EVIDENCE-BASED CLINICAL PRACTICE GUIDELINE

ARTIFICIAL INTELLIGENCE IN OPTOMETRIC PRACTICE

Effective April 6, 2026

ALBERTA college of OPTOMETRISTS

Artificial Intelligence in Optometric Practice
Clinical Practice Guideline

PURPOSE
This clinical practice guideline establishes the requirements for the ethical, safe and lawful use of Artificial Intelligence (AI) in the practice of optometry in Alberta.
The clinical practice guideline clarifies professional accountability, consent, documentation, privacy and risk management obligations when AI technologies are used in clinical or administrative aspects of patient care.

APPLICATION
This Standard applies to all regulated members of the Alberta College of Optometrists who incorporate Artificial Intelligence tools using identifying or potentially-identifying patient data into any aspect of optometric practice.

This includes, but is not limited to, AI systems used for:

- Clinical decision support
- Diagnostic image analysis (e.g., fundus photography, OCT)
- Charting or documentation generation
- Transcription of patient encounters
- Triage or risk stratification
- Administrative workflow involving patient health information

DEFINITIONS
Artificial Intelligence (AI): Computer-based systems capable of generating outputs such as predictions, recommendations, classifications, or content based on analysis of data.

Clinical Decision Support Tool: Any AI-enabled system that assists in diagnosis, treatment planning or clinical judgment.

Patient Health Information (PHI): Individually identifying health information as defined under Alberta's Health Information Act (HIA).

PROFESSIONAL ACCOUNTABILITY
A regulated member remains fully responsible and accountable for all clinical decisions and documentation, regardless of AI involvement.

AI must be used as an adjunct to, and not a replacement for, professional judgment.

A regulated member must independently verify the accuracy, appropriateness and clinical relevance of AI-generated outputs prior to:

- Incorporating them into the patient record;
- Relying on them for diagnostic or therapeutic decisions;
- Communicating findings to the patient.

Reliance solely on AI without appropriate clinical validation may constitute unprofessional conduct.

INFORMED CONSENT

A regulated member must obtain informed consent when AI is used to:

- Record or transcribe patient encounters;
- Generate chart documentation from audio or video capture;
- Process identifiable patient data in a manner not reasonably expected for routine care;
- Contribute patient data to third-party AI systems for training or secondary purposes.

The consent discussion must include:

- The nature and purpose of AI use;
- How patient information will be processed and stored;
- Potential risks and limitations, including inaccuracies or bias;
- The patient's right to decline or withdraw consent.

Consent must be documented in the patient record.

RIGHT TO DECLINE OR WITHDRAW CONSENT

Patients have the right to decline the use of AI in their care.

Patients may withdraw consent at any time.
Upon withdrawal of consent:

- AI must not be used in future care episodes, unless reinstated;
- Previously created records remain part of the legal health record and may not be deleted;
- Amendments must comply with the Health Information Act.

Where patient information has been incorporated into third-party AI systems, the regulated member must disclose any limitations regarding removal of data.

PRIVACY AND CONFIDENTIALITY

Regulated members must comply with Alberta's Health Information Act and all applicable privacy legislation when using AI systems.

Prior to implementing AI tools, a regulated member must exercise due diligence to ensure:

- Secure data storage and transmission;
- Appropriate safeguards against unauthorized access;
- Vendor compliance with Alberta privacy requirements;
- Clear data processing agreements where applicable.

Patient health information must not be entered into publicly accessible or consumer AI platforms that do not meet health privacy standards.

A Privacy Impact Assessment (PIA) is required whenever AI systems touch upon identifying or potentially-identifying patient data. Examples of this include, but are not limited to the following:

- AI systems that analyze identifying patient data
- AI systems that analyze patient data that can be potentially identifying (eg: evaluation of de-identified retinal photographs)
- AI systems that have enough de-identified data to potentially re-identify a patient (eg: an AI scribe or triage product that has access to chart and/or electronic medical records data, even if this data is stripped of name and date of birth identifiers)

DOCUMENTATION REQUIREMENTS

The regulated member must document when AI has materially contributed to:

- Clinical documentation;
- Diagnostic interpretation;
- Treatment recommendations.

Documentation must clearly indicate that AI assistance was used and confirm that the regulated member reviewed and validated the information.

The regulated member is responsible for the final accuracy and completeness of the health record.

CLINICAL SAFETY AND RISK MANAGEMENT

Regulated members must recognize that AI systems may:

- Produce inaccurate or incomplete outputs;
- Reflect systemic bias present in training data;

- Perform inconsistently across diverse populations.

Where AI outputs conflict with clinical findings, professional judgment must prevail.
Regulated members incorporating AI into practice must:

- Establish written policies governing its use, including a PIA (if applicable);
- Ensure appropriate training of staff;
- Monitor system performance;
- Periodically evaluate ongoing suitability of AI tools.

STANDARD OF CARE

The use of AI does not alter or lower the standard of care expected of a reasonably prudent optometrist practising in Alberta.
A regulated member must ensure that integration of AI enhances, rather than compromises, patient safety and quality of care.

QUALITY ASSURANCE

Regulated members using AI technologies must participate in quality assurance activities that may include:

- Periodic audits of AI-assisted documentation;
- Review of diagnostic concordance between AI outputs and clinical findings;
- Ongoing education regarding emerging AI risks and best practices.

NON-COMPLIANCE

Failure to comply with this Standard may constitute unprofessional conduct and may be subject to investigation and disciplinary action by the Alberta College of Optometrists.

AUTHORITY

This Standard is issued under the authority of the Council of the Alberta College of Optometrists pursuant to applicable provincial legislation governing the profession of optometry in Alberta.