



Assessing Artificial Intelligence (AI) Tools

A Checklist for Dentists

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This checklist is intended to help dentists evaluate AI tools before adoption into their practices.

Please note that this is not intended as a comprehensive guide and does not capture all recommendations for dentists using AI tools. Refer to the Royal College of Dental Surgeons of Ontario's *Artificial Intelligence in Dentistry Guidance* for more information.

If you answer 'No' to any item, pause and determine if the gap can be addressed or risks mitigated. Seek clarification from the vendor, consult relevant guidance, and do not implement the AI tool until you are satisfied that it is safe and effective to use.

Appropriate Use

- Are the AI tool's intended uses clearly defined and aligned with my needs?
- Does the tool address a real need and/or improve the delivery of patient care?

Data Protection, Privacy, and Security

- Does the AI tool have access to and/or use patients' personal health information? If so, does the AI tool comply with Canadian and Ontario privacy law (PIPEDA and PHIPA)?
- Are robust security measures in place, including safeguards against privacy breaches?
- Are the AI tool's data handling practices clearly explained, including what data is collected, how it is used, where it is stored, and how long it is retained?

Training and Development

- Are the AI tool's data sources and training methodology disclosed?
- Was the AI tool trained on diverse and representative patient data (for example, by age, gender, ethnicity, socioeconomic status, dental conditions)?
- Were healthcare professionals and patients involved in design, development, or testing?

Performance

- Has the AI tool demonstrated measurable effectiveness (for example, improved efficiency or accuracy) through peer-reviewed research and/or independent evaluations?
- For clinical AI tools, has the tool been validated through clinical studies or approved via regulatory processes (for example, Health Canada Medical Device licensing)?
- Does the tool perform consistently across diverse populations and contexts?

Risk Management and Monitoring

- Is user training and ongoing support provided for users of the AI tool?
- Are known limitations and risks clearly disclosed, and are mitigation strategies in place to address them?
- Is there a process for ongoing performance monitoring and providing user feedback?
- Does the AI tool include the ability to track and document when AI has been used?
- Are updates and improvements communicated effectively and applied regularly?