



A Review of the Radiological Protection Landscape in Canada Webinar Q&A

These are questions we did not get the opportunity to answer during the webinar. Please note, the answers below are based on our readings and experience and are not legal or medical advice.

- Q: I am a recent graduate of the Department of Biophysics, specializing in radiation physics, College of Science, and I need your help in identifying courses for my development in the field of radiation protection.
- A: The Canadian Radiation Protection Association maintains a list of Radiation Protection educational and training programs in Canada: <https://crpa-acrp.ca/students/radiation-protection-programs-in-canada/>.
- Q: Are there changes to Ontario Dose equivalent annual limit for X-ray workers for lens of eye legislation in the works?
- A: As we are independent of government, we are not privy to internal government discussions. We are not aware of any such planning, but this does not mean it is not being discussed.
- Q: Can you please provide any current legislation/ mandates on use of lead aprons and or thyroid collars and rectangular collimation use in dental settings for Ontario. Thank you
- A: As explained in the webinar, regulation of x-rays for human health care in Ontario falls under the [Healing Arts Radiation Protection Act](#) and [Regulation 543](#). The requirements for worker safety are found in [Regulation 861](#) of the [Ontario Occupational Health and Safety Act](#). More information for members of the Ontario Dental Association can be found here: <https://www.oda.ca/member-resources/resource-library/general-information-for-owners-and-operators-of-x-ray-facilities/>. While some jurisdictions have changed their requirements in the past few years, you must follow the current regulations applicable to the jurisdiction in which the x-rays are being performed. See https://www.cda-adc.ca/en/about/position_statements/xray/ for the Canadian Dental Association's position on the use of x-rays in dental offices.
- Q: What is the RSIC's stance on the use of gonadal shielding?
- A: The advocacy goal of the Radiation Safety Institute of Canada is to ensure conversations on the topic of radiation protection occur in order to enhance radiation awareness and safety in workplaces and communities. RSIC does not take stances on individual issues such as these, but rather acts a source of information on the topic of radiation protection so that individuals and organizations can make their own individual health and organizational policy decisions.

For those not familiar, the concerns around this issue are spelled out in the [Canadian Association of Radiologists Position Statement](#) and [NCRP Statement No. 13](#). To summarize, studies have shown that using gonadal shielding with modern x-ray equipment may have no benefit and the use of such shielding may possibly add to patient dose and/or result in loss of diagnostic information. [ICRP Publication 121: Radiological Protection in Paediatric Diagnostic and Interventional Radiology](#) Section 4.3 Sections 50 and 51 acknowledges the concern and indicates that good radiographic technique includes the standard lead apron, ensuring that the lead is placed in the field edge. [Health Canada's](#)

[Safety Code 35: Safety Procedures for the Installation, Use and Control of X-ray Equipment in Large Medical Radiological Facilities](#) has recently been updated (since the Canadian Association of Radiologist's position statement), and within this revised document, Section A.3.3 states, "routine gonadal shielding should not be used" and gives guidance on shielding practice in Section A.3.2.1. Note that this Safety Code is legally binding in some jurisdictions in Canada and not others, as explained in the webinar. Always follow the law for your jurisdiction.

Q: What regular education on radiation safety is mandatory/advised in Canada for staff in the Cath Lab/OR?

A: As explained in the webinar, the requirements for x-ray vary by jurisdiction and it is not consistent across the country. Best practice is for people to have training in radiation safety upon initial employment and refresher training every 3 to 5 years, depending upon the risk associated with the source. Suggested topics to include would be:

- Fundamentals of radiation
 - Properties of radiation
 - Interactions of radiation
 - Biological effects of radiation
 - Production and characteristics of radiation
- Principles of radiation safety
 - Radiation protection principles of time, distance, shielding
 - Use, care, and limitations of personal protective equipment (PPE)
 - Shielding requirements for the X-ray room(s)
 - Personal dosimetry – how, when, and where to use it
- Radiation protection legislation
 - Dose limits
 - Worker responsibilities
- Workplace radiation protection program
 - Control of radiation hazards
 - Radiation safety organizational structure
 - Emergency protocols

As those performing fluoroscopy are at risk of high doses, training should happen more often than those performing lower risk procedures.