive Drugs				
1. Indications				
2. Side effects				
3. Interactions				
4. Therapeutic levels				
5. Effect on other lab values				
6. Safe handling (for staff)				
B. Administer Transplant Related Non-Immunosuppressive Drugs				
1. Indications				
2. Side effects				
3. Interactions				
4. Therapeutic levels				
5. Effect on other lab values				
5. EDUCATION AND DISCHARGE	5	14	4	23
A. Discharge a Recipient Safely				
1. Validating return-demonstration and recording of home regimen (e.g., vital signs, intake / output, glucose monitoring)				
2. Reinforcing the medication regimen				
a. dose and frequency (e.g., missed doses)				
b. side effects				
c. interactions (e.g., other meds, over the counter, herbals, diet)				
d. financial issues				
e. refills (e.g., generic, brand)				
f. medication safety (for caregivers)				
3. Reinforcing discharge instructions				
a. signs and symptoms of infection / rejection				
b. outpatient follow-up (e.g., primary care transition)				
c. infection control measures				
B. Ensure the Recipient Understands the Long-Term Care Plan				
1. Immunizations				
2. Physical activities				
3. Sexuality, pregnancy, and birth control				
4. Travel				
5. Dietary changes (e.g., food safety and handling)				
6. Emergency resources / disaster preparedness				
7. Health maintenance (e.g., cancer screening, high-risk behaviors)				
8. Return to work / school				
9. Animal safety				
6. PROFESSIONAL RESPONSIBILITIES	6	8	0	14
A. Support Transplantation Practices and Education				
1. Maintaining current transplant knowledge and skills				
2. Educating other health care providers, new staff and nursing students, and the general public				

**Detailed Content Outline for the
Certified Clinical Transplant Nurse (CCTN)* Examination**

	Items			
	Recall	Application	Analysis	Total
3. Participating in quality assurance / performance improvement activities				
B. Act on Ethical / Legal Issues				
1. Maintaining donor and recipient confidentiality				
2. Addressing discrepancies between personal values and difficult candidate / recipient situations				
3. Addressing ethical / moral dilemmas				
C. Articulate Advances in Organ Donation/Transplantation				
1. Advocating for living donation (e.g., paired kidney donation)				
2. Donation after cardiac death				
3. Extended criteria (e.g., HCV, HIV, en bloc, incarceration)				
4. New technologies to enhance transplant procedures and improve patient care (e.g., ex vivo lung perfusion, mechanical circulatory support)				
Totals	35	65	50	150

CCTN Secondary Specifications

Content Domain	Total	Limits on							
		General	Kidney	Liver	Heart	Lung	Pancre	Intestine	Multi-
1. PRETRANSPLANTATION CARE	15	5-10	2-6	1-3	0-2	0-2	0-1	0-1	0-1
2. CARE IMMEDIATELY POSTTRANSPLANTATION	38	4-8	16-20	4-8	1-3	0-2	0-1	0-1	0-1
3. TRANSPLANTATION MANAGEMENT	37	11-15	12-16	2-6	0-2	0-2	0-1	0-1	0-1
4. PHARMACOLOGICAL THERAPEUTICS	23	9-23	0-5	0-3	0-1	0-1	0-1	0-1	0-1
5. EDUCATION AND DISCHARGE	23	10-23	0-5	0-3	0-1	0-1	0-1	0-1	0-1
6. PROFESSIONAL RESPONSIBILITIES	14	6-14	0-3	0-2	0-1	0-1	0-1	0-1	0-1
Minimums	150	45	30	7	1	0	0	0	0
Maximums	150	93	55	25	10	9	6	6	6

Effective Date: July 2020

Specifications by Recipient Age

Recipient	Items
Pediatric	8
Adult	142
Total	150

* Each test form will include 1 set of 25 unscored pretest items in addition to the 150 scored items.

Sample Questions

Three sample questions follow to provide a sample of each of the different types of questions that are presented. These sample questions include one example of each item format described and one example of each of the three performance levels (recall, application, and analysis) on the examination. These sample questions are not intended to be difficult or necessarily reflect the difficulty of the examination. The correct answer is noted by an asterisk.

Sample 1: One best response item format

Performance Level: Recall

The primary purpose of immunosuppressive therapy is to

- A. prevent postoperative complications.
- *B. prevent graft rejection.
- C. increase the circulating white blood cells.
- D. enhance the function of the patient's native kidneys.

Sample 2: One best response item format

Performance Level: Application

Four weeks following heart transplant, a recipient undergoes an endomyocardial biopsy that shows endo thelial thickening, interstitial inflammation, and intravascular coagulation. This biopsy result indicates

- A. acute cellular rejection.
- *B. humoral rejection.
- C. normal postoperative changes.
- D. cytomegalovirus infection.

Sample 3: Complex Multiple-Choice –Element/ phrase combination item

format Performance Level: Analysis

A kidney transplant candidate has congenital uropathy with an ileal conduit. Which of the following would be required pre-transplantation to determine the ureteral implantation site?

- I. IVP
- II. Loopogram
- III. KUB
- IV. Cytometrics
- A. I and II only
- B. I and II only
- *C. II and IV only
- D. III and IV only

Best Way to Prepare for the Examination

Know what is to be tested.

The examination questions reflect standard transplant practices of a minimally competent first-year transplant professional, within the scope of legally licensed practice. The examinations include topics covering kidney, liver, pancreas, heart, intestine, and lung transplantation. The examinations are not center-specific and do not reflect advanced practice professionals, i.e.: Nurse Practitioners or Physician Assistants.

Use the learning style that is best for you.

Everyone has his or her own style of learning. Your time will be most effectively spent if you are aware of your own personal learning style. Your learning style may be verbal, so you may want colleagues to quiz you, or consider organizing a study group with others who are taking the exam. Your learning style may be more logic-based, so you may choose to make outlines to go along with the content outline. Visual learners may want to make flashcards of the textbooks reviewed. Kinesthetic learners learn best by touch and feel, so highlighting, or marking your books or taking notes as you study may be your best method of learning. Often test-takers use a combination of styles to learn, so plan ahead to give yourself plenty of time, because whichever style you prefer, studying is necessary before you sit for this examination. Use the detailed content outline to plan your examination preparation. Spend plenty of time studying each area and allow extra time studying topics that seem unfamiliar or difficult to you.

References for Study

The reference lists provided here are not intended to be inclusive of all material that may be useful to you in preparing for the examinations. Rather, it is intended to familiarize you with some representative references that relate to the field of vascular organ transplantation and to provide you with an abbreviated selection of resources from which you may select that are specific to your individual study needs. The references presented are provided only for guidance and do not represent all of the references that may be available for study.

The inclusion of any particular reference does not constitute an endorsement by ABTC or any of its officers or representatives. Additionally, ABTC does not support or endorse any preparatory courses for candidates who take an ABTC examination. Such preparatory courses may not offer or review essential information that may be covered on an ABTC examination.

Suggested Study Tips

- Use the Detailed Content Outline as your subject matter guide.
- Begin studying far enough in advance to avoid undue stress.
- Build up your confidence with practice exams, and quizzes.
- Practice answering multiple choice and complex multiple-choice questions so that the format is familiar to you.
- Pace yourself studying, perhaps an hour or two each day, so that you are not overwhelmed at the last minute.
- Allow for extra time to be spent on areas that are not part of your daily practice or that are difficult for you.
- Set aside regular time and place for study, preferably in a quiet place, with good lighting, where you will have minimal distractions.
- Study with colleagues who are also preparing for the same exam.
- Don't be afraid to ask for help when you need it— seek out your best resources for assistance.
- Read, recite, and repeat the materials for the exam, over and over and over.
- The night before the exam briefly review your materials.
- Get a good night's sleep, eat before the exam, and dress comfortably for the testing site.
- Relax.

Suggested References for the Certification Examination for Clinical Transplant Coordinators

1. *Core Curriculum for Transplant Nurses* (2nd Edition). Cupples, S., Lerret, S., McCalmont, V., & Ohler, L., eds. Philadelphia, PA: Wolters Kluwer, 2017.
2. *Transplantation Nursing Secrets*. Sandra Cupples and Linda Ohler, eds. Harley and Belfus, Inc., 2003.
3. *Organ Transplantation* (2nd Edition). Landes Bioscience, 2003.
4. *A Clinician's Guide to Donation and Transplantation*. Rudow, D., Ohler, L. and Shafer, T., eds. NATCO, 2006.
5. *Handbook of Kidney Transplantation* (6th Edition). Danovitch, G.M. Philadelphia, PA: Wolters Kluwer, 2017.
6. *Nursing 2020 Drug Handbook*. Philadelphia, PA: Wolters Kluwer.
7. *Mosby's Diagnostic and Laboratory Test Reference* (14th Edition). Pagana, PhD, RN, K. D.; Pagana, MD, FACS, T.J.; & Pagana, MD, FAAEM, T. N. St. Louis, MO: Elsevier, 2019.
8. OPTN/UNOS – <https://optn.transplant.hrsa.gov>
9. HIPPA Guidelines – <https://www.HHS.gov>

Suggested References for the Certification Examination for Procurement Transplant Coordinators and Transplant Preservationist

1. Uniform Anatomical Gifts Act 1987.
2. Uniform Determination of Death Act— 1981 & 1985.
3. UNOS Policies and Procedures available via www.unos.org.
4. National Kidney Foundation (NKF) Donor Family Bill of Rights, 1994.
5. National Communication Guidelines Regarding Communication among donor families, transplant candidates/recipients, and health care professionals. NKF July 1997.
6. *Progress in Transplantation: reprint collection, Donor Management Issues 2003*.
7. Critical Care Nurse: *Organ Donation Issue*, American Association of Critical Care Nurses, Vol. 19, No. 2, April 1999.
8. The death record review manual from AOPO.
9. Conditions of Participation, current edition.
10. Phillips, M.G. (ed.) *Organ procurement, preservation and distribution in transplantation*. 1996.
11. Organ and Tissue Donation: A reference guide for clergy—SEOPF and UNOS current edition.
12. *UNOS organ procurement coordinators handbook* 3rd edition, 2000.
13. Klintman, G., Levy M. *Organ Procurement and preservation* Landes Bioscience Vademecum, Austin Texas 1999.
14. Warmbrodt, J., et al. *The business of getting referrals: a step by step guide for organ procurement professionals*. Warmbrodt Resources, Fairway KS, 1992.
15. *Roles and training in the donation process: a resource guide*. Dept. of Health and Human Services Administration—Health Care Financing Administration. August 2000.
16. *Informed consent in tissue donation: expectations and realities*. Dept. of Health and Human Services—Office of the Inspector General. January 2001.
17. *Non-heart beating organ transplantation practice and protocols*. Institute of Medicine. National Academy Press, Washington DC.
18. The Gallop Organization, Inc. *The American public's attitudes toward organ donation and transplantation, conducted for the partnership for organ donation*. Boston MA February 1993.
19. Association of Organ Procurement Organizations Clinical Standards
20. *A Clinician's Guide to Donation and Transplantation*
— NATCO, Ludlow, Ohler and Shafer

21. Association of PeriOperative Nurses—Standards and Guidelines

Journals and specific articles:**Suggested References for the Certification Examination for the Clinical Transplant Nurse**

1. *Handbook of Kidney Transplantation* (6th Edition). Danovitch, G.M. Lippincott, 2017.
2. *Transplant Nursing: Scope and Standards of Practice*, (2nd Edition). American Nurses Association & International Society of Transplant Nurses, 2016.
3. *Core Curriculum for Transplant Nurses* (5th Edition). Cupples, S., Lerret, S., McCalmont, V., & Ohler, L., eds. Philadelphia, PA: Wolters Kluwer, 2021.
4. *Mosby's Diagnostic and Laboratory Test Reference* (14th Edition). Pagana, PhD, RN, K. D.; Pagana, MD, FACS, T.J.; & Pagana, MD, FAAEM, T.N. St. Louis, MO: Elsevier, 2019.
5. *Nursing 2020 Drug Handbook*. Philadelphia, PA: Wolters Kluwer.
6. *Brunner & Suddarth's Textbook of Medical-Surgical Nursing*. (15th Edition). Hinkle, J.L. & Cheever, K.H. Philadelphia, PA: Wolters Kluwer, 2021.
7. *Core Curriculum for Medical-Surgical Nursing* (5th Edition). Craven, H., Pittman, NJ: Academy of Medical-Surgical Nurses, 2016.
8. OPTN/UNOS – <https://optn.transplant.hrsa.gov>

