

Competence by Design (CBD): What you need to know

A Resident's Guide

Beginning in 2017, many residents will be taught and assessed under a new competency-based medical education system, called Competence by Design (CBD). This document will introduce you to CBD and help you begin to understand the changes ahead.

CBD: Benefits for you

The systems, milestones and resources created for CBD will provide learners with

- more frequent assessment and meaningful feedback from faculty,
- well-defined learning paths and clarity around the competencies needed to progress to next stages of training,
- a learning plan that focuses on personal development,
- the chance to prepare for independent practice by honing skills and working more independently during the final stage of residency.

Why is Canada changing to a competency-based system?

Canada has an excellent medical education system, but over the last century, patient expectations, medical technology, medical knowledge and the health care system have changed dramatically. We're changing the education model to keep up.

Residency education curricula will now be organized around achieving specific outcomes during training.

Canada is not alone in making this change; many countries around the world are implementing Competency-Based Medical Education (CBME) in their jurisdictions.

What is "Competence by Design"?

Competence by Design is the Royal College's model of CBME. The Royal College and its partners have worked collaboratively over the better part of a decade researching competency-based medical education and bringing the best of this learning model to the development of CBD.

The goal of CBD is to enhance patient care by improving your learning and assessment. This will help you demonstrate the skills and behaviours required to meet evolving patient needs. The Competence by Design title is meant to convey the idea that responsible medical education involves systematically thinking about (i.e. designing) a learner's journey through their entire career in medicine.



Key things you need to know about Competence by Design

1. Well-defined learning path

In Canada residency training is based on the CanMEDS Framework. When CanMEDS was updated in 2015 we introduced a concept called the CBD Competence Continuum. The Competence Continuum divides residency training into four stages: a transition to the discipline period, a foundation period, a core period of training and, finally, a transition to practice period.

Your discipline has defined a number of outcomes at each stage of training. These are written as Entrustable Professional Activities (EPAs) and milestones. Residents must attain these outcomes in order to move to the next stage of training.

2. EPAs and milestones

As part of CBD, your program will teach and assess you based on a set of standards that include milestones and EPAs.

A milestone is an observable marker of someone's ability along a developmental continuum; in CBD we write residency milestones using the four stages of the Competence Continuum.

An EPA is a task in the clinical setting that a supervisor can delegate to a resident who has demonstrated sufficient competence. Typically, an EPA integrates multiple milestones. EPAs are the tasks that must be accomplished, whereas milestones refer to the individual's abilities at different stages of learning or competence. For example, driving to the store is an EPA, safely making a left hand turn is a milestone.

Defining a series of EPAs and milestones provides you with clear expectations regarding the skills and abilities you need to acquire at each stage of training. It will make it easier for supervisors to pinpoint your strengths and areas to work on.

3. Frequent observations in real life situations and settings

CBD places a focus on work-based assessment where learners will be observed in the real clinical environment; you can expect to be assessed frequently in real life situations and settings, either directly or indirectly.

Your observers (clinical supervisors) will engage you in meaningful discussions (coaching) about your performance and they'll document how you carried out a particular task on a specific day. These frequent interactions will help you adjust your learning plan to meet your needs and abilities and to track your progress. It is the collection of multiple observations, on multiple days, by multiple observers over time that will provide a clear picture of your progress.

Competence Continuum



4. Meaningful coaching discussions

Coaching is beneficial for anyone who wishes to perform optimally. Simply defined, a coach is a person who will guide you through a process to enhance your performance. The specifics can vary; helping an individual to do a task better, developing a skill they don't yet possess, or providing guidance to achieve a specific project.

During residency, regular, direct observation of trainees and coaching is already an effective tool used to provide feedback. In CBD, there will be an increased emphasis on direct and indirect work-based observation to facilitate your learning.

5. Flexibility that allows you to focus on your personal development

As residents in CBD you will 'own' your learning. You will play a big role in planning your learning experiences and tracking your progress against the EPAs and milestones within your stage of training.

Current residency education in Canada is based on the assumption that the more time a learner spends on an activity, the more the learner absorbs and excels. However not all learners achieve mastery at the same rate. For this reason, in the CBD model, learners may progress through their residency at different rates.

In the CBD environment, residents will be proactive and share the responsibility of ensuring that they are receiving an adequate number of assessments in addition to meaningful feedback, in a variety of environments, in order to have their EPAs properly assessed by the Competence Committee. (see #7)

6. Sufficient time and resources to learn new skills

Generally speaking, we don't anticipate the length of residency will change for the majority

of residents. The intention behind CBD is not to shorten or lengthen residency training but to create competent trainees who are ready for practice.

Based on their experience, programs will ensure that you have sufficient time to learn and practice new skills (measured by milestones/EPAs) in a variety of contexts. By providing you with targeted learning outcomes and providing more frequent clinically-based feedback we will ensure that you will acquire all of the abilities that you need for your stage of training.

7. Promotion decisions are made by a Competence Committee

All CBD Programs have something called a Competence Committee. The role of a competence committee is to review and make decisions on a learner's achievement of EPAs and their progression through the stages of training toward the national standards as set by your discipline. The competence committee provides guidance for training activities to help you to progress.

The collection of many observations of your performance over time, will allow the competence committee to assess how well you are progressing and when you are ready to move on to the next stage of training. As a resident, this is great news; you'll have a group of people focused on helping you develop efficiently and effectively.

Competence committees will also identify those residents who have not attained milestones, and will help to arrange support and find creative ways to coach them to progress (e.g. assigning special mentors, extra readings, or modified rotations). The ultimate goal of a competence committee is to identify the strengths and areas of improvement for every resident, towards successful completion of each stage of training.

8. Exams

We know that regular low stakes work-based assessments demonstrate a much more robust, reliable and valid assessment of our trainees. Based on these assessments and the decisions of the competence committee, the program will determine whether or not a trainee is ready for their Royal College examination.

The Royal College examinations will be maintained, but the timing may be different, and the blueprint for each exam may change.

As much as possible, emphasis in the training programs will be placed on independent work and skills, helping you to better prepare for independent practice.

9. Resources, resources, resources

The Royal College has a lot of resources to help you better understand CBD. If you have questions, contact the Royal College at cbd@royalcollege.ca or check out our website at www.royalcollege.ca/cbd.

Sample EPAs for Anesthesiology

- Using the anesthetic assessment to generate the anesthetic considerations and the management plan, including postoperative disposition, for ASA 1, 2 or 3 patients.
- Diagnosing and managing common (non-life-threatening) complications in the post-anesthesia care unit (PACU), or the surgical ward
- Providing perioperative anesthetic management for ASA 1 or 2 adult patients undergoing scheduled, uncomplicated surgery
- Assessing and providing labour analgesia for healthy parturients with an uncomplicated pregnancy
- Managing uncomplicated patients with acute pain, either postoperative or traumatic, and managing common complications of acute pain management modalities in the post anesthetic care unit or in the surgical ward

Sample EPAs for Otolaryngology-Head and Neck Surgery

- Providing initial clinical assessment, investigation and development of a management plan for patients with acute upper airway obstruction
- Assessing and providing initial management for patients with a deep neck space infection, or peritonsillar abscess
- Assessing and providing basic management for patients with epistaxis
- Assessing and initiating investigations for adult and pediatric patients presenting with a neck mass
- Assessing and providing comprehensive management for uncomplicated adult and pediatric patients with adenotonsillar disease
- Assessing and providing initial management for patients with nasal obstruction
- Assessing and providing initial management for patients with acute-onset hearing loss



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