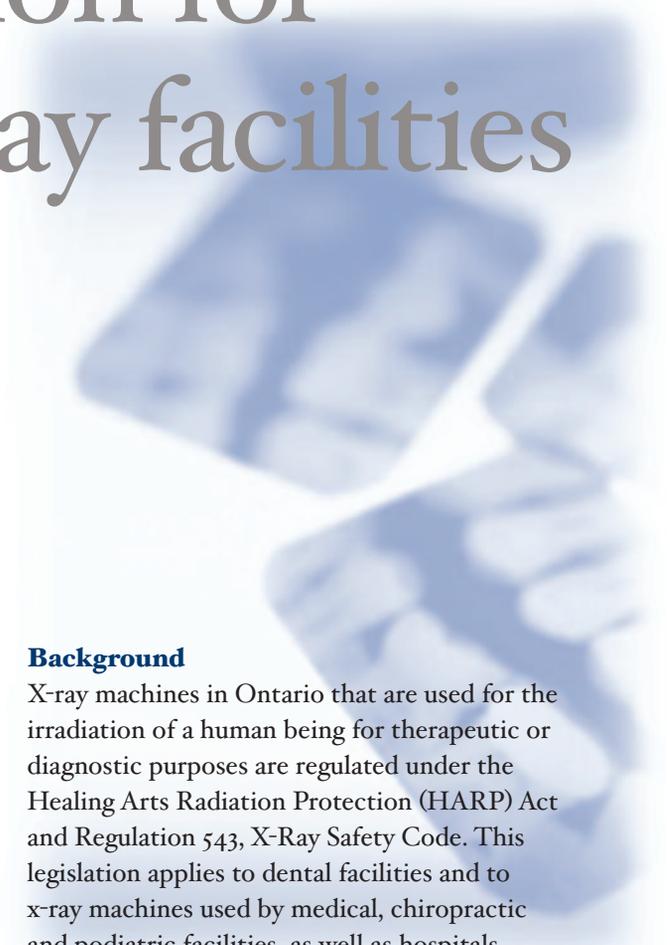


# Information for dental x-ray facilities



This article has been prepared with information provided by the X-ray Inspection Service (XRIS) of the Ministry of Health and Long-term Care and highlights some of the key legislative requirements.

## **Background**

X-ray machines in Ontario that are used for the irradiation of a human being for therapeutic or diagnostic purposes are regulated under the Healing Arts Radiation Protection (HARP) Act and Regulation 543, X-Ray Safety Code. This legislation applies to dental facilities and to x-ray machines used by medical, chiropractic and podiatric facilities, as well as hospitals.

## **Plan Approval Process**

Written approval from the XRIS is required before installing a new dental x-ray machine, replacing an existing one or making changes to the installation. More information about the plan approval process can be found in the May/June 2014 issue of Dispatch found in the RCDSO Library at [www.rcdso.org](http://www.rcdso.org).

## **Radiation Protection Officer Requirements**

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 be 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.

#### **XRIS Inspection Visits**

An X-ray Inspection Service (XRIS) inspector at the Ministry 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.

During the visit, the inspector may review a number of documents, which must be available onsite. It is important that dental staff members are aware of the exact location of these documents for easy accessibility.

These documents include:

- up-to-date approved plan for radiation shielding;
- quality test results up to six years old;
- x-ray equipment registration;
- proof of staff qualifications (valid professional membership: RCDSO, CDHO, CMRTO; documentation of completion of approved course in dental radiography for dental assistants).

In the event of a dental practice purchase or merger, it is advisable that records listed above be acquired as part of the transfer of assets.

#### **Equipment Testing**

Acceptance testing is performed on all new and used x-ray equipment in order to:

- determine a baseline performance to be used as a comparison standard for future maintenance and quality testing;
- verify equipment performance and ensure safety;
- ensure the equipment meets legislated standards as specified in the HARP Act and Regulation 543.

As a best practice, it is recommended that acceptance testing be performed immediately after installation of the x-ray equipment and before it is first used on patients. The RPO must ensure acceptance results are submitted to the Director of X-ray Safety within 60 days of installation.

Quality testing is performed on all new and used x-ray equipment in order to:

- ensure patient safety;
- confirm that equipment meets the requirements of the HARP Act and Regulation 543;
- detect any trends/deterioration in equipment performance that could affect the quality of radiographs.

## Information for dental x-ray facilities

The following quality tests must be conducted every 12 months and upon alteration or servicing of the machine:

- patient entrance exposure measurements;
- collimation;
- half-value layer.

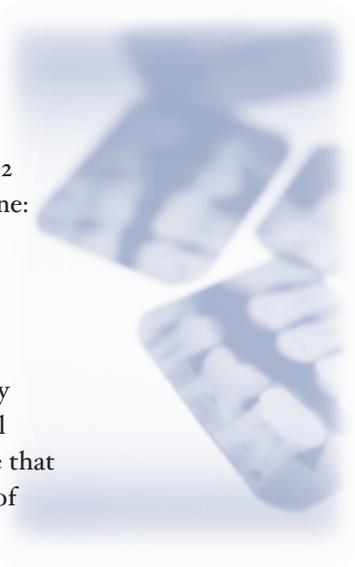
Photographic quality control must be conducted every operational day for dental facilities with film or digital x-ray machines. Records must be available as evidence that photographic quality control is being done every day of use.

For film x-ray machines, records may include temperature charts, results of sensitometric analysis, logs of processor maintenance and number of films processed, and documentation of corrective action.

For digital x-ray machines, records may include logs of number of digital radiographs taken and results of reject-repeat analysis as a daily quality control method.

It is recommended to follow the operator's manual to determine manufacturer-specific standards.

Any variance from the ideal should be noted and corrected.



### MORE INFORMATION/QUESTIONS

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

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