Royal College of
Dental Surgeons of Ontario

Ensuring Continued Trust

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PRACTICE ADVISORY SERVICE FAQ

Information on Dental Radiographs for Dentists

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Information on Dental Radiographs for Dentists

Who can prescribe dental radiographs?

The Healing Arts Radiation Protection (HARP) Act, 1990 requires that radiographs be prescribed by a person designated in the Act. In a dental office, **only a dentist** has the authority to prescribe dental radiographs.

HARP Act E-laws

Must dentists examine a patient before prescribing radiographs?

Yes. A dentist's decision to prescribe radiographs must be justified. Accordingly, a dentist must review the patient's health history and complete a clinical examination before prescribing radiographs.

Prescribing and Taking Radiographs
(Dispatch Article February/March 2008 pg. 39)

What radiographs should dentists prescribe for new patients, as part of a comprehensive clinical examination?

The principle of ALARA (As Low As Reasonably Achievable) should be foremost when considering the use of ionizing radiation. In other words, the use of radiographs must be approached in a responsible way that maximizes diagnostic value given the clinical context, but without exposing patients to unnecessary amounts of ionizing radiation. This requires the dentist to exercise professional judgement to achieve the appropriate balance between these two considerations. Therefore, a dentist's decision about the number, type and frequency of radiographs should be based on each individual patient's dental history, clinical signs and symptoms.

- Where possible, copies of recent radiographs should be obtained from other practitioners who have cared for the patient.
- A clinical examination must be performed.
- Once any recent radiographs have been assessed and a clinical examination has been performed, if indicated, the dentist may exercise professional judgement to prescribe appropriate radiographs on an individualized basis to help formulate an initial diagnosis for the patient.

What radiographs should dentists prescribe for recall patients?

Again, the principle of ALARA applies and a clinical examination must be performed before prescribing additional radiographs. A dentist's decision about the number, type and frequency of radiographs at recall appointments should be based on existing disease and the expected occurrence of disease. For example, the frequency of bitewing radiographs should be determined on the basis of caries risk assessment. A decision about radiographs should never be based on inflexible time periods alone, (e.g., bitewing radiographs every six months).

Can a dentist provide a standing order for radiographs to be taken at recall appointments?

No. The taking of radiographs requires a patient-specific prescription. However, a dentist can prescribe radiographs for a specific patient to be taken at a subsequent appointment in order to follow up on a previously detected condition/pathology, or if the anticipated information may aid in confirming a diagnosis or evaluating treatment provided. The dentist should document the prescription for future radiographs in the patient's chart.

Where can dentists find more information on dental radiology and radiation?

The College has published a PEAK article on Considerations for the Use of Ionizing Radiation in Dentistry.

Considerations for the Use of Ionizing Radiation in Dentistry
(PEAK Article)

The Canadian Dental Association, Health Canada, and the American Dental Association have also published general recommendations and guidelines. These can be found at:

https://www.cda-adc.ca/_files/position_statements/xradiation.pdf

http://www.hc-sc.gc.ca/ewh-semt/pubs/radiation/99ehd-dhm177/index-eng.php#a9

http://www.ada.org/~/media/ADA/Member%20Center/FIles/Dental_Radiographic_Examinations_2012.ashx

What should a dentist do if a patient refuses radiographs?

Patients have the right to consent to, or decline, radiographs. Whenever a patient, patient's guardian or substitute decision-maker refuses recommended radiographs, the dentist should explain the rationale for their recommendation and the consequences of not taking them. If the patient, guardian or substitute decision-maker still refuses, then the dentist should document the informed refusal in the patient's chart. If the dentist feels that the refusal compromises their ability to make an accurate diagnosis and/or provide appropriate treatment according to the standards of practice, the dentist is well within their rights to refuse to provide compromised care as dictated by the patient.

Who can take radiographs in a dental office?

Only those persons meeting the qualifications specified in the HARP Act and regulations can take radiographs.

By virtue of their training, dentists who are registered members of the College may take radiographs.

Similarly, dental hygienists who are registered members of the College of Dental Hygienists of Ontario are qualified to operate most dental radiographic equipment.

Dental assistants who have successfully completed any of the following training programs are qualified to operate most dental radiographic equipment:

- a course in dental radiation safety that has been approved by the Director of X-ray Safety of the Ministry of Health and Long-Term Care;
- a dental assisting program at a College of Applied Arts and Technology that has been approved by the Director of X-ray Safety;
- a dental assisting program at a secondary school or vocational college that has been approved by the Healing Arts Radiation Protection Commission, as listed in the X-ray Safety Code regulations made under the Healing Arts Radiation Protection Act, 1990 (O. Reg. 543).

Please note, however, that in accordance with the College's Standard and the regulatory amendments to the HARP Act, other than a qualified prescribing dentist, the only staff persons who may expose patients to dental CT scans are qualified medical radiation technologists who are registered with the College of Medical Radiation Technologists of Ontario and acting under the on-site supervision of a qualified prescribing dentist.

All about qualifications to operated dental radiographic equipment in Ontario
(Dispatch Article August/September 2013 pg. 26)

What type of documentation is considered sufficient proof of qualifications for dental assistants who were trained in Ontario to take radiographs in a dental office?

- A diploma or certificate confirming successful completion of a dental assisting program that has been approved by the HARP Commission;
- A diploma or certificate confirming successful completion of an approved course in dental radiography, including an x-ray safety component;
- A certificate from the RCDSO confirming successful completion of the x-ray safety update course taken during the December 1983 – December 1986 period;
- A current Ontario Dental Assistants Association (ODAA) certificate with HARP designation affixed.

For further information, please contact:

X-Ray Inspection Service (XRIS)
Ministry of Health and Long-Term Care
1075 Bay Street, 11th Floor
Toronto ON M5S 2B1

Phone: 416-327-7937
Fax: 416-327-8805

Submission of Plan documents (which includes Form 2):
xrisplans@ontario.ca

General inquiries: **xris@ontario.ca**

Copies of the HARP Act, 1990, and Regulation 543:
www.e-laws.gov.on.ca

All about qualifications to operated dental radiographic equipment in Ontario
(Dispatch Article August/September 2013 pg. 26)

What about dental assistants who were trained outside of Ontario?

Dental assistants who completed training outside of Ontario can apply to have their qualifications assessed and approved by the X-Ray Inspection Service (XRIS). These dental assistants must submit proof of successful completion of a course or program that covers all of the subjects required under the regulations to the HARP Act. This includes the subject of radiation protection legislation, which addresses required quality control measures for dental offices.

All about qualifications to operated dental radiographic equipment in Ontario
(Dispatch Article August/September 2013 pg. 26)

Can dental assisting and dental hygiene students take x-rays?

There are provisions in the HARP Act that allow dental assisting and dental hygiene students to operate dental radiographic equipment in teaching clinics at Colleges of Applied Arts and Technology and under the supervision of dentists during field placements in dental offices for approved private career college programs in dental assisting (level I or II).

Who is responsible for verifying that a person is qualified to take x-rays?

Under the HARP Act, the dentist who serves as the Radiation Protection Officer in the dental facility is responsible to ensure that only qualified persons are permitted to take dental radiographs.

What is a radiation protection officer?

The HARP Act requires that owners of x-ray machines designate a person as a radiation protection officer (RPO). In a dental facility, **only a dentist** can act as the RPO.

The prime responsibilities of the RPO include:

- establishing and maintaining procedures and quality tests for the safe operation of the x-ray equipment and keeping records of these test results;
- ensuring that the x-ray equipment is maintained and meets the standards prescribed by the regulations;
- ensuring that all x-ray operators are qualified according to the HARP Act;
- ensuring that protective accessories (for example, lead aprons and thyroid collars) are available for use by persons who may receive exposure to x-rays in the facility.

Can dental staff take radiographs without a dentist in the office?

Yes. As long as a dentist has provided a patient-specific prescription for the radiographs, qualified dental staff may take these radiographs without the dentist being present in the office suite.

Are thyroid collars and lead aprons always required?

The HARP Act requires that protective accessories are available for use by patients. The College recommends the use of both thyroid and gonadal shielding whenever possible, particularly for children and adolescents.

Prescribing and Taking Radiographs
(*Dispatch Article February/March 2008 pg. 39)*

X-ray Safety Requirements for all Ontario Dentists
(Dispatch Article May/June 2011 pg. 22)

e-laws- Healing Arts Radiation Protection Act
R.R.O. 1990, REGULATION 543 X-RAY SAFETY CODE

Is the use of radiation dosimeters mandatory?

No. The HARP Act does not require the use of radiation dosimeters. However, their use is strongly advised. The use of radiation dosimeters can be reassuring to dental staff. Radiation dosimeter readings serve as a record of the radiation to which dental staff are exposed and can help dentists to minimize their staff's occupational exposure to radiation, as required by the HARP Act and regulations, and the regulations made under the Occupational Health and Safety Act.

Information about radiation dosimeters can be obtained from Health Canada at 1-800-261-6689

Are dentists required to register dental x-ray machines?

Yes. All dental x-ray machines must be registered by the owner and new installations must be approved by the Director of X-ray Safety with the X-Ray Inspection Service (XRIS) of the Ministry of Health and Long-Term Care. Plan approval ensures both patient and staff safety from unnecessary radiation exposure.

For further information:

X-ray Safety Requirements for all Ontario Dentists
(Dispatch Article May/June 2011 pg. 22)

What is the plan approval process for the installation of a new dental x-ray machine?

Written approval from XRIS is required before installing a new dental x-ray machine, replacing an existing one or making changes to the installation. The approval process requires the submission of a plan of the dental office layout, accompanied by additional forms and information.

The owner of the dental x-ray machine is required to submit a new schematic plan in electronic format with every application. The shielding calculations should be indicated on the schematic plan and described on the application forms. The exact amount of shielding required for the x-ray room depends on the usage or workload of the dental x-ray machine.

For further information about the plan approval process, or to obtain the enhanced plan application forms and informational brochures, please contact XRIS Ministry of Health and Long-Term Care.

X-Ray Inspection Service (XRIS)
Ministry of Health and Long-Term Care
1075 Bay Street, 11th Floor
Toronto ON M5S 2B1
Phone: 416-327-7937
Fax: 416-327-8805

Submission of Plan documents (which includes Form 2):
xrisplans@ontario.ca

General inquiries: **xris@ontario.ca**
Copies of the HARP Act, 1990, and Regulation 543:
www.e-laws.gov.on.ca

Information about the plan approval process of the X-Ray Inspection Service
(Dispatch Article May/June 2014 pg. 30)

Information for Dental X-Ray Facilities
(Dispatch Article August/September 2014 pg. 32)

Does the XRIS conduct office inspections?

Yes. An XRIS inspector may visit any dental facility to inspect the operations, examine records and conduct tests pertaining to the installation and use of x-ray equipment to determine compliance with the HARP Act. The HARP Act permits inspectors to enter and inspect dental facilities at all reasonable times. Inspectors do not have to make an appointment, but may provide dentists with a one-week window for office inspection visits.

How can dentists prepare for an XRIS office inspection?

The College recommends that dentists have all the necessary paperwork, including any forms or plans associated with the installation and operation of dental x-ray machines, readily available at the office.

For more information:

Information for Dental X-ray Facilities
(Dispatch Article August/September 2014 pg. 32)

Are dentists required to perform photographic quality assurance tests?

The HARP Act requires that a Photographic Quality Assurance Program (QA) be instituted in every dental office. Photographic Quality Assurance is defined as a program of activities designed to ensure that diagnostic imaging is carried out with the maximum benefit to the patient, at a minimum of risk. The program requires that acceptance testing is performed on all new and used x-ray equipment. Dentists are also required to conduct daily and annual tests as part of their QA program.

Where can dentists find more information on quality assurance testing?

Information for Dental X-ray Facilities
(Dispatch Article August/September 2014 pg. 32)

X-ray Safety Requirements for all Ontario Dentists
(Dispatch Article May/June 2011 pg. 22)

Dentists may also contact the:

X-Ray Inspection Service (XRIS)
Ministry of Health and Long-Term Care
1075 Bay Street, 11th Floor
Toronto ON M5S 2B1
Phone: 416-327-7937
Fax: 416-327-8805
General inquiries: **xris@ontario.ca**

A patient has requested the transfer of their digital radiographs. How should they be transferred?

It is usually preferable to provide digital radiographic images in an electronic format. Traditional film-based radiographs can also be scanned, digitized and provided in an electronic format. The dentist providing the information should ensure that the selected format is compatible with the receiving dentist's electronic records management system, so that the files can be opened and viewed.

Dentists who use digital radiography must ensure that the radiographic images provided are of diagnostic quality when viewed on a screen and when reproduced or printed in hard copy. In this way, the subsequent dentist will receive the necessary information and the patient will receive the diagnostic value of the digital radiographs that were taken. This will help to reduce the patient's exposure to ionizing radiation by minimizing the need for additional images and unnecessary retakes.

Dentists must also ensure that the patient's personal health information associated with digital radiographic images and file information is protected in compliance with current requirements of the Personal Health Information Protection Act, 2004, and the directives of the Information and Privacy Commissioner of Ontario (IPC/ON).

The release and transfer of digital radiographic images
(Dispatch Article February/March 2015 pg. 24)

Can a dentist send digital radiographic images by email?

As a general rule, e-mail is not a secure means of communication and may be vulnerable to interception and hacking by unauthorized third parties. Accordingly, dentists should avoid using e-mail to communicate the personal health information of patients, unless they are employing a secure e-mail service with strong encryption.

Dentists who are members of the Ontario Dental Association can use the Canadian Dental Association's e-Referral Service through which personal health information can be shared securely. Both the dentist providing the information and the dentist receiving it must be registered users to be able to use this service.

Guidelines on Electronic Records Management
(*Page 9)*

The release and transfer of digital radiographic images
(Dispatch Article February/March 2015 pg. 24)

What if the patient consents or requests that the radiographs be sent by unencrypted e-mail?

The Information and Privacy Commissioner of Ontario (IPC/ON) has advised that even if patients are willing to accept the risk of unauthorized disclosure of their personal health information in exchange for the convenience of communicating via e-mail, this does not alleviate health information custodians of their duty to take steps that are reasonable in the circumstances to safeguard personal health information in their custody and control.

Guideline-Electronic Records Management
(*Page 9)*

What are the recommended ways to transfer digital dental radiographs?

Digital radiographic images can be copied to portable media or storage devices, such as a CD-ROM or USB flash drive, and provided to the patient. With the patient's consent, these can be forwarded to another dentist by registered mail or courier. If hard copies are provided, the digital radiographic images must be printed on photographic quality paper using a printer that is capable of producing high-resolution photographic quality prints.

The release and transfer of digital radiographic images
(Dispatch Article February/March 2015 pg. 24)

Can Ontario dentists use dental CT scanners?

Yes. As of April 2, 2012, it is possible for all Ontario dentists, with the required education and training, to apply to the College to prescribe, order and take dental CT scans, and to install and operate a dental CT scanner.

http://www.rcdso.org/Members/DentalCTScanners

Final Pieces in Place to Open Up Expanded Safe Access to Dental CT Scanners in Ontario
(Dispatch Article May/June 2012 pg. 12)

Does the College offer any guidance on the use of a dental CT scanner?

The College has published a Standard of Practice on Dental CT Scanners. This document is the standard of practice in relation to the use of dental computed tomography (CT) scanners with respect to dental services in Ontario. Since contravention of the Standard of Practice may be considered professional misconduct, dentists employing dental CT technology must be familiar with its content, be appropriately trained and regulate their practices accordingly.

http://www.rcdso.org/Assets/DOCUMENTS/Professional_Practice/Standard_of_Practice/RCDSO_Standard_of_Practice__Dental_CT_Scanners.pdf

Do dentists have to register with the College in order to prescribe dental CT scans?

Yes. All dentists who wish to prescribe, order and take dental CT scans must register with the College as a prescribing dentist. This includes all dentists who are specialists in oral and maxillofacial radiology and all dentists who practise in hospital dental departments. In addition, every dental facility where a dental CT scanner is installed and operated must have a facility permit issued by the College.

What is the registration process?

You will find more information by clicking here:

http://www.rcdso.org/Members/DentalCTScanners/ApplicationProcess

You may also contact the Royal College of Dental Surgeons of Ontario at 416-961-6555 and ask to be directed to the registration department.

Can staff members, such as dental hygienists or dental assistants, take dental CT scans on the prescription of a dentist?

No. In accordance with the College's Standard of Practice for Dental CT Scanners and the regulatory amendments to the HARP Act, the only staff who may expose patients to dental CT scans, other than dentists who have obtained appropriate authorization from the College, are qualified medical radiation technologists who are registered with the College of Medical Radiation Technologists of Ontario and acting under the on-site supervision of a qualified prescribing dentist. Dental hygienists and dental assistances are not permitted to take dental CT scans.

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