

# Guideline: Artificial Intelligence in Dental Hygiene Practice

## INTRODUCTION

Artificial intelligence (AI) has transformed the delivery of healthcare in Canada. AI encompasses a wide range of tools, applications, and computer systems that perform tasks commonly associated with human intelligence, such as learning, reasoning, pattern recognition and problem-solving.

AI technologies are increasingly being adopted within oral health care. AI can be integrated into scheduling software, imaging and diagnostics, clinical decision support systems, client education and record keeping. While AI has the potential to improve administrative efficiencies, support clinical decision-making, and enhance oral health outcomes, there are ethical, professional, and legal concerns associated with its use.

This Practice Guideline:

- highlights the existing professional obligations for Dental Hygienists,
- identifies potential risks with AI use, and
- provides risk mitigation strategies that protect clients' interests.

## GUIDANCE STATEMENT

AI does not change Dental Hygienists' fundamental obligations set out in [legislation, the Standards of Practice and the Code of Ethics](#). Dental Hygienists must continue to fulfill these obligations as they adopt new technologies, ultimately acting in the best interest of the client. AI tools should enhance, not replace, professional decision-making and documentation.

## RISK CONSIDERATIONS

Before adopting any AI technology in practice, Dental Hygienists should assess the associated risks and identify strategies for minimizing these risks.

Within practice, AI may pose the following risks:

### **BREACHES IN PRIVACY AND CONFIDENTIALITY**

- AI tools may process personal health information to aid the clinician in decision-making. AI tools may be non-compliant with privacy legislation and vulnerable to cybersecurity threats.

### **BIASES, ERRORS AND INACCURACIES**

- Although AI systems can generate outputs that appear accurate, they can produce results that are biased, outdated or poorly fabricated. These errors may result from the quality and diversity of the data that the AI tool was trained on. Algorithms within AI tools may unfairly and systematically make recommendations for certain groups based on sociodemographic, clinical or other characteristics, potentially compromising equity in care.

## ARTIFICIAL INTELLIGENCE IN DENTAL HYGIENE PRACTICE

### OVERRELIANCE ON AI TOOL

- With AI being integrated more in oral health care, there is a potential for clinicians to depend on AI outputs without using their own judgement in decision-making. Errors in AI output can lead to erroneous decision-making when used without critical thinking.

### COSTS

- The use of AI may increase the cost of delivering oral health care. Dental Hygienists must consider the impact on access to care of the additional costs for equipment, licensing fees, maintenance, training and additional cybersecurity measures.

## RISK MITIGATION STRATEGIES

Once the risks associated with AI use have been established, Dental Hygienists should determine if those risks can be managed safely and effectively.

Mitigation strategies may include:

### ASSESSING APPROPRIATENESS OF AN AI TOOL

- Before using AI technology, Dental Hygienists should take time to understand the function, intended use, reliability and appropriateness of the proposed tool(s). Does it contribute to improved health outcomes?

### APPLYING PROFESSIONAL JUDGEMENT

- Dental Hygienists must apply professional judgement using an evidence-informed decision-making approach. AI outputs should be critically analyzed for accuracy, quality and biases while approaching care through a person-centred lens. **AI should enhance professional judgement and decision-making, not replace it.**

### ENSURING INFORMED CONSENT AND TRANSPARENCY

- Disclose to clients how their information will be collected, used and disclosed. Explain the use of any AI tools and offer alternatives and accommodation for clients who do not consent to the use of AI.

### MAINTAINING PRIVACY AND CONFIDENTIALITY

- Dental Hygienists are expected to safeguard personal health information in alignment with current privacy legislation. This personal information must be securely collected, stored, accessed, and transmitted in a way that prevents unauthorized access, breaches or malicious attacks. Dental Hygienists **cannot** enter any identifiable client information into public AI tools (e.g., ChatGPT, Copilot, Gemini).

### DOCUMENTING APPROPRIATELY

- Dental Hygienists must ensure that any client record is accurate. Make note of any technologies used, including dictation software or AI supports. Document that the client was informed of and consented to AI use in their care.

## UNDERTAKING TRAINING & EDUCATION

- Before implementing any AI tools, undertake the necessary training to safely and effectively incorporate them within practice. Collaborate with privacy officers to ensure adequate processes and policies are developed and followed. Support others within the practice to complete the appropriate training.

## MONITORING THE CHANGING LANDSCAPE

- Dental Hygienists should monitor legislative and regulatory changes to ensure compliance and emerging research that could inform decision making and the effectiveness of using AI in practice. Monitor outcomes to determine whether AI tools unintentionally disadvantage certain groups.

## CONCLUSION

AI use brings potential benefits, risks and significant responsibilities. Dental Hygienists must ensure they are meeting their existing professional obligations when using AI. Dental Hygienists who decide to use AI in practice should exercise caution and proceed in a manner that respects client privacy and confidentiality, transparency, and person-centred care.

## ADDITIONAL RESOURCES

- Government of Canada. (2025). *Guide on the use of generative artificial intelligence*. <https://www.canada.ca/en/government/system/digital-government/digital-government-innovations/responsible-use-ai/guide-use-generative-ai.html>
- Government of Canada. (2024). *Pan-Canadian artificial intelligence strategy*. <https://ised-isde.canada.ca/site/ai-strategy/en>
- Government of Ontario. (2025). *Ontario's trustworthy artificial intelligence (AI) framework*. [https://www.ontario.ca/page/ontarios-trustworthy-artificial-intelligence-ai-framework?utm\\_source=link.cep.health&utm\\_medium=urlshortener&utm\\_campaign=ailc](https://www.ontario.ca/page/ontarios-trustworthy-artificial-intelligence-ai-framework?utm_source=link.cep.health&utm_medium=urlshortener&utm_campaign=ailc)
- Health Canada. (2024). *Transparency for machine learning-enabled medical devices: Guiding principles*. <https://www.canada.ca/en/health-canada/services/drugs-health-products/medical-devices/transparency-machine-learning-guiding-principles.html>
- Information and Privacy Commissioner of Ontario & Ontario Human Rights Commission. (2026). *Principles for the responsible use of artificial intelligence*. <https://www.ipc.on.ca/en/resources/principles-responsible-use-artificial-intelligence>
- International AI in Medicine Education Working Group. (2025). *AI and medicine glossary*. <https://tcairem.utoronto.ca/international-ai-medicine-education-working-group>
- *Personal Health Information Protection Act, 2004*, S.O. 2004, c. 3. <https://www.ontario.ca/laws/statute/04p03>
- World Health Organization. (2024). *Ethics and governance of artificial intelligence for health*. <https://iris.who.int/bitstream/handle/10665/375579/9789240084759-eng.pdf?sequence=1&isAllowed=y>