

The Office Consult

EACH YEAR, THE PHYSICIAN ADVISORY SERVICE RECEIVES APPROXIMATELY 5,000 CALLS FROM PHYSICIANS ON A WIDE VARIETY OF MATTERS. THE ISSUES RAISED ARE OFTEN OF A CLINICAL, ETHICAL OR LEGAL NATURE. THIS COLUMN FEATURES QUESTIONS AND ANSWERS TO ISSUES THAT WE EITHER HEAR ABOUT FREQUENTLY, OR THAT HAVE A WIDE APPLICABILITY ACROSS THE PROFESSION. BASED ON YOUR INQUIRIES AND CALLS TO THE PHYSICIAN ADVISORY SERVICE, WE WILL PUBLISH THE ANSWERS TO THE MOST FREQUENTLY ASKED QUESTIONS.

Developments in Medical Record Keeping

Medical record keeping is one of the most essential elements of patient care. The College has been monitoring the new developments in medical records, including the move towards electronic medical records. Recently, we have received some questions about the use of Optical Character Recognition (OCR) and scanning when converting medical records from paper to electronic form.

In order to assist physicians who use these technologies in their practices, as well as those who may have questions relating to OCR or scanning, the College has developed the guidance provided here. These FAQs will be linked to the Medical Records policy on the CPSO website at www.cpso.on.ca.

In addition, the College encourages physicians to refer to the Medical Records policy for more information on good medical record keeping.

The College will be monitoring technological developments as they relate to physician practice and will make every effort to provide physicians with the most up-to-date information about these evolving technologies.

If you have questions about these FAQs please contact: Ms. Ula Galster at ugalster@cpso.on.ca

Optical Character Recognition – Frequently Asked Questions

What is OCR?

OCR stands for Optical Character Recognition. It is a technology process that translates or converts an electronic image of handwritten or machine text into “machine editable” or “interpretable” text. When images are converted using OCR they can then be changed, searched or portions of them can be used to populate fields in an Electronic Medical Record or other system.

How is OCR different from scanning?

Scanning (or electronic imaging) is an electronic representation of a source paper record (it is like a photocopy or a photograph, where the reproduction is maintained electronically). It does not involve conversion of information and the data within the image cannot be edited or extracted.

What does the College’s Medical Records policy say?

The policy is silent on OCR, but it does address scanning. When you scan paper records to convert them to electronic form, the original paper records may be destroyed in accordance with the principles set out in this policy.

While there is no inherent risk of misinterpretation of data with good quality scanning, you should be aware that there is a risk a document could be rendered unreadable by a poor quality scan (e.g. poor quality original, human error). As with any electronic record, if non-standard formats are used or Reader technology changes over time, scanned images may become unreadable in the future.

In order to address the quality of the scanning, the Canadian Medical Protective Association (CMPA) recommends that:

- an experienced and reputable organization is retained to perform the scanning;
- the scanning takes place in a proper manner with appropriate safeguards so as to ensure that digital copies are sufficiently reliable;
- the process involves some form of quality assurance (e.g. comparing the digital copy to original to ensure that the information has been accurately scanned);
- the written procedures are established for the scanning process, with the members keeping a copy of these procedures; and
- that the digital records are in “read only” format, so that they cannot be altered after scanning.

OCR may be used in conjunction with scanning. However, the CMPA recommends that OCR alone should not be used when converting paper records into electronic form, unless the original paper records will also be scanned or will be maintained in paper form.

What’s the concern with OCR?

- 1) OCR is not always 100% accurate. Most commercially available OCR engines are built based on advanced theories of pattern recognition and artificial intelligence. They are not all the same and the success of the interpretation can vary depending on the quality of the original image, and whether text is machine written or handwritten. There is a risk that characters in the image can be misinterpreted and meanings changed. For example, a value of a test result could be changed from a 3 to an 8 which could lead to very serious outcomes for patients.
- 2) OCR raises authenticity issues (because the image can be changed or “reinterpreted”) and OCR records



may not be considered reliable copies of the original by a court, the College, or another tribunal.

Can I still use OCR?

Yes, as long as you have a quality assurance process in place to make sure potential errors of misinterpretation are caught. Most organizations wishing to use OCR for purposes of populating other systems will build in a verification step where a person confirms that the system has interpreted the results correctly.

Exception: test results

For test results that are not received electronically, you should not use OCR because it is not 100% accurate and can misinterpret test values, which could lead to serious outcomes for patients.

If you receive your test results as hard copies, you should: either retain or scan them as per the Medical Records policy. You may also enter the data from lab reports digitally, but should retain the original or ensure continued access to the original.

Exception: conversion for record maintenance

As stated above, OCR alone should not be used when converting paper records into electronic form, unless the original paper records will also be scanned or will be maintained in paper form. 