CareQuest Institute for Oral Health

CareQuest Cariology Curriculum Instructor Guide

Session 4: Caries Risk Assessment: Identifying and Interpreting Patient Risk

SESSION DETAILS

Pedagogy:
Lecture: Interactive Presentation
In-Class Activity:
1. Individual activity
2. Discussion
3. Small group activity

Length: *60 mins*

Extended Learning Module: Introduction to Caries Risk Assessments
Short Self-Paced Course (approximately 30 minutes)
https://learning.carequest.org/#/online-courses/e48e9219-7fda-4983-8300-5858585fb85b

Description:
Dental caries is a multifactorial disease process influenced by the balance between pathological and protective factors. Understanding how disease indicators, risk factors, and protective factors interact helps clinicians identify patients at risk and guide preventive care. Using concepts from Featherstone's caries balance model, learners examine how biological, behavioral, and environmental factors contribute to the development and progression of dental caries.

Frameworks such as Caries Management by Risk Assessment (CAMBRA) and tools such as the ADA Caries Risk Assessment Form (CRA) are introduced as approaches for applying this understanding in practice. Through case-based activities and discussion, learners practice identifying caries risk and applying this information to support prevention and patient-centered care.

Learning Objectives:
- Compare approaches used to assess caries risk.
- Identify disease indicators, risk factors, and protective factors associated with dental caries.
- Explain how caries risk assessment informs patient conversations and prevention planning.

PRE-SESSION PREP CHECKLIST

Reading:
Essentials of Dental Caries, Kidd *et al*., chapters 6 and 7
2021 CAMBRA article, Featherstone *et al*. **[add a clickable link]**

Asynchronous:
CareQuest Self-Paced Course, "Updating Your Knowledge of Dental Caries: Causes, Concerns, and Considerations"
CareQuest Self-Paced Course, "Connecting Caries Risk Assessments and Cultural Awareness"

Additional Resources:
John Featherstone, Yasmi Crystal, Pamela Alston, *et al*., "Evidence-Based Caries Management for All Ages-Practical Guidelines," *Front Oral Health*, 2 (April 27, 2021), 657518, https://doi.org/10.3389/froh.2021.657518.

"ADA Caries Risk Assessment Form Completion Instructions," American Dental Association, accessed on March 28, 2026, https://www.ada.org/-/media/project/ada-organization/ada/ada-org/files/resources/library/oral-health-topics/ada_caries_risk_assessment.pdf.

John Featherstone, Yasmi Crystal, Pamela Alston, *et al*., "A Comparison of Four Caries Risk Assessment Methods," *Front Oral Health*, 2 (April 8, 2021), 656558, https://doi.org/10.3389/froh.2021.656558.

SYNCHRONOUS CLASS TIMING LESSON PLAN
• Opening and Framing [10 minutes] • Understanding Caries and Shift in Care [10 minutes] • Caries Risk Assessment Frameworks and Balance Model [15 minutes] • Applying Caries Risk Assessment [15 minutes] • Patient Communication and Behavior Change [10 minutes] • Individualized Care and Wrap up [10 minutes]

LESSON OUTLINE	INSTRUCTIONAL PROMPTS
Opening Presentation and Framing [Lecture, Activity, 10 minutes]	**Slide 1:** Welcome and why this topic matters. **Slide 2:** Learning objectives (brief). **Slide 3:** Facilitate a K-W-L activity. Ask learners, "What causes dental caries?" Have learners discuss and take 2 brief share-outs. **Slide 4:** Explain that dental caries occurs when multiple factors interact over time. Describe the role of biofilm, fermentable carbohydrates, tooth susceptibility, and time.

Understanding Caries and Shift in Care [Lecture, 10 minutes]	**Slide 5:** Explain the shift from surgical to medical model. Emphasize: • Traditional model focused on restoring damage • Medical model focuses on identifying and managing disease drivers • Prevention and early intervention are prioritized **Slide 6:** Ask learners what CAMBRA stands for and allow brief engagement. **Slide 7:** Define CAMBRA and explain that it is used to assess a patient's risk and guide prevention and treatment planning. Emphasize that the goal is early intervention and long-term disease control.
Caries Risk Assessment Frameworks and Balance Model [Lecture, Discussion, 15 minutes]	**Slides 8–9:** Address slide notes. Explain how: • Featherstone's model explains disease biology • CAMBRA applies it clinically • ADA CRA is the tool used in practice. Then, introduce the caries balance concept. Emphasize: • Disease occurs when pathological factors outweigh protective factors • Clinical goal is to shift the balance **Slides 10–13:** Address slide notes. Discuss the different risk and protective factors. Connect it back to the Featherstone caries balance model. **Slide 14:** Address slide notes. Connect to prevention strategies. Emphasize: • Interventions target different biological mechanisms • Absence of protective factors increases risk **Slide 15:** Key takeaway: • Caries risk is determined by the balance between risk and protective factors

Applying Caries Risk Assessment [Lecture, Activity, 15 minutes]	**Slide 16:** Explain how the CRA is used. Emphasize: • Disease indicators strongly influence risk level • Risk factors increase likelihood of disease • Protective factors help offset risk **Slide 17:** Review a sample completed CRA assessment form. Encourage learners to look for patterns, not just checkboxes **Slide 18:** Understand how findings guide care. **Slide 19:** Further discuss that CRA looks at disease indicators, risk factors, and protective factors. **Slide 20:** Small-group activity (4 minutes). Learners review the factors, classify them, and come up with their own: • Which factors are disease indicators? • Which factors are risk factors? • Which factors are protective factors? **Slide 21:** Discuss assigning risk levels. Prompt discussion: • What differentiates moderate, high, and extreme risk? • When are additional therapies needed? Take 2 brief share-outs.
Patient Communication and Behavior Change [Lecture, 10 minutes]	**Slides 22–23:** Frame caries risk assessment as a conversation, not a checklist. Emphasize: • Asking follow-up questions • Clarifying patient responses • Looking beyond initial answers **Slides 24–25:** Discuss adapting communication to patient understanding and literacy. Encourage asking, “If you were going to do anything to improve your oral health, what would it be?” **Slide 26:** Address slide notes. Emphasize that conversations can drive accurate risk assessments and personalized care.

Individualized Care and Wrap Up [Lecture, Activity, 10 minutes]	**Slide 27:** Key takeaway is that prevention plans must be personalized. **Slide 28:** Introduce shared decision making. Review that the patient is central to care and that decisions integrate evidence, clinician expertise, and patient factors. **Slide 29:** Reinforce the goal that caries control through balancing protective and pathological factors. **Slide 30 (final content slide):** Return to KWL reflection. Ask learners: • What did you learn? • How will this change your approach to patient care? Take 2 brief share-outs.