A Primer for Case-Based Learning (CBL) tutors

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What is CBL?

Case-based learning (CBL) uses patient cases and real-world scenarios to support learning. Through CBL, basic, social, and clinical sciences are explored in the context of the case, fostering integration with clinical presentations and health conditions.[1]

What are the major differences between CBL & PBL (Problem-Based Learning)?

In CBL, students are given resources ahead of time to familiarize them with the terminology and content of the case. Tutors play a more directive role than in PBL. They assist in directing students to educational resources and provide more guidance in the tutorial.

PBL focuses on student-directed objective setting, with minimal tutor direction and pre-learning. CBL provides students with a more structured and faculty-directed approach to their future independent learning.[2]

What is the role of CBL in the Foundations Curriculum?

CBL is a core teaching and learning strategy in Foundations. It uses a different virtual patient case each week of the curriculum designed to provide students with a clinical context through which to learn, apply and integrate knowledge.

The students' learning through the CBL case is supported by other learning activities scheduled during the week (e.g., lectures, e-modules, videos, seminars, etc.). Each resource has been designed and organized to allow students to engage in guided discovery.

The goal is to create a learning environment that promotes "learning for understanding" through exploration and the integration of related content and concepts. Form the start of their medical education, students will be encouraged to apply foundational knowledge to clinical situations.[3]

We are transitioning to a new CBL format!

During the 2026-2027 academic year, students will participate in both formats.

In the old format, there are two CBL sessions per week. First, groups of 8-10 students come together on their own to explore the case and complete some questions together. The same group meets a few days later for a second session and discussion of group and individual questions based on the same case, this time facilitated by a faculty CBL tutor.

During the first **student-led session**, the group should explore the case together without a faculty. Students complete the **group questions** embedded within the case and submit one collective response to the tutor by e-mail.

The tutor should review the responses to have a sense of misconceptions and areas to focus on during the second session. However, the tutor, is not required to assess or provide feedback to the students on the assignment during the week.

Before the second CBL session, students are also required to complete the additional **individual questions** embedded in the case.

Supporting Resources

Office of Faculty Development Case-Based Learning

Guided Learning in CBL

Accessing & Using your Teaching Materials

During the second **Tutor-Led Session**:

1. Review group answers to **all** the **group and individual assignment** questions as outlined in their tutor guide.

2. Introduce mini scenarios called "What if questions" provided at the end of the tutor guide. In the old format, these are new questions the students have not seen that ask them to apply their understanding of a concept they have previously learned or discussed to a new clinical context. This is called contextual variation, and fosters transfer of knowledge.

3. Create an interactive discussion with the goal of learning for understanding. **Some suggestions on how to engage students** include:
   - Create a **psychologically safe environment** where students feel comfortable asking questions, taking risks, making mistakes and asking for help.[4]
   - **Identify and clarify any misconceptions**. Value an incorrect answer, making it clear what is incorrect about it and how it can be used to get to the correct answer.
   - **Check for understanding**. Ask students for their rationale for their answers and challenge their reasoning to probe for their understanding ask stimulating questions (samples may be provided in the tutor guide).
   - **Model clinical decision making**. If needed, share your approach and how you would think about the answer.
   - Ask good questions that encourage students to make connections between basic sciences and clinical scenarios (why?) and to apply the same concept in different contexts (what if?). Here are more strategies on how to promote **cognitive integration** and **contextual variation**.

4. Ensure students relate their discussions to the patient in the virtual patient case. The cases are usually set up with the students being a medical student working with a preceptor.

5. Let the students know that the expectation is for active and respectful listening and participation. Technology should support learning and not provide a distraction.

6. Complete a professionalism competency evaluation for each student if prompted via an email through MEDSIS. These are done periodically during each course by the tutor who has led the greatest number of tutorials during the interval period.

What's Different About the New CBL Format?

- **Cases unfold in real time.** Students come prepared with an initial case stem and relevant background knowledge, while the full case is revealed progressively during the session. Tutors have access to the complete case and facilitation guide.
- **Tutors take on a more active facilitation role.** In some cases, tutors may role-play the patient, allowing students to practice history-taking and clinical reasoning in a more authentic way.
- **Facilitation is more structured.** Tutor guides provide explicit prompts and instructions to support questioning, discussion, and collaborative inquiry.
- **More learning happens during the session.** Students are given dedicated time to work through questions, explore ideas, and reason together in small groups.
- **Resources may be integrated into the tutorial.** Some cases include supplementary materials, such as slides or other learning resources, that can be shared during the session.
- **Focus on integration and collaborative problem-solving.** Tutors are encouraged to begin by inviting questions from lectures and modules, using the group's collective knowledge and external resources to explore answers rather than feeling responsible for having all the answers themselves.

What Stays the Same

- **Guided discovery** and **productive struggle** remain central
- Both formats should emphasize **clinical reasoning** and **understanding**

Facilitating Active Learning in the New Format

- Use **Breakout Discussions** - pairs or small groups
  - Work on a group of questions
  - Stop when ~80% of the students are ready
  - Invite participants to report back to the larger group
- **Debrief**
  - Validate student responses, clarify misconceptions
  - Ask "why" or "what if" wherever possible
  - Synthesize key points
- **Check for Understanding**
  - Ask questions, or ask students to generate MCQs to quiz each other

Structure and Flow

You may still **use the familiar structure, but shift the emphasis:**

Old Emphasis	New Emphasis	Timing
Orientation and Setting the Stage		5 mins
Summary of the Virtual Patient Case - 5 mins	Read the case, or student takes HPI from the tutor 10 mins	5 - 10 mins
Discussion of Assignment Questions	Breakout to work on and discuss assignment questions – "what if" scenarios integrated	90 mins
"What if" Scenarios		20 mins
Summary and Closing	Ask questions or ask students to generate MCQs to quiz each other	5 - 10 mins

How can CBL tutors prepare for their CBL sessions?

1	Using your UtorID, locate the CBL case for the week and the Tutor Guide on Elentra
2	Be familiar with the virtual patient case. See supporting resources for a short video describing the virtual patient e-module.
3	Review the Tutor Guide that is provided for each case to prepare to discuss group and individual assignment questions and the "What if…" scenario questions. These questions will form the basis of your discussion with the group. The guide also has additional supplemental content resources that you may find useful as you prepare. Please do not share the guide with students.
4	In the old format, review the student's response to the group assignment questions that they will email to you at the end of their first session. This is only for your information to get a sense what they did on CBL Day 1. You do not have to mark these.
5	Identify content areas that you are not an expert in and if you feel you require additional knowledge to support the students, proactively approach the identified Faculty Lead who designed the case. Note: Tutors are not expected to know everything about the content for the case. Part of their role is to model how clinicians deal with uncertainty and demonstrate life-long learning skills.

References:

1. Thistlethwaite JE, et. al. 2012. The effectiveness of case-based learning in health professions education: A BEME systematic review. Medical Teacher 34; e421-e444.
2. Srinivasan M, et. al. 2007. Comparing problem-based learning with case-based learning: Effects of a major curricular shift at two institutions. Academic Medicine 82:74-82.
3. Kulasegaram E. et. al. 2013. Cognition before curriculum: Rethinking the integration of basic science and clinical learning. Academic Medicine 88(10): 1578-85.
4. Edmondson A. 1999. Psychological Safety and Learning Behavior in Work Teams. Administrative Science Quarterly 44(2): 350-383.

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