Dental Technology Entry-to-Practice Assessment

Part One of Two

KNOWLEDGE-BASED ASSESSMENT (KBA) HANDBOOK

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Disclaimer

The Canadian Alliance of Dental Technology Regulators (CADTR) provides credentialing and assessment services on behalf of provincial dental technology regulators and plays no role in their registration decisions.

Candidates are responsible for ensuring that they understand the registration and examination/assessment regulations and policies associated with their intended practice jurisdiction. This includes whether writing the Knowledge-Based Assessment (KBA) through CADTR is required by the province or territory where candidates intend to practice.

This handbook must be read in a conjunction with the Credentialing Application Guide. By applying to CADTR for the KBA, applicants attest to having read and understood the Credentialing Application Guide and the policies herein. Failure to comply with the requirements may result in application or assessment ineligibility, cancellation and loss of payment.

CADTR reserves all rights to review and update its policies. We remind you to regularly check the CADTR website (www.cadtr-acortd.com) for updates, changes and to seek assistance when needed.

Contents

Acronyms

CADTR – Canadian Alliance of Dental Technology Regulators

DTETPA – Dental Technology Entry-to-Practice Assessment

DTR – Dental Technology Regulators

KBA – Knowledge-Based Assessment

NEETPC – National Essential Entry-to-Practice Competencies

NEC – National Essential Competencies for Dental Technology Practice in Canada, 2019

PBA – Performance-Based Assessment

General Information

Our Role

The Canadian Alliance of Dental Technology Regulators (CADTR) will evaluate credentials and administer the Dental Technology Entry-to-Practice Assessment (DTETPA) on behalf of the following participating, regulatory jurisdictions: Alberta, British Columbia, Nova Scotia, New Brunswick, Ontario, and Quebec. (Appendix A).

Before applying for registration as a dental technology professional (e.g., dental technologist or dental technician) in Canada, applicants are responsible for ensuring that they understand the regulations and policies associated with their intended practice jurisdiction.

CADTR plays no role in the registration/licensure decisions of the provincial regulators. For more information about CADTR, please visit the website: www.cadtr-acortd.com.

Dental Technology Entry-to-Practice Assessment (DTETPA)

The DTETPA measures the Canadian competencies required for entry-to-practice in dental technology, National Essential Entry-to-Practice Competencies. It will ensure dental technology professionals who enter the profession have the knowledge, skills and judgment needed at the beginning of their careers.

The DTETPA launched in 2021. It replaced the participating regulatory jurisdiction's entry-to-practice examinations for new candidates. The assessments will be administered solely by CADTR, while all regulatory jurisdictions will continue to administer other examinations necessary for registration, such as the Jurisprudence & Ethics examination.

The DTETPA is administered in two parts: a written online Knowledge-Based Assessment (KBA), and an in-person Performance-Based Assessment (PBA). This handbook provides information about the KBA.

Contact

To contact the CADTR CAS Manager, email cas@cadtr-acortd.com. Email correspondence will be responded to within three business days.

> Phone: 416-438-5003, Ext. 221
> Toll-Free: 1-877-391-2386, Ext. 221

KBA Development Process

Competencies for Dental Technology Practice

As the foundation for a criterion-referenced assessment, the competencies and performance indicators required for safe and effective dental technology practice at the beginning of their career in Canada, the National Essential Entry-to-Practice Competencies, are were identified by subject matter experts. These entry-to-practice competencies and performance indicators are a subset of the National Essential Competencies for Dental Technology Practice in Canada, 2019, which were designed to encompass competencies across the career span of Canadian dental technology professionals. The competencies and performance indicators underwent an extensive study by focus groups across Canada and a national survey which was validated in terms of relevant criteria, such as level of importance to public safety and level of frequency performed in dental technology practice in Canada. These competencies and performance indicators are reviewed periodically to confirm their validity.

KBA Master Blueprint

An examination blueprint outlining the content to be tested on the KBA and PBA was developed and is kept up to date by CADTR. The blueprint shows the percentage of questions from each Competency Unit and Competency as well as other variables such as the cognitive complexity of items and type of prosthetic/appliance. The KBA Master Blueprint includes the competencies and performance indicators that are aligned to knowledge-based testing, and therefore suitable for assessments using the computer-based format of the KBA. See the KBA Master Blueprint for more details.

Item Development

KBA items (questions) are developed by subject matter experts in dental technology who are trained in item writing. The KBA items measure the specified competencies in accordance with the guidelines identified in the Master Blueprint.

KBA Monitoring and Approval

Each version of the KBA is assembled from approved items in the CADTR test bank that are in accordance with the blueprint specifications. Before final approval of the KBA is given, the subject matter experts review the entire KBA to ensure that each item measures content that is consistent with current standards of practice for entry-level dental technology professionals.

Standard-Setting

The passing score or standard for the KBA is established on its first administration by using the professionally accepted and widely used Modified Angoff method (Appendix B). This method

requires subject matter experts to review each item relative to the entry-to-practice standard for Canadian dental technologists. Subsequent administrations employ the statistical process known as equating to ensure that each exam is equally easy or difficult to pass as the first administration. Both processes are consistent with a best practice in testing and strongly contribute to the fairness and defensibility of the examination process.

Assessment Assembly and Delivery

KBAs are 180 questions in length, created with the oversight of psychometricians and subject matter experts to ensure blueprint coverage of competencies and other examination criteria. The KBA is 3 hours in duration and virtually proctored[*], meaning both on- and off-screen activity is monitored by a third party to ensure that the candidate is using only their knowledge to answer test questions. Details about accessing the virtual proctoring platform and scheduling KBA with eProctor Canada will be provided once the candidate has registered for the KBA with CADTR.

Assessment Security and Confidentiality

KBA content is the property of CADTR and must always remain secure. The KBA is administered under strict protocols in order to ensure that security and confidentiality are maintained. Candidates are required to confirm their agreement with the statement of understanding before being permitted to take the KBA. The Candidate Statement of Understanding (Appendix C) outlines the expectations surrounding the KBA in terms of confidentiality and ensuring the security of assessment content.

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[*] Proctoring is the act of supervising an examination.

KBA Eligibility Requirements

Eligibility to apply for the KBA requires successful completion of CADTR credentialing evaluation (see the Credentialing Applicant Guide for more details).

- It is a candidate's responsibility to verify whether the province or territory where they intend to practice requires them to successfully complete the KBA or not. (Appendix D)
- Candidates have a maximum of 2 years to apply and enroll for the KBA or PBA from the date the credentialing application fee is received. See 2.6 Credential Qualification Expiration and 2.7 Dormant File Policies for more details.

All candidates are permitted to take up to a maximum of 3 attempts to successfully complete both the KBA and the PBA components of the DTETPA. If not successful in the second attempt, candidates are required to undertake remedial activities (e.g., course work or practice hours) before their third attempt. See the 3.1 Number of Assessment Attempts Policy for more details.

- First-time candidates must attempt both components, the KBA and PBA, at the first assessment sitting.
- Candidates who are unsuccessful at their first attempt must complete their second assessment attempt within 15 months of the previous unsuccessful attempt.

Candidates who falsify documents will not be allowed to write the KBA. If falsification is discovered after the KBA has been taken, the KBA results will be null and void. See the 2.8 Fraudulent, Irregular Documents and Cheating Policy for more details.

Request for Accommodation

CADTR is committed to provide reasonable and appropriate modifications to the KBA in order to accommodate candidates under the applicable human rights legislation. Candidates with protected characteristics (e.g., disability) are entitled, under provincial human rights legislation, to reasonable accommodation in testing arrangements that provide for fair and valid assessment. CADTR will consider any testing accommodation requests while ensuring the integrity of the KBA and ensuring that the KBA tests the required competencies of entry-level dental technology professionals.

A candidate with a documented disability (physical or mental impairment) that substantially limits one or more major life activities (e.g., a visual, orthopedic, speech and hearing impairment, other health/physical impairment, or a specific learning disability), may request testing accommodations. Requests for accommodation are considered on a case-by-case basis. Candidates that require special accommodation must complete the accommodation request form and submit at least 60 days before the scheduled assessment date. See the 3.3 Accommodation Policy for more details. Note: Requests for accommodation received by CADTR less than 60 days before the KBA will not be considered, except in circumstances beyond a candidate's control, such as a recent injury.

Registration for KBA

Registration for KBA is **Step Three** of the CADTR application process. See the [Credentialing Application Guide](#) for more information about Step One and Step Two.

Step One: Preparing to Apply to CADTR

Step Two: Credential Evaluation

YOU ARE HERE

Step Three: Competency-based Assessment (DTETPA)

- Knowledge-Based Assessment (KBA)
- Performance-Based Assessment (PBA)

Successful Completion - CADTR Certificate

Apply for Provincial Registration
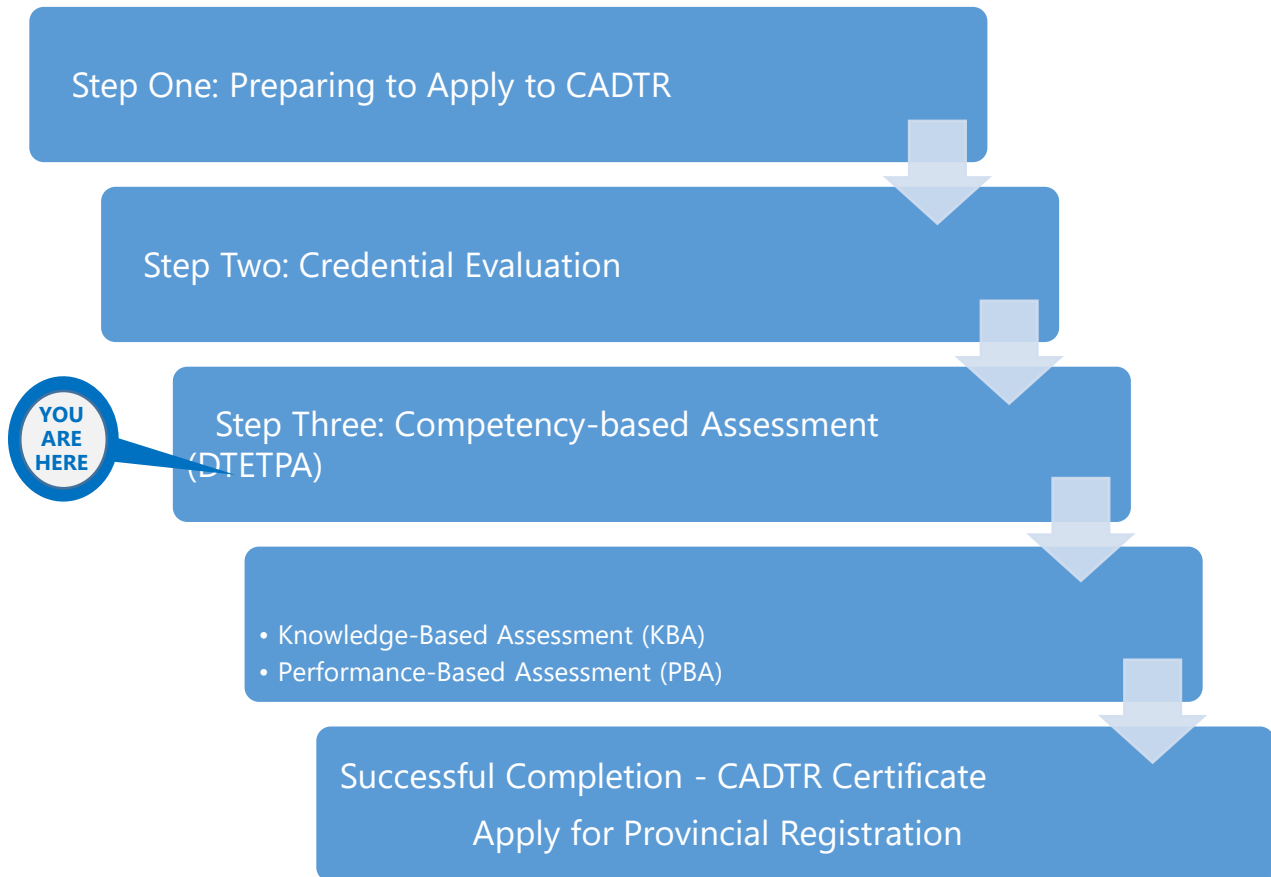
KBA Registration Process

Candidates who are required to complete the KBA can register for the assessment upon successful completion of Step Two: CADTR Credential Evaluation. Candidates will be notified and directed to enroll for the KBA through the [CADTR Online Applicant Portal](#) and pay the associated fee(s). Candidates must schedule their KBA time with eProctor Canada. See the [Schedule KBA](#) for more details.

Deadline Dates

The deadline for registration is 10 days in advance of the KBA date.

Language of KBA

The KBA is available in both of Canada's official languages: English and French.

KBA Format

KBAs are online computer-based assessments that are virtually proctored. KBAs include approximately 180 questions and are 3 hours in duration.

Question Types and Content

The KBA is a combination of the following question types:

- Multiple-choice (select the single best answer)
- Multiple-select (select all answers that apply)
- Image-based selection (select area(s) of an image)

The KBA blueprint outlines the content to be tested. A larger number of questions on the assessment are tied to important indicators and frequently performed tasks in dental technology practice. The following table indicates the percentage of KBA questions for each unit:

KBA Blueprint by Units	% of questions
Unit 1: Foundational Knowledge in Dental Technology	30%
Unit 2: Environmental Safety and Use of Laboratory and Equipment	15%
Unit 3: Design, Fabrication, and Repair of Dental Technology Prostheses and Appliances	40%
Unit 4: Accountability and Professionalism	5%
Unit 5: Patient Care	5%
Unit 6: Leadership, Business Management, and Administration	5%
Total	100%

The full KBA Master Blueprint is available on the CADTR website and Appendix E.

Question Cognitive Levels

Candidates may be asked several types of questions in each competency category that are based on varying cognitive levels. Cognitive levels refer to the degree of complexity of thinking required to answer a question or solve a specific problem. The types of questions, in increasing order of difficulty, are:

1. Knowledge questions that measure a candidate's ability to recall or recognize facts, terms concepts or procedures.
2. Application questions that require candidates to apply their knowledge of facts, terms, concepts, or procedures in a realistic situation.
3. Critical Thinking questions require candidates to go beyond what is stated in the question to infer the significance of facts, terms, concepts, or actions described.

See the KBA Practice Tool or sample questions on different cognitive levels.

Method of KBA Delivery

The KBA will be virtually proctored by a third party ([eProctor Canada](#)). This method uses a web-based technology, including facial recognition with a live proctor (i.e., a human), while maintaining the integrity of the assessment.

During the check-in process of the KBA, trained proctors will monitor candidates, their screens, audio-video and screen share feeds in real-time using a webcam, microphone and speakers. Both on- and off-screen activity is monitored and recorded by eProctor Canada to ensure that the candidate is using only their knowledge to answer test questions. The candidate can be in any country and location (e.g., home) as long as they meet virtual proctoring requirements.

Virtual Proctoring Requirements

Candidates require a desktop computer or laptop (not a tablet, Chromebook or phone) with a webcam, microphone, speakers (built-in or external) and connection to the internet with sufficient speed. Technical requirements are listed below.

Network Requirements

Stable high-speed internet connection with minimum:
- upload speed: 2.5 Mbps
- download speed: 2.5 Mbps

For testing the internet connection, candidates can use a free internet speed testing tool such as [www.speedtest.net](#).

Candidates accessing eProctor Canada from work should not connect to a VPN as it will create issues and errors.

Computer Requirements:

A computer or laptop is permitted as long as they have the following minimum requirements:
- Camera: Webcam with microphone (or separate microphone)
- Windows: Windows 7 or later
- Mac: OSX 10.9 or later

Room Requirements:

- Quiet and private room; no one must enter the room during the KBA other than the candidate.
- Good quality lighting in the room; no bright lights or windows behind a candidate.
- Desk must be clear of any notes, books, or electronics.
- Six-foot (two-meter) extension cord: Allows flexibility in placement of the computer and camera if the proctor determines that these items must be moved.

It is the sole responsibility of the candidate to ensure they can meet the technical requirements and testing environment of remote proctoring, including access to a stable and consistent internet connection.

Assessment Fees

The fee for each attempt of the KBA and PBA is:

DTETPA Fees	Fees*
Knowledge-Based Assessment (KBA)	$700
Performance-Based Assessment (PBA)	$1050
TOTAL	$1,750

* Fees are subject to change.

Payment Methods

KBA associated fee(s) will be processed through the CADTR Online Applicant Portal. Applicants must pay online using VISA, MasterCard, or Discover.

Disclosure of Personal Information

CADTR will not disclose a candidate's personal information to anyone other than the contracted agencies who will use it for the sole purpose of providing a secure assessment to the candidate. See the 1.1 Privacy Policy for more details.

CADTR will not give candidate results to any other individual or organization other than the dental technology regulatory body where the candidate intends to become licensed.

Candidate's Statement of Understanding

Candidates must agree to abide by and comply with applicable policies and rules, as well as oral and written instructions controlling the conduct of the assessment. These are intended to preserve the integrity of the assessment process by providing standard test administration conditions that yield valid and reliable results.

Conduct occurring before, during or after testing that violates principles detailed in the Candidate's Statement of Understanding (Appendix C) may result in invalidation of KBA results and/or other penalties and will be reported to CADTR. See the 3.6 Protocols and Rules of Conduct for DTETPA Policy for more details.

On the day of the KBA, each candidate will receive an online version of the Candidate's Statement of Understanding. Candidates will not be permitted to start the KBA without agreeing to the statement.

After KBA Registration

Candidate Application Status

After registration for the KBA and paying the associated fee, the status of candidate applications will be changed on the CADTR Online Applicant Portal. Candidates will receive an automatic confirmation of payment by email. Updates about application status can be viewed through the Online Applicant Portal.

Schedule KBA

At least two weeks before the KBA date, an email will be sent out to candidates from the CAS Manager with instructions on how to schedule the KBA with eProctor Canada (https://eproctorcanada.com). Candidates have one week to schedule the KBA. Once the KBA has been scheduled, a confirmation email will be sent to the candidate directly from eProctor Canada. The email will contain instructions on how to check-in for the KBA on the assessment day. The day before the KBA, a username and password will be emailed to candidates to access the KBA platform. Candidates are encouraged to check their "junk" email folders to ensure they receive all email notifications.

Candidates are encouraged to review How to Create an Account & Book an Exam and Frequency Asked Questions (FAQ) on eProctor Canada's website.

Contact Information Change

Candidates are required to keep their contact information current in the eProctor Canada platform and CADTR Online Applicant Portal.

Reschedule/Withdraw KBA

Candidates can reschedule or withdraw from their scheduled KBA date by providing written notification to CADTR of their intention to **reschedule or withdraw at least 14 days** before the scheduled KBA date.

If written notice of intention to reschedule is received, CADTR will automatically schedule the candidate for the next available assessment sitting date. See 3.2 Rescheduling and Withdrawal Policy for more details.

Refund KBA

Refunds will be provided to candidates who withdraw from their scheduled KBA, if the candidate provides written notice at least 14 calendar days before the KBA date based on the following:

- More than 14 days before KBA scheduled date: 50% refund

- Less than 14 days before the KBA scheduled date: No refund
- In circumstances beyond a candidate's control, refunds may be considered by CADTR on a case-by-case basis. See the 1.2 Refund Policy for more details.

KBA Study Material

KBA study material includes:

- The KBA Practice Tool consists of sample questions and is available on the CADTR website. It is intended to serve as a study aid for success. The sample questions are designed to mimic the content and structure of the actual KBA questions: 75 multiple-choice, multiple-select, and image-based.
- A list of KBA reference textbooks utilized by item writers when developing the KBA questions (Appendix F).

Strategies for Taking the KBA

1. Come prepared. KBA study material is the best tool for success!
2. Read each question carefully and fully. Make sure you understand the question before selecting an answer.
3. Before looking at the answer options, try answering the question in your mind.
4. If you are stuck on a difficult question, eliminate as many answers as possible and then select the answer you think is best from the remaining choices.
5. Scores are based on the number of correctly answered questions; wrong answers do not count against your score. To maximize your score, it is better to guess at an answer than leave it blank.
6. If you are not sure of an answer, you can come back to it later.
7. All questions on the KBA are of equal value; do not waste excessive time to answer one question.

On KBA Day

Online Admission

Candidates are required to have their government issued photo identification (e.g., drivers' license, passport, or provincial identity card) ready for the live proctor to validate the candidate's identity during check-in. Candidates without proper identification will not be permitted to take the KBA. The proctors will provide information to all candidates regarding the assessment protocols. Then, candidates will be authorized by the proctor to log-in to the KBA platform.

Before the Start of the KBA

Candidates are required to log-in to their eProctor Canada account 30 minutes before the KBA scheduled time. Candidates who log-in more than 30 minutes late will be denied access. Proctors will verify candidates' identity, complete a 360° virtual scan of the room for security purposes and authorize each candidate to log into the KBA at the designated time. Candidates will be required to read and agree to the Candidate Statement of Understanding before being permitted to begin the KBA.

Washroom Breaks During the KBA

Candidates will be permitted to leave the room for washroom breaks by notifying the live virtual proctor. Once a candidate comes back, the proctor will verify the candidate identification and rescan the room for security purposes. The assessment timer will not be paused during the washroom break and therefore no additional time will be provided to complete the KBA.

Important: Leaving without authorization (at any time) may result in the KBA being invalidated.

At the End of the Assessment

Once candidates have completed the KBA, they will press the 'End Test' button to exit the KBA platform. The KBA responses will then be submitted for processing. Candidates are to remain in the testing environment until released by the proctor.

Important: Leaving without authorization (at any time) may result in the KBA being invalidated.

Online Feedback Survey

Candidates will be asked to complete a short online feedback survey after taking the KBA. Responses to the survey contribute to the ongoing improvement of the KBA. All candidates are encouraged to fill out the survey.

Technical Troubleshooting

If your session is disconnected due to internet or computer issues - Do not panic! All progress will be saved in the KBA platform. Once the issue is resolved, the candidate will continue with the KBA.

In the event of a disconnection, reboot the computer/laptop and relaunch the eProctor Canada application. If this does not resolve the issue, then contact support@eproctorcanada.com, or 1-844-595-2561 immediately for assistance. The proctor will help guide the candidate through the reconnection process.

Failure to Take Assessment

No refund will be provided to a candidate who does not log-in to the eProctor Canada or take the assessment at the scheduled time unless the failure to take the assessment is due to a technical issue resulting from eProctor Canada/KBA platform or in circumstances beyond a candidate's control (e.g., death in the immediate family or sudden illness/injury). Candidates have 7 days from the date of the assessment to submit a refund or reschedule request with supporting documentation to CADTR, outlining the circumstances that prevented them from taking the KBA on the scheduled day. CADTR will consider refunds on a case-by-case basis.

When a reschedule request is granted, CADTR will automatically schedule the candidate for the next available assessment sitting date. See 3.2 Rescheduling and Withdrawal Policy for more details.

KBA Results

KBA Scoring Review

Following the administration of the KBA, response data will be reviewed to ensure that questions meet best practice standards for high stakes assessments. If some questions do not meet these standards, they will be reviewed by subject matter experts in dental technology to ensure examination fairness. The result of this review may exclude some items from the calculation of candidate final scores.

CADTR does not release the passing score (i.e., cut score) for each KBA administration or the score achieved by candidates. The passing score is set at a minimum (adequate) level of competency for each KBA administration. The passing score for each KBA administration is determined through a modified Angoff standard-setting process. This is to determine whether a candidate has the required competencies including knowledge, abilities, skills, and judgement to practice dental technology safely and effectively at the beginning of their career in Canada. See Appendix B: The Angoff Method and Determining a Pass Score for more details.

Your KBA Results

Results will be provided approximately 4-6 weeks following the KBA administration and KBA scoring review. The results reported to candidates are "Pass" or "Did Not Pass". A Candidate Score Report will be issued to candidates who did not pass the KBA. See the Candidate Score Report section for more details.

Although there are 180 questions on a KBA, not all of them are included in the calculation of results. CADTR introduces newly authored questions for each KBA and then psychometrically monitors and evaluates them for future inclusion.

CADTR does not provide the questions or answers to current or previous KBAs, in order to uphold the security and integrity of the assessment system. However, seventy-five KBA sample questions are available on the CADTR website to serve as a study aid for success.

Candidate Score Report

A Candidate Score Report will be received by candidates who did not pass the KBA along with their results. The report will identify areas of weakness in each competency area.

CADTR Certificate and Sharing of Results

A CADTR Certificate will be issued approximately 2 weeks after the announcement of successful performance in both the KBA and PBA. CADTR will not share candidate KBA and PBA results with other parties, except with the dental technology regulator specified by candidates. CADTR will

use the KBA and PBA results for administration and research purposes, such as for validation and process improvement.

Assessment Reconsideration and Appeal

Candidates who are not satisfied with their KBA results have 30 days upon receiving results to submit a written request and pay the associated fee to pursue the following:

1- Administrative Reconsideration

Consideration for administrative reconsideration will only be reviewed if the request falls under one or more of the following categories:

- Health issue: The candidate experiences illness on the day of the assessment that significantly affected their performance.
- Administrative reasons: The candidate believes that administrative issues placed them at a disadvantage in comparison to other candidates or created circumstances that negatively affected their assessment performance (e.g., belief that the administration of the assessment was a significant departure from the standard assessment procedures stipulated in CADTR's assessment guidelines, substandard examination materials, or environmental irregularities).
- Compassionate reasons: Extraordinary or unforeseen events or circumstances that seriously impacted the candidate's performance during the assessment (e.g., death of a close family member or friend, family emergencies, legal issues, or other life circumstances).

See the 3.4 Administrative Reconsideration Policy for more details.

2- Administrative Reconsideration Results Appeal

Candidates that are not satisfied with the outcome of the administrative reconsideration decision may request an Appeal within 30 calendar days from the date the administrative reconsideration decision was issued. An assessment appeal fee will be charged at the time the request is submitted. See the 3.5 Administrative Reconsideration Results Appeal Policy for more details.

Reconsideration and Appeal Fees

The following Reconsideration and Appeal fees may apply:

- Administrative Reconsideration Fee: $155
- Appeal Fee: $309
  Fees are subject to change annually.

Applying to Rewrite the Assessment

All candidates are permitted to take a maximum of three attempts to successfully complete both the KBA and the PBA components of the DTETPA, within the timeframe specified in the policy. If a candidate is not successful in the second attempt, they must undertake remedial activities (e.g., extra course work or practice hours) before being permitted a third attempt. See the 3.1 Number of Assessment Attempts Policy for more details.

Candidates who do not pass the KBA will need to re-register for the KBA via the CADTR Online Applicant Portal.

CADTR Certification – Time Limits

Candidates must be aware of the following time limits:

- Candidates have a maximum of 2 years to apply and enroll for the KBA or PBA from the date the credentialing application fee is received. See 2.6 Credential Qualification Expiration and 2.7 Dormant File Policies for more details.

- Candidates who are unsuccessful at their first attempt must complete their second assessment attempt within 15 months of the previous unsuccessful attempt. Candidates who fail to apply for re-examination within the 15-month time frame shall forfeit the subsequent attempt. See the 3.1 Number of Assessment Attempts Policy for more details.

- Candidates who are successful and holding a CADTR Certificate must contact their intended provincial dental technology regulator to determine whether any time limits for provincial registration/licensure apply.

APPENDICES

Appendix A: List of CADTR Dental Technology Regulators

CADTR's member regulators, also known as DTR, include:

Province	Regulator	Regulator's Website
Alberta	College of Dental Technologists of Alberta (CDTA)	https://cdta.ca/
British Columbia	College of Dental Technicians of British Columbia (CDTBC)	https://www.cdtbc.ca/
New Brunswick	New Brunswick Dental Technicians Association (NBDTA)	http://www.newbrunswickdentaltechs assoc.ca/
Nova Scotia	Nova Scotia Dental Technicians Association (NSDTA)	https://www.nsdta.ca/
Ontario	College of Dental Technologists of Ontario (CDTO)	https://cdto.ca/
Quebec	Ordre des technologues en prothèses et appareils dentaires du Québec (OTPADQ)	https://otpadq.com/

The profession of dental technology is also regulated in Newfoundland and Labrador and Saskatchewan by a regulatory body, however, they are not a member of CADTR.

Appendix B: The Angoff Method and Determining a Pass Score

Standard-setting is a process of setting passing scores or "cut scores" for examinations to be legally defensible. The cut scores for the KBAs will be determined with each administration of the KBA by using the Modified Angoff method.

The Modified Angoff method is the most common method used for standard-setting approach in test development. It allows expert judges to determine an appropriate passing score for an examination. The major advantage of this methodology is that the determined cut score is based on the content of the examination and not on group performance.

This method is based on the concept of the borderline or minimally competent candidate. The minimally competent candidate can be conceptualized as the candidate possessing the minimum level of knowledge and skills necessary to perform at an entry-to-practice level, i.e., registration/licensure level. These candidates perform at a level "on the borderline" between acceptable and unacceptable performance.

A panel of subject matter experts and stakeholders are instructed to examine each question carefully, both in terms of the 'structure' of the question and the difficulty of the competency being tested. Multiple rounds of rating are generally conducted with Panelists allowed to modify their estimates given additional information provided to them between these rounds including actual participant performance information on each question and other SME estimates. The final determination of the cut score is then made by averaging estimates or taking the median of panelists' scores to create a recommendation for a passing score.

For more information on standard-setting procedures and methods, refer to: Setting Performance Standards: Concepts, Methods, and Perspectives, edited by Gregory Cizek and Robert Sternberg.

Appendix C: Candidate Statement of Understanding

Conduct occurring before, during or after testing that violates principles detailed in this Statement of Understanding may result in **invalidation of KBA results** and/or other penalties and will be reported to the Canadian Alliance of Dental Technology Regulators (CADTR) and provincial regulating authorities.

1. The CADTR Dental Technology Entry-to-Practice Assessment (DTETPA) is highly confidential. The KBA questions are the property of CADTR. Unauthorized disclosure of the KBA questions is prohibited under copyright laws.

2. Candidates are required to indicate their agreement to this Statement of Understanding before being permitted to take the KBA.

   You agree to maintain the confidentiality of the CADTR KBA questions. You must, therefore:

   o Keep the KBA content confidential, even after the KBA. This includes not discussing the content with anyone who wrote the KBA before you, with you, or who has not written the KBA yet.
   o Not use or be in possession of any electronic device (such as cell phones, smartphones/ watches, cameras, recording devices, iPods, etc.) during the KBA administration.
   o Realize that any recording or memorization of KBA questions for any reason is strictly forbidden.

3. Candidates will be observed at all times while they are taking the CADTR KBA. This observation will include direct observation by Proctors via camera monitors. Proctors may not necessarily inform you of their observations, but they are required to report behaviour that may violate the assessment terms, policies and protocols of CADTR.

4. Any cheating and/or breach of confidentiality/security or any attempt to subvert the assessment process by any candidate violates the purpose and principles of the KBA.

5. Any candidate who carries out, takes part in or who is aware of such behaviour must report it to CADTR as soon as possible.

6. CADTR strives to report results that accurately reflect the skill and performance of each candidate and represent a valid measure of their knowledge or competence as sampled by the KBA. Accordingly, our standards and procedures for administering the KBA have two related goals: giving candidates equal opportunity to demonstrate their abilities and preventing any person from gaining an unfair advantage over others. To promote these objectives, CADTR reserves the right to cancel or withhold any KBA results when, in the sole opinion of CADTR, a testing irregularity occurs; cheating has occurred; there is an apparent discrepancy in, or falsification of, a candidate's identification or credentials; a candidate engages in misconduct or plagiarism; when inconsistencies in performance are detected for and there is no reasonable and satisfactory explanation; or the results are believed to be invalid for any other reason.

A candidate agrees to abide by all policies, as well as oral and written instructions controlling the conduct of the assessment. These policies are intended to preserve the integrity of the KBA process by providing standard test administration conditions that yield valid and reliable results.

1. Determine the Canadian province or territory where you intend to practice.

2. Determine the entry-to-practice, credentialing and assessment requirements of the Canadian province or territory where you intend to practice by contacting the regulator and visiting their website.

- If you intend to practice in the regulated provinces of Alberta, British Columbia, Nova Scotia, New Brunswick, and Ontario, you must complete CADTR's credential evaluation and assessment.
- If you intend to practice in Quebec, you should contact l'Ordre des technologues en prothèses et appareils dentaires du Québec (OTPADQ) to determine whether you are required to apply through CADTR to complete credential evaluation and/or assessment.
- If you intend to practice in the regulated province of Newfoundland and Labrador, and Saskatchewan, or in the unregulated provinces/territories of Manitoba, Prince Edward Island, Yukon, Northwest Territories, and Nunavut, you are not required to apply through CADTR to complete assessment. You should contact the provincial/territorial professional association to learn more.

3. Apply to CADTR for credential and assessment services if they apply to you.

Appendix E: KBA Master Blueprint

The competencies and performance indicators shown below define the body of content to be examined using the Knowledge-Based Assessment (KBA). These indicators and competencies are aligned to knowledge-based testing, and therefore are suitable for assessments using the computer-based format of the KBA.

Blueprint weights apply to the KBA in two ways. First, each Competency Unit from the National Essential Competencies for Dental Technology Practice in Canada, 2019 (NEC) is assigned a weight, describing its relative importance in assessing entry-to-practice. The weights were determined based on the collective judgment of a nationally representative group of licensed dental technology professionals. Second, weights are assigned to individual competencies and indicators based on both the frequency of performance of the competencies/indicators by licensed dental technology professionals and their importance for safe and/or effective practice. A correspondingly larger number of questions on the assessment are tied to more frequently performed and more important indicators.

Legend		*example*
	Competency	*1.2* Apply knowledge of oral …
	Performance Indicator	*1.2.a* Define the structure …

Unit 1: Foundational Knowledge		**30%**
1.1 Demonstrate knowledge of biology and of head and neck anatomy related to dental technology practice.		
1.1.a	Identify basic biological systems and their function relevant to dental technology.	
1.1.b	Identify the basic elements of human anatomy, physiology, and pathology relevant to dental technology and appliances.	
1.1.c	Identify the craniofacial anatomy to provide the working boundaries of dental prostheses and appliances.	
1.2 Apply knowledge of oral structures, tooth morphology, and oral pathology to dental technology.		
1.2.a	Define the structure and function of the teeth and supporting tissues, tooth arrangement, and tooth numbering systems.	
1.2.b	Identify occlusal interdigitations of teeth.	
1.2.c	Identify and demonstrate knowledge of aspects of occlusion and Angle's classification of occlusion.	
1.2.d	Recognize diseases and abnormalities that may impact dental health.	
1.2.e	Demonstrate an understanding of the impact of dental health and functionality on a patient's overall health.	
1.2.f	Apply knowledge of the mechanics and movement of the mandible and of the mechanical devices that simulate it.	
1.3 Apply basic principles of physics and chemistry to the practice of dental technology.		
1.3.a	Explain basic physics and chemistry principles as they relate to dental technology, including dental materials.	
1.3.b	Apply knowledge of force, heat, electricity, light, sound, chemical elements, mechanics, and other principles that are related to dental technology.	
1.4 Apply foundational knowledge of materials commonly used in Canadian dental technology practice.		
1.4.a	Identify the different classifications of materials used in the design, fabrication, and repair of dental prostheses and appliances.	
1.4.b	Demonstrate awareness of dental-materials and medical device restrictions under the regulatory authority of the Health Protection Branch of Health Canada.	
1.4.c	Summarize the characteristics and the physical and mechanical properties of dental materials.	
1.4.d	Select and utilize dental materials best suited for specific dental prostheses and appliances, considering the materials' characteristics and properties.	
1.4.e	Explain the effects of manipulation on different types of dental materials.	
1.4.f	Recognize and remedy possible defects which can result from the manipulation of dental materials.	

1.5 Apply basic mathematical principles to design and fabricate functional dental prostheses and appliances.	
1.5.a	Demonstrate knowledge of basic geometry in all aspects of design and fabrication.
1.5.b	Perform accurate calculations and measurements, in accordance with manufacturer's instructions, to ensure precision of the dental prosthesis or appliance.

1.6 Demonstrate awareness of the common oral and maxillofacial-related prostheses and appliances.	
1.6.a	Recognize oral and maxillofacial health conditions and surgical procedures that necessitate the design and fabrication of various dental prostheses and appliances.
1.6.b	Identify the basic steps in the design and fabrication of related prostheses and appliances for oral and maxillofacial treatment options.

1.7 Demonstrate knowledge of key design and fabrication principles and technical skills used in dental technology.	
1.7.a	Describe indications and contraindications for and limitations of dental prostheses and appliances.
1.7.b	Identify different components of dental prostheses and appliances.
1.7.c	Analyze the design, fabrication, and material requirements of functional dental prostheses and appliances.
1.7.e	Apply digital technology skills to support the design and fabrication of dental prostheses and appliances.
1.7.f	Apply the principles of shade matching and colour measurement and communicate colour parameters.

Unit 2: Environmental Safety and Use of Laboratory and Equipment	**15%**

2.1 Demonstrate knowledge of key design and fabrication principles and technical skills used in dental technology.	
2.1.a	Apply knowledge of pathogenic diseases and of microbiology in the transmission of disease related to the practice of dental technology.
2.1.b	Follow laboratory infection-prevention and -control principles in accordance with provincial and federal regulations and manufacturers' requirements.
2.1.c	Use the appropriate reprocessing procedures to clean and disinfect all instruments, equipment, and work surfaces.
2.1.d	Follow Standard Precautions to reduce the risk of transmission of bloodborne diseases and other pathogens from both recognized and unrecognized sources.

2.2 Undertake activities that support safe use and handling of dental materials and reduce risk in the environment.	
2.2.a	Identify and manage the potential dangers associated with the use of dental materials and bio-hazardous materials.
2.2.c	Demonstrate knowledge of Workplace Hazardous Materials Information System (WHMIS) standards, including classifications, labelling of chemicals, and safety data sheets.
2.2.d	Follow WHMIS standards when using chemicals and if a chemical incident occurs.
2.2.e	Follow health and safety practices as they relate to dental technology.
2.2.f	Follow manufacturers' instructions and demonstrate proper handling and storage of materials and solutions.
2.2.g	Identify and act to reduce potential or real risks in the laboratory environment (e.g., falls due to spills, injury due to faulty equipment, unsafe use of equipment, unsafe handling of bio-hazardous materials).

2.3 Use laboratory equipment safely and competently to ensure work efficiency and to reduce harm to self and others.	
2.3.a	Identify potential or real risks and take the necessary steps to reduce risk to self and others when using laboratory equipment.
2.3.c	Follow manufacturers' instructions for the proper use and cleaning of equipment.
2.3.e	Recognize equipment breakdown and faulty operation and take corrective actions.

Unit 3: Design, Fabrication, and Repair of Dental Technology Prostheses and Appliances	**40%**
3.1 Analyze the healthcare practitioner's prescription and patient's information to plan the design and materials selection for the fabrication of the dental prosthesis and/or appliance.	

3.1.a	Understand the clinical application of the prescription and recognize effects of any technical limitations on prescribed dental prosthesis and/or appliance.	
3.1.b	Identify and communicate any limitations and contraindications of the proposed treatment plan to the healthcare practitioner.	
3.1.c	Obtain clarification of the prescription and request additional information about the treatment plan, when needed.	
3.1.d	Ensure a final complete prescription is received from the responsible healthcare practitioner.	
3.1.e	Determine the appropriateness of the materials prescribed or selected.	
3.1.f	Verify the quality of the received impressions and models and the completeness and accuracy of supplemental documentation.	
3.1.g	Read provided radiographic images to identify the patient's anatomy for case planning; ensure accurate design of the dental prosthetic and appliance; and identify normal and abnormal presentations.	

3.2 Design various types of dental prostheses and appliances.	
3.2.a	Assess oral anatomy and structure from the model, cast, and radiographic images to ensure harmonized design in relationship the prescription.
3.2.b	Apply knowledge of foundational sciences when designing dental prostheses and appliances.
3.2.c	Identify tooth-preparation requirements for various types of dental prostheses and dental material requirements.
3.2.d	Select various components of the dental prosthesis or appliance and choose materials appropriate to the design, prescription, and patient's anatomy.

3.3 Fabricate and repair functional dental prostheses and appliances.	
3.3.a	Follow federal and provincial dental and health standards for materials and components used in the fabrication and repair of dental prostheses and appliances.
3.3.b	Select the appropriate dental laboratory equipment and tools, considering relevant factors including, appliance components, materials, and procedures.
3.3.c	Apply skill and judgment in the manipulation of the materials and when integrating the appliance components.
3.3.d	Consider all relevant factors related to the fabrication to ensure full function of the prosthesis or appliance (e.g., the materials, components, the prescription, design parameters, and spatial constraints).

3.4 Perform quality control prior to releasing a dental prosthesis or an appliance.	
3.4.a	Confirm the final dental prosthesis and/or appliance adheres to the prescription, both throughout the fabrication and prior to release.
3.4.b	Identify any imperfections or deficiencies and make appropriate adjustments.

3.5 Modify and repair dental prostheses and appliances, considering relevant factors.	
3.5.a	Identify and assess the existing prosthesis or appliance and determine the reason for the defect or breakage.
3.5.b	Consider the compatibility of new materials with the existing materials, patient assessment data, and prosthesis or appliance history.
3.5.c	Explain any limitations of the repair to the healthcare practitioner or patient.

Unit 4: Accountability and Professionalism	**5%**
4.1 Provide safe, ethical, and effective services.	

4.1.a	Demonstrate ethical behaviours in accordance with the professional Code of Ethics.	
4.1.e	Accept responsibilities and accountability for own actions and for the integrity of completed work.	

4.2 Practice in accordance with applicable legislation, regulations, standards, and guidelines.	
4.2.a	Keep current with the regulatory professional standards, regulations, and legislation.
4.2.b	Collect, store, disclose, and destroy personal information in compliance with privacy and confidentiality legislation and organizational policies.
4.2.c	Obtain healthcare practitioner or patient consent for collection, use, or disclosure of personal information.
4.2.d	Maintain records according to provincial standards and organizational policies.
4.2.e	Complete documentation according to provincial standards and organizational policies.

4.3 Demonstrate sustainable business practices that are socially responsible and environmentally friendly.	
4.3.a	Demonstrate an awareness of the impact of sustainability on the health and well-being of self and others (public, patients, staff), and on the environment (e.g., reduce toxin emissions and waste).
4.3.b	Describe and implement sustainable business practices within dental technology (e.g., recycling, energy conservation).

4.4 Use effective communication skills.	
4.4.a	Use appropriate dental terminology in communications with the healthcare team.
4.4.b	Employ effective, respectful, and ethical communications.
4.4.d	Enter timely, clear, accurate, and valid documentation in records.

4.6 Apply critical-thinking skills and use professional judgment in all aspects of practice.	
4.6.a	Consult with and/or refer to others when issue(s) and client or patient needs are beyond personal competence and/or professional scope of practice.
4.6.b	Demonstrate awareness of potential problems and consider options for different course(s) of action.
4.6.c	Critically evaluate every situation and make decisions based on sound reasoning and evidence-based practice.
4.6.d	Integrate pertinent theoretical knowledge, experience, and collected data to justify and/or modify services.

Unit 5: Patient Care	**5%**

5.2 Apply cultural competence to practice when providing services to patients.	
5.2.a	Demonstrate a commitment to provide services to and understand demographics and cultural differences within the entire patient population.
5.2.b	Recognize and respect cultural perspectives and differences.

5.3 Collect and document relevant information to inform the design and to assist with treatment planning.	
5.3.a	Collect information from the patient and other appropriate sources related to current and prior medical and dental-health history, including current medication use.
5.3.b	Take intraoral and extraoral photographs of the patient and any existing dental prosthesis and appliances to support the design and fabrication or repair of the dental prosthesis or appliance.

5.4 Perform clinical laboratory procedures in a competent manner.	
5.4.b	Perform shade matching and record the selected shade to ensure aesthetically pleasing results.

Unit 6: Leadership, Business Management, and Administration	**5%**

6.1 Demonstrate leadership skills to support the safe, efficient, and ethical delivery of dental technology services.	
6.1.e	Recognize own limitations and seek support and assistance when needed.
6.1.f	Recognize limitations of others and provide support when needed.

6.2 Demonstrate accountability for all work performed within the dental technology practice when supervising others.	
6.2.a	Ensure the dental prostheses or appliances meet the prescription requirements and professional standards.
6.2.b	Review material documentation to confirm compatibility and to ensure materials used meet required regulations.
6.2.c	Maintain records to track material use and case parameters.

100%

Appendix F: KBA Reference Textbooks

Brand, Richard, and Isselhard, Donald. *Anatomy of Orofacial Structures.* 8th ed., Mosby, 8 Dec. 2017. ISBN: 9780323480239. https://www.elsevier.com/books/anatomy-of-orofacial-structures/brand/978-0-323-48023-9

Carr, Alan, and Brown, David. *McCracken's Removable Partial Prosthodontics.* 13th ed., Mosby, 3 Nov. 2015. eBook ISBN: 9780323339926. eBook ISBN: 9780323339919. eBook ISBN: 9780323339940. Hardcover ISBN: 9780323339902. https://www.elsevier.com/books/mccrackens-removable-partial-prosthodontics/carr/978-0-323-33990-2

Dental Laboratory Technology - Basic Sciences, Removable Prosthodontics, and Orthodontics. Air Force Pamphlet, 47-103. V.1, 3 Feb. 2012. https://static.e-publishing.af.mil/etc/afpam47-103v1.pdf

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Driscoll, Carl, et al. The Glossary of Prosthodontic Terms. *The Journal of Prosthetic Dentistry*, edited by Keith Ferro et al, 9th ed., Elsevier, May 2017. https://www.thejpd.org/action/showPdf?pii=S0022-3913%2816%2930683-7

Fujimoto, Junhei, et al. *Contemporary Fixed Prosthodontics*, edited by Stephen Rosenstiel and Martin Land, 5th ed., Mosby, 28 July 2015. ISBN: 9780323080118. https://www.elsevier.com/books/contemporary-fixed-prosthodontics/rosenstiel/978-0-323-08011-8

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Krol, Arthur. *Removable Partial Denture Design.* 5th ed., University of the Pacific, School of Dentistry, 1 Jan. 1999. https://www.amazon.com/Removable-partial-denture-design-syllabus/dp/B0006R7WZS

McOrmond, Al. *Complete Denture Fabrication.* 1st ed., WD Publishing, 2018. ISBN: 9780968143063. https://www.amazon.ca/Complete-Denture-Fabrication-Introduction-Laboratory/dp/B086TWXRW6/ref=sr_1_1?dchild=1&keywords=complete+denture+fabrication+mcormond&qid=1620690922&sr=8-1

McOrmond, Al. *Orthodontic Laboratory Techniques*. 3rd ed., WD Publishing, 1 Jan. 2014. ISBN: 9780968143056. https://www.amazon.ca/Orthodontic-Laboratory-Techniques-K-McOrmond/dp/B086V4T7XS/ref=sr_1_1?dchild=1&keywords=orthodontic+laboratory+techniques&qid=1620691885&sr=8-1

Rahn, Arthur, et al. *Textbook of Complete Dentures*. 6th ed., 30 Sept. 2009. ISBN: 9781607950257. https://www.amazon.com/Textbook-Complete-Dentures-Arthur-Rahn/dp/1607950251

Sakaguchi, Ronald, et al. *Craig's Restorative Dental Materials.* 14th ed., Elsevier, 2019. ISBN: 9780323478212. https://www.elsevier.ca/ca/product.jsp?isbn=9780323478212

Sowter, John. *Removable Prosthodontic Techniques*, edited by Roger Barton, University of North Carolina Press, June 1986. ISBN: 9780807841662. https://www.amazon.ca/Removable-Prosthodontic-Techniques-John-Sowter/dp/0807841668