



Attachments

Circulated at the Meeting of the Council

Date: June 10, 2021

ITEM	ATTACHMENT
10e2	CMRITO Annual Report for 2020
12b3	HARP submission
12d1	Ministry consultation on RHPA



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Wendy Rabbie
President

President's Message

Well, as they say, 'it's a wrap'. Not only is this annual report a 'wrap' of CMRITO's 2020 activities, but it is also my last report as CMRITO president. What a year it was and what a journey it has been.

It would be difficult to overstate the impact the pandemic has had on our lives both personally and professionally over the past year. CMRITO members around the province faced either reduction in hours, lay-offs or dramatically increased workloads as they took on new roles and new responsibilities within their facilities to care for patients and perform procedures during a world-wide pandemic. And, unfortunately, even in the early part of 2021, the COVID-19 pandemic remains an evolving situation with no immediate end in sight.

In the last year alone, the changes and challenges brought about by the pandemic have reshaped CMRITO on a level comparable to the transformation we experienced over the previous nine years that I have been part of the CMRITO Council. During that period of transformational change, we added over 4,000 new members and successfully regulated diagnostic medical sonography as a fifth specialty under the College. To be certain, that is a significant metamorphosis. So too is the transformation that has taken place since March 2020.

The CMRITO reacted to the pandemic quickly, compassionately and efficiently. It instituted new management measures, moved to working remotely, launched new technologies to facilitate new work methodologies and processes, shifted priorities, and enacted policies that ensured it met its obligation to protect the public, maintain operations, and to the extent possible support members.

Having said that, I would not want the events of the pandemic to eclipse how far the CMRITO has come over the past few years in meeting its mandate to protect the Ontario public interest.

So let me look back on what for me have been a few highlights of CMRITO's progress during my time as President.

Of course, as I mentioned above, the top of the list would have to be the registration of over 4,000 diagnostic medical sonographers as new members in our profession's fifth specialty. It was a Herculean effort and one that proved the success of competent and effectual communications and new delivery technologies to reach sonographers and members of the CMRITO's other specialties to ensure all knew of this new requirement and made diagnostic medical sonographers aware of their new accountabilities.

This was an extraordinarily complicated process that involved surveying all medical radiation technologists, diagnostic medical sonographers, other health professionals and members of the public throughout Ontario to obtain feedback regarding proposed revisions to the registration regulations and the standards of practice required for registering this new specialty within the CMRTO (as we were known at the time). We worked closely with the Ministry of Health as legislation and regulations were drafted, and consulted extensively with members of the profession, stakeholders, and the public. All of these activities took many, many hours and more Council meetings than I can remember, but without question, it was worth it. Now the public can be assured that all of the diagnostic medical sonographers registered with CMRITO have met the requirements to practice, are practising within the standards of practice, and have the same commitment to continuous education and professional development as all other health professionals under Ontario's regulatory college system.

While the integration of a fifth specialty transformed the College on a seismic scale, many other changes over the past nine years have had a similarly profound impact on the College, our members, and our ability to protect the public interest. These activities included revising the College's governance structure, redefining Council electoral districts for a more balanced Council composition, the move to a fully online application system, the creation of a five year strategic plan that mapped out our future growth and development, in-person workshops and information sessions held across the province, developing communication guidelines for members working with patients, two updates to the standards of practice, the creation of a

new QuickQA app to help members easily record their professional development activities, a new website, our name change, and the development of a new brand for the College to better represent the specialties we regulate and our role as a regulator, to name only a few.

So, after nine productive and rewarding years on Council, my term of office ends. It has been an immense pleasure to serve the public interest through Council and to work with CMRITO staff to bring about the changes touched on above. Before I leave, I wish to highlight the commitment, dedication and hard work of volunteer Council members, committee members, and CMRITO staff in protecting the public. It has been an honour to walk alongside you on this journey and witness firsthand the incredible transformation that has occurred within our College and our profession in such a short time. I am very proud of the work carried out by the CMRITO, and excited to see what other important initiatives and developments the future will bring.



Linda Gough
Registrar & CEO

Registrar & CEO's Message

In last year's annual report, we announced the College's new name — the College of Medical Radiation and Imaging Technologists of Ontario (CMRITO) — and new protected titles for our profession. However, since the *Medical Radiation and Imaging Technology Act* was actually proclaimed on January 1, 2020, these changes are also included in this year's report.

Who could have guessed at the time that the proclamation of the Act and the excitement about our new name would very shortly be replaced by the anxiety and concern brought about by the COVID-19 global pandemic?

At the CMRITO we have dealt with many challenging issues and projects over the past few years, but the unique challenges of 2020 were unlike anything else any of us experienced previously. It has been a difficult year for members, both in their work and in their family lives. MRITs saw their hours slashed or increased exponentially at various points in the year, were asked to take on additional responsibilities outside their usual practice and went to work every day to deliver essential frontline care to patients in the face of the largest health threat of the past 100 years. 2020 was a demanding and overwhelming year for everyone, even health regulatory bodies, as we altered priorities, developed emergency policies, overhauled our workflows and implemented new technologies in record time to ensure we were able to meet our obligations to protect the public.

Nevertheless, I can confidently say from a regulatory and operations perspective that we moved forward on a variety of essential and important initiatives — even if they were mobilized from home desks or kitchen tables and conducted through remote online Council and statutory committee meetings.

While it was necessary to defer or cancel some important projects — notably our in-person province-wide professional practice workshops and strategic planning project — we were still able to carry out several initiatives designed to support the health care system and make things a little easier for our members during this turbulent time. For example, we were able to provide guidance and information to members on the multiple emergency orders issued by the Ministry of Health, educate decision-makers at the Ministry of Health on the role and essential clinical practice performed by MRITs, and launch an updated application to help members record their continuing education and professional development activities on the go — our QuickQA app.

Even more critical were urgent changes we made to the registration process to ease pressure on all MRITs who were working so hard to provide essential diagnostic and therapeutic procedures to patients, and to ensure the province had all the MRITs it needed during the state of emergency.

These changes were outlined in detail in our Fall issue of Insights and included streamlining the reinstatement process for previous members who resigned within the previous two years, suspending the late fee payment for members renewing their registration within three months after the due date, and issuing a one-time COVID-19 pandemic fee credit of \$90 to all active members.

Transitioning to a remote workplace and managing through a pandemic requires patience, focus, flexibility and, yes, a sense of humour.

But the strength of a team like the staff at CMRITO and the volunteer members of Council and the statutory committees is in our ability to keep things moving steadily forward even when uncertainty and competing priorities threaten to derail consequential work. While there is certainly a lot to remember about the past year, it is the incredible commitment, effort, and steadfastness of CMRITO staff, Council, committees, and members across the province throughout 2020 that will always stand out to me.

Report from Council

Council

Wendy Rabbie, President	MRT(R)	District 1 - radiography
Jay A. Neadles, Vice President	MRT(MR)(R)	District 4 - magnetic resonance
Angela Cashell	MRT(T)	District 2 - radiation therapy
Zainool Dhalla	DMS, MRT(R)	District 5 - diagnostic medical sonography
Yasir Khalid	MRT(T)	District 6 - member at large
Caitlin McCabe	Public Member	
Nilay Saha	Public Member	
Manjit Saini (Bhondhi)	Public Member	<i>(from December 17, 2020)</i>
Victoria Romero	Public Member	
Kieng Tan	MRT(T)	District 7 - academic councillor
Scott Tracze	Public Member	
Martin Ward	Public Member	
Sandra Willson	MRT(N)	District 3 - nuclear medicine

Executive Committee

Wendy Rabbie, President	MRT(R)	Council Member
Jay A. Neadles, Vice President	MRT(MR)(R)	Council Member
Angela Cashell	MRT(T)	Council Member
Nilay Saha	Public Member	Council Member <i>(from June 11, 2020)</i>
Martin Ward	Public Member	Council Member
Sandra Willson	MRT(N)	Council Member

The following is a summary of what has certainly been a unique, yet incredibly productive year for Council, its statutory committees and CMRITO staff.

The Medical Radiation and Imaging Technology Act

The *Medical Radiation and Imaging Technology Act, 2017* (MRIT Act) came into force on January 1, 2020, replacing the *Medical Radiation Technology Act, 1991* (MRT Act). The MRIT Act changed the name of the College to the College of Medical Radiation and Imaging Technologists of Ontario (CMRITO) and changed the name of the profession to medical radiation and imaging technology to encompass the regulation of diagnostic medical sonographers by the College, which began in 2018.

To reflect this change in name, the College developed a new visual identity that provides additional clarity and transparency to the public and our members. The logo includes an updated symbol, the acronym CMRITO, and a descriptor that explains our role as the regulator of medical radiation and imaging technologists in the province.

The transformation into the CMRITO marked the end of a long journey to bring diagnostic medical sonographers into the same public protection framework as the other four specialties of medical radiation and imaging technology. The College's Council members and staff worked tirelessly to ensure the College's visual identity, website, and key publications, such as our Standards of Practice, Code of Ethics, and Quality Assurance Program reflect this important change. Further updates to other publications and resources continued throughout 2020.



CMRITO
**Regulator of medical radiation and
imaging technologists in Ontario**

COVID-19

The COVID-19 pandemic has had a profound impact on CMRITO members across the province. As the Ministry of Health spearheaded efforts to control the spread of this virus, new directives shaped how hospitals, independent health facilities, and businesses across Ontario could operate.

The Government of Ontario announced a state of emergency due to the pandemic on March 17, 2020 and the Acting Chief Medical Officer of Health issued directives to regulated health professionals under the *Health Protection and Promotion Act* (HPPA).

CMRITO reacted to this situation by instituting new measures, shifting priorities, and enacting policies to ensure the continuation of CMRITO's regulatory obligation to protect the public, maintain our operations, and support our members in providing services to the public during this trying time.

Remote operations during COVID-19

In response to the COVID-19 pandemic, CMRITO began operating remotely on March 18, 2020. The decision to move to a remote operations model was made to ensure business and regulatory continuity, comply with government orders, maintain staff health and prevent possible service disruptions.

The CMRITO Corporate Services team worked hard to ensure that our staff had the equipment and software required to operate remotely. The systems CMRITO had in place then, and continue to have in place now, ensured our ability to provide our full range of services and operate successfully with minimal disruptions without affecting our public protection mandate. As a result, members continued to be able to renew their registration with CMRITO using our online registration system, and applicants were able to apply for registration using our online application process. Similarly, all our other departments continued to support members and provide assistance to the public of Ontario.

In addition to moving to a remote operations model, CMRITO took further steps to ensure our continued operations during this state of emergency including:

- holding all Council and statutory committee meetings by teleconference and later videoconference

- postponing the spring professional practice workshops
- cancelling travel to meetings and conferences
- cancelling the QA Multi-source Feedback assessments for 2020

State of Emergency Policy

On March 27th, the CMRITO Council approved a time-limited State of Emergency Policy for the COVID-19 pandemic. The purpose of this policy was to:

- ensure that CMRITO’s regulatory processes did not put an undue burden on members or patients
- work collaboratively with the Minister of Health to ensure an adequate supply of MRITs during the state of emergency
- continue to ensure the protection of the public through the regulation of the profession

The policy suspended the late fee for members renewing their registration from March 1st to September 30th, providing members three months from their birthday to pay their annual renewal fees with no penalty. Steps were also taken to streamline the reinstatement process for anyone wishing to return to practice who had resigned within the past two years.

2020 Operational Plan

On April 3rd, at a special meeting, Council approved amendments to the CMRITO 2020 Operational Plan, originally approved by Council on December 6, 2019. As many of the regulatory best practice initiatives planned for 2020 were no longer feasible under the state of emergency restrictions, Council determined that CMRITO should focus exclusively on essential regulatory initiatives and services for the balance of 2020. As a result, all non-essential projects that were planned were deferred or canceled, including: in-person province-wide professional practice workshops, governance review, new strategic plan development, revised communication guidelines, and new patient information materials.

COVID-19 pandemic fee credit

As MRITs across the province faced difficult times in response to the pandemic, including lay-offs, the money set out in the budget to fund these non-essential projects and initiatives was returned to CMRITO members in the form of a one-time COVID-19 pandemic fee credit of \$90 per member to make members' lives a little easier during this unprecedented time.

COVID-19 information webpage

CMRITO was quick to set up a COVID-19 information page on our website to collect and share information with MRITs during the pandemic. Combining information, guidance, and directives from the Ministry of Health, Public Health Ontario, Health Canada, and the World Health Organization, CMRITO updated the information on the page as circumstances changed and new guidance was received. In addition to our social media channels and newsletter, the College used the COVID-19 information page as an information hub to support MRITs' ability to provide safe, effective, and ethical medical radiation and imaging technology services during the pandemic. The CMRITO COVID-19 information page aided in members' understanding of their professional obligations and accountabilities during the turbulent times of the pandemic.

While much of our focus was firmly set on COVID-19 in 2020, CMRITO also concentrated our efforts and resources in continuing to meet our essential regulatory functions, including the launch of a new version of our popular QuickQA app. In the fall, the Quality Assurance team rolled out a new and improved QuickQA app that works with members' QA ePortfolios allowing them to record continuing education and professional development activities in real time using both Apple and Android devices.

Communications Outreach

Webinars and videos

Despite the challenges presented by remote operations, CMRITO still delivered two important webinars in 2020. The webinars were designed to be practical and informative sessions for new and established members alike.

Topics for these webinars included:

- The CMRITO Quality Assurance Program
- How to use your protected titles

In addition to posting recordings of these webinars on our website for members who missed the live sessions to watch at a later date, CMRITO also released five other educational videos to share information with our members:

- CMRITO is now the College of Medical Radiation and Imaging Technologists of Ontario
- Self regulated professionals
- Professional practice tip - protected titles
- CMRITO QA ePortfolio user instructions
- How to use the QuickQA app

Our webinars and videos allow us to connect with many MRITs and share information in a cost-effective and flexible manner that is especially conducive to our current remote operations. We continue to identify topics that are relevant to help our members meet their professional accountabilities.

Conferences and presentations

2020 saw the postponement or cancellation of in-person presentations and conferences. However, this did not stop CMRITO Council members and staff from attending seven conferences virtually and one conference in-person prior to the declaration of a state of emergency. CMRITO staff were also active in delivering live virtual presentations and recorded video presentations at academic institutions. The Registrar & CEO, Deputy Registrar, Quality Assurance Director, Quality Assurance Manager, and Professional Practice Advisor delivered a total of 10 virtual presentations to more than 1,100 medical radiation and imaging technology students and two in-person presentations to nearly 200 CMRITO members before the state of emergency.

Email communications

Throughout 2020, the College continued our online communication efforts with members and applicants. A total of 35 targeted bulk email messages were sent to members and applicants to inform them of new developments, outline their obligations as regulated health professionals, and most importantly to keep them up to date on the latest COVID-19 information and developments. This focus on online communication proved very effective, as demonstrated by a delivery rate of 99.1% and more than 32,000 in-message clicks. These results reveal CMRITO members' and applicants' interest in and desire to learn more about the topics covered in these communications and their commitment to continue to meet their professional obligations.

Social Media

CMRITO continued our commitment to sharing content on social media in 2020. In a year where being able to reach our audience was more important than ever, we saw growth across all social media platforms.

Facebook

- 89 posts
- 4,746 likes, shares, comments and clicks
- followers increased by 31.5%

Twitter

- 89 tweets
- 1,137 engagements
- followers increased by 22.8%

LinkedIn

- 77 updates
- 1,191 engagements
- followers increased by 39.4%

Together, CMRITO posts on our three social media channels enhanced our ability to reach and share information with the public and our key audiences using their preferred platforms.



Strategic Plan 2017-2021: Commitment to Regulatory Excellence

In December 2016, Council approved *Strategic Plan 2017-2021: Commitment to Regulatory Excellence* to guide the work of the the College for the next five years.

As part of this plan, the following strategic and enabling goals were identified to help guide the College activities and projects:

Strategic goals

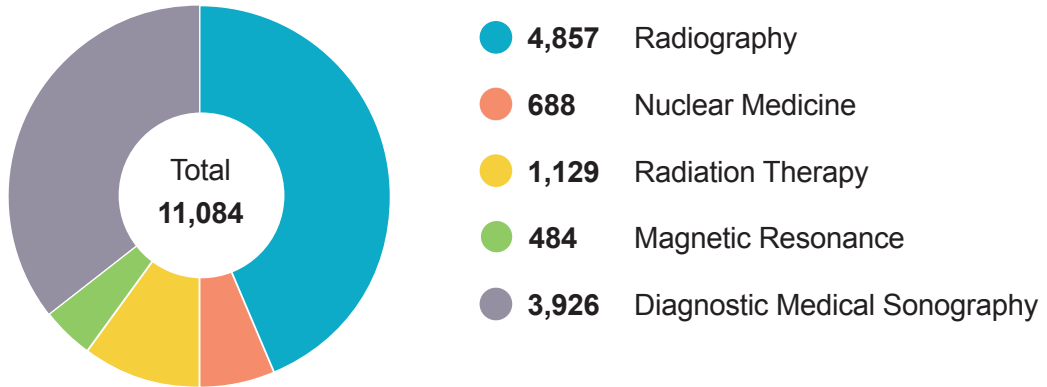


Enabling goals

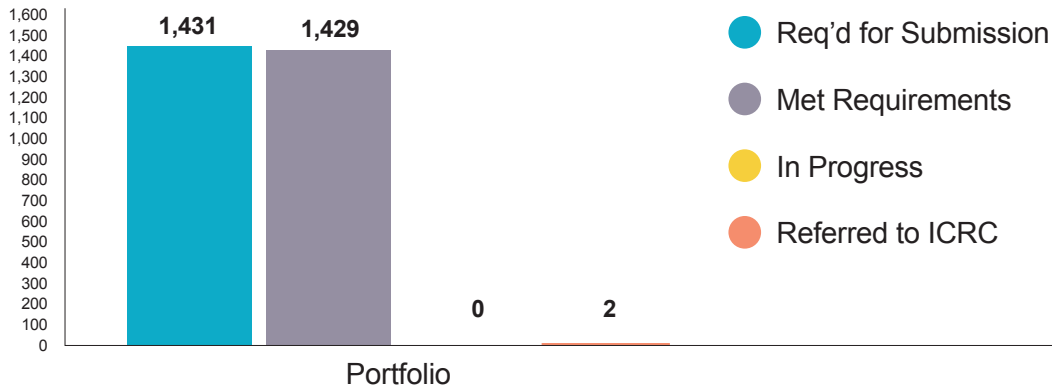


CMRITO Dashboard 2020: January 1 – December 31, 2020

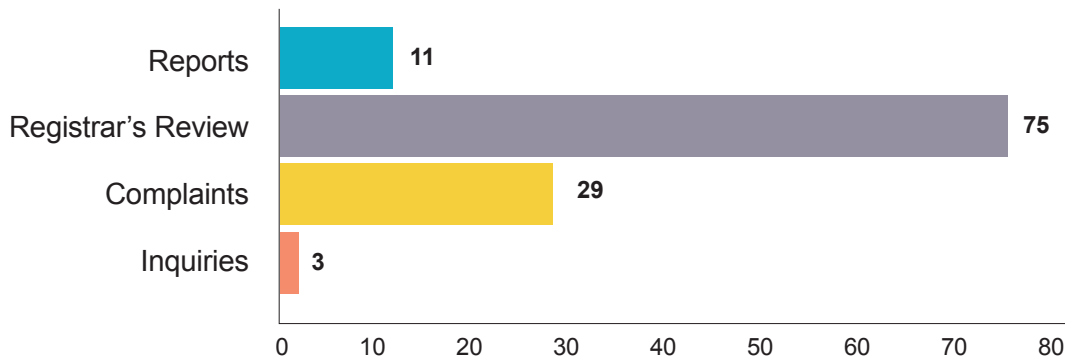
Active members by primary specialty



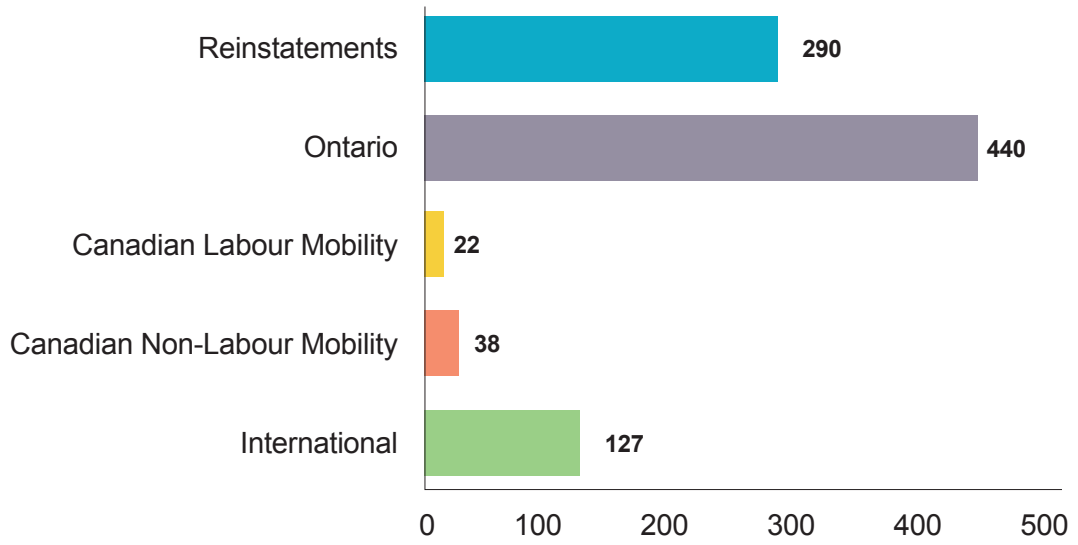
Quality Assurance Assessments



Professional Conduct New Cases



Registration applications



Committee Reports

Inquiries, Complaints and Reports Committee

Angela Cashell, Chair	MRT(T)	Council Member
Rania Arabi	MRT(N)(MR)	Appointed Member
Bronwen Baylis	MRT(R)	Appointed Member (to June 11, 2020)
Angela Brunetti	MRT(T)	Appointed Member
Lisa Giampa	MRT(N)	Appointed Member
Tarja Heiskanen	MRT(T)	Appointed Member
Yasir Khalid	MRT(T)	Council Member
Caitlin McCabe	Public Member	Council Member
Kim Phan	DMS	Appointed Member
Janet Scherer	MRT(R)	Appointed Member
Titus Stan	DMS	Appointed Member
Kimberly Thorvaldson	MRT(R)	Appointed Member
Martin Ward	Public Member	Council Member

The Inquiries, Complaints and Reports (ICR) Committee is the statutory committee under the *Regulated Health Professions Act, 1991* (the RHPA) responsible for handling all complaints, reports and inquiries regarding member conduct.

The Chair of the ICR Committee has appointed two separate panels, the Inquiry Panel and the Complaints and Reports Panel. The panels hold separate meetings and deal with distinct matters and therefore their data is tracked separately.

Inquiry Panel

Inquiry cases involve issues related to a member's fitness to practise. The inquiry is focused on identifying if a member is suffering from a physical or mental condition or disorder, the nature and extent of the condition or disorder and whether to refer the matter to the Fitness to Practise Committee for a hearing. These cases are handled by the Inquiry Panel of the ICR Committee.

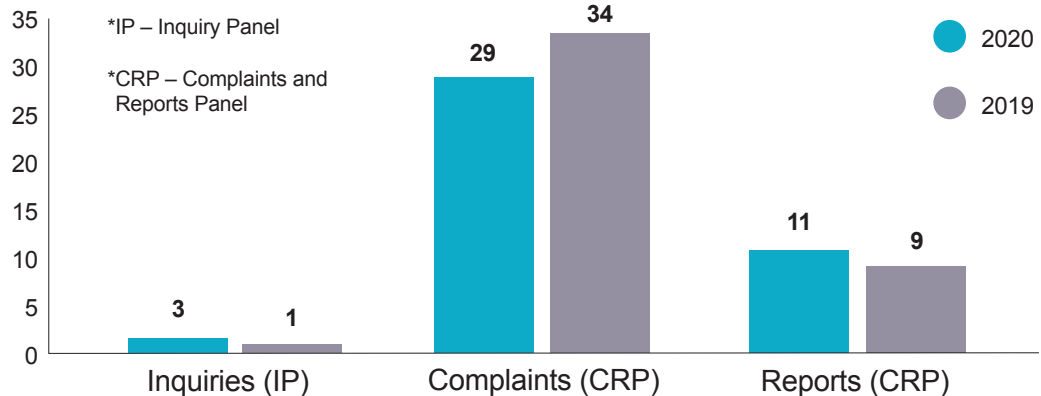
Complaints and Reports Panel

Complaint cases are opened when the College receives a written/recorded complaint regarding the conduct of a member. These cases are investigated by the Complaints and Reports Panel of the ICR Committee.

The Complaints and Reports Panel of the ICR Committee also considers reports made by the Registrar regarding the results of an investigation conducted by an investigator appointed by the Registrar. With the approval of the ICR Committee, the Registrar may appoint an investigator to conduct an investigation to determine whether a member has engaged in professional misconduct or is incompetent.

In 2020, panels of the ICR Committee reviewed a total of 43 new cases. Of those cases, 29 were complaints, 11 were reports and three were inquiries.

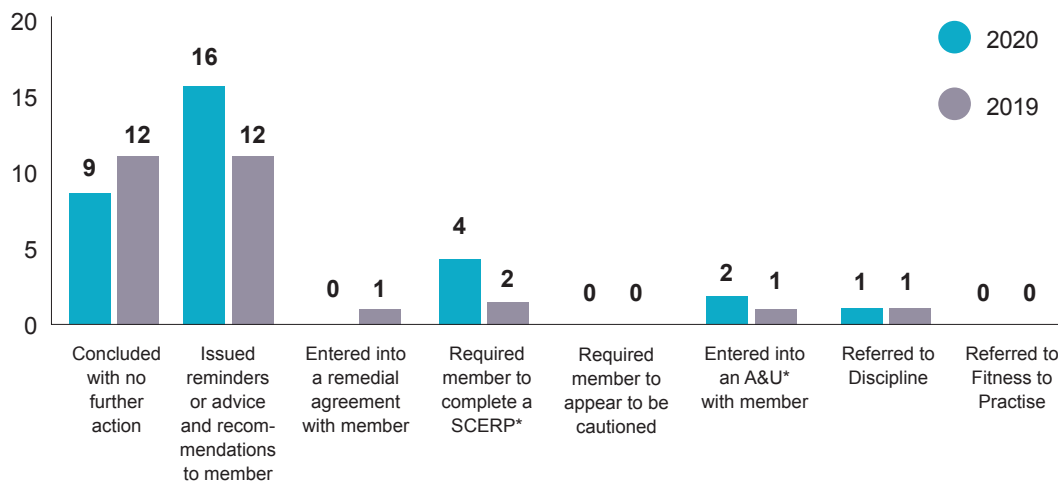
Total number of cases reviewed by panels of the ICR Committee in 2020 and 2019



In 2020, panels of the ICR Committee issued a total of 32 decisions.

Below are charts that show the outcomes of the decisions issued by the ICR Committee in 2020, as well as a breakdown of the complaints and reports by the related practice standard. Please note that a decision may involve more than one outcome and more than one practice standard.

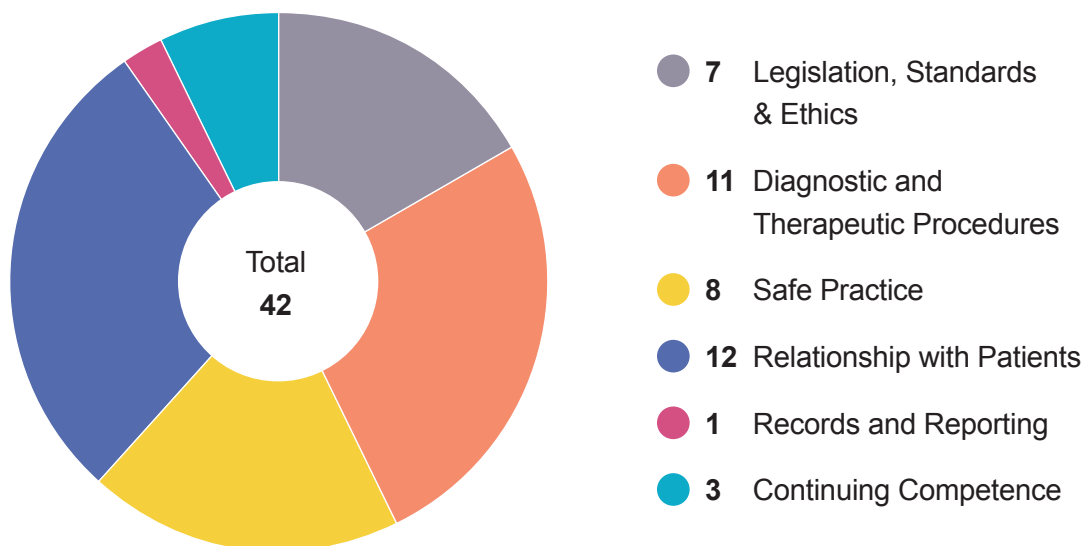
Decision outcomes issued by panels of the ICR Committee in 2020 and 2019



*SCERP – specified continuing education and remediation program

*A&U – acknowledgment & undertaking

Complaints/Reports by Practice Standard 2020



**A complaint or report may involve more than one practice standard. The total number of practice standards may not equal the total number of complaints and reports decisions issued. The practice standards involved in a complaint or report are assigned at the time the decision is issued.*

Health Professions Appeal and Review Board

The Health Professions Appeal and Review Board (HPARB) is an agency of the government, independent of the CMRITO that is responsible for reviewing the decisions of the Inquiries, Complaints and Reports Committee regarding complaints. HPARB can review both the adequacy of the investigation and the reasonableness of the decision. A review may be requested by either the complainant or the member who is the subject of the complaint.

There were no HPARB decisions issued in 2020.

Discipline Committee

Jay Neadles, Chair	MRT(MR)(R)	Council Member
Ebenezer Adiyiah	MRT(R)	Council Member <i>(to June 11, 2020)</i>
Renate Bradley	MRT(T)	Appointed Member
Zainool Dhalla	MRT(R), DMS	Council Member
Lisa Di Prospero	MRT(T)	Appointed Member
Simrat Grewall	DMS	Appointed Member
Jia Inacio	DMS, MRT(R)	Appointed Member
An Ling	DMS	Appointed Member <i>(to July 28, 2020)</i>
Victoria Romero	Public Member	Council Member
Nilay Saha	Public Member	Council Member
Scott Tracze	Public Member	Council Member
Martin Ward	Public Member	Council Member
Sandra Willson	MRT(N)	Council Member
Miranda Young	MRT(R)	Appointed Member <i>(to June 11, 2020)</i>

The Discipline Committee is responsible for holding hearings related to professional misconduct and incompetence matters referred by the Inquiries, Complaints and Reports Committee.

There was one referral to the Discipline Committee in 2020. This hearing was not held in 2020.

There was one hearing held in 2020. This hearing related to a referral from 2019. A summary of the hearing is set out below.

Summary of Discipline Hearing – Patrick M. Jew, MRT(R)

On February 7, 2020, a panel of the Discipline Committee (the Panel) found Patrick M. Jew to have committed acts of professional misconduct in that they:

- engaged in conduct or performed an act relevant to the practice of the profession that, having regard to all the circumstances, would reasonably be regarded by members as disgraceful, dishonourable, or unprofessional; and
- practised the profession while their certificate of registration was suspended, at Georgetown Hospital, Halton Healthcare, on or about January 22 and 23, 2019.

The hearing proceeded by way of an agreed statement of facts. The Panel accepted a joint position on penalty and made the following order:

- requiring Patrick M. Jew to appear before the Panel of the Discipline Committee to be reprimanded on February 7, 2020;
- directing the Registrar to suspend Patrick M. Jew’s certificate of registration for a period of one month, from April 1, 2020 through April 30, 2020; and
- directing Patrick M. Jew to pay the College’s costs in the amount of two thousand five hundred dollars (\$2,500.00), payable by certified cheque, on February 7, 2020.

Fitness to Practise Committee

Kieng Tan, Chair	MRT(T)	Council Member
Jordan Aarssen	MRT(T)	Appointed Member <i>(to June 11, 2020)</i>
Renate Bradley	MRT(T)	Appointed Member <i>(from June 11, 2020)</i>
Christine MacRae	DMS	Appointed Member
Victoria Romero	Public Member	Council Member <i>(from June 11, 2020)</i>

The Fitness to Practise Committee is responsible for holding hearings related to incapacity matters referred by the Inquiries, Complaints and Reports Committee.

There were no referrals to the Fitness to Practise Committee in 2020 and no hearings were held in 2020.

Patient Relations Committee

Wendy Rabbie, Chair	MRT(R)	Council Member
Angela Cashell	MRT(T)	Council Member
Jay Needles	MRT(MR)(R)	Council Member
Nilay Saha	Public Member	Council Member <i>(from June 11, 2020)</i>
Martin Ward	Public Member	Council Member
Sandra Willson	MRT(N)	Council Member

The Patient Relations Committee is responsible for the CMRITO's Patient Relations Program. The Patient Relations Program includes measures for preventing and dealing with sexual abuse of patients, including educational requirements for members, guidelines for the conduct of members with their patients, training for CMRITO's staff and the provision of information for the public.

At the CMRITO, the Executive Committee also acts as the Patient Relations Committee, reflecting the importance of the role and the fact that the Patient Relations Program and any patient relations initiatives should permeate all activities undertaken by the CMRITO and should not be restricted to the activities of a single committee.

The Patient Relations Committee is also responsible for administering the fund for therapy and counselling for patients who allege they have been sexually abused by a member. There were no requests for funding for therapy or counselling in 2020.



Quality Assurance Committee

Sandra Willson, Chair	MRT(N)	Council Member
Nathalie Bolduc	MRT(R)	Appointed Member
Tatiana Grankina	DMS	Appointed Member
Constance Krajewski	MRT(R)	Appointed Member
Merrylee McGuffin	MRT(T)	Appointed Member
John Andrew Mogg	MRT(R)(MR)	Appointed Member
Derek Ribeiro	MRT(T)	Appointed Member
Martin Ward	Public Member	Council Member

The role of the Quality Assurance Committee is to develop and administer a quality assurance program that includes:

- continuing education or professional development to promote continuing competence and continuing quality improvement among members
- self, peer and practice assessments, and
- a mechanism to maintain members' participation in, and compliance with, the program

The Quality Assurance Committee held seven meetings in 2020.

In 2020, 14% of members were required to submit their 2019 QA ePortfolio for assessment. These members were randomly selected and notified they were required to submit their QA Portfolio in 2019.

For the College's peer and practice assessment by means of the Multi-source Feedback (MSF) Assessment, it had been planned to randomly select 5% of members to complete the MSF assessment in 2020. As one of its responses to the COVID-19 pandemic, Council determined to cancel the MSF assessments for 2020.

Quality Assurance Declaration

The Quality Assurance Declaration is completed each year by every member at the time of their annual renewal of registration. Members confirm whether they have complied with the requirements of the QA Program and that they understand the requirements of the QA Program.

The QA Committee monitors the declarations of members' participation in the QA Program and follows up with members that have declared noncompliance.

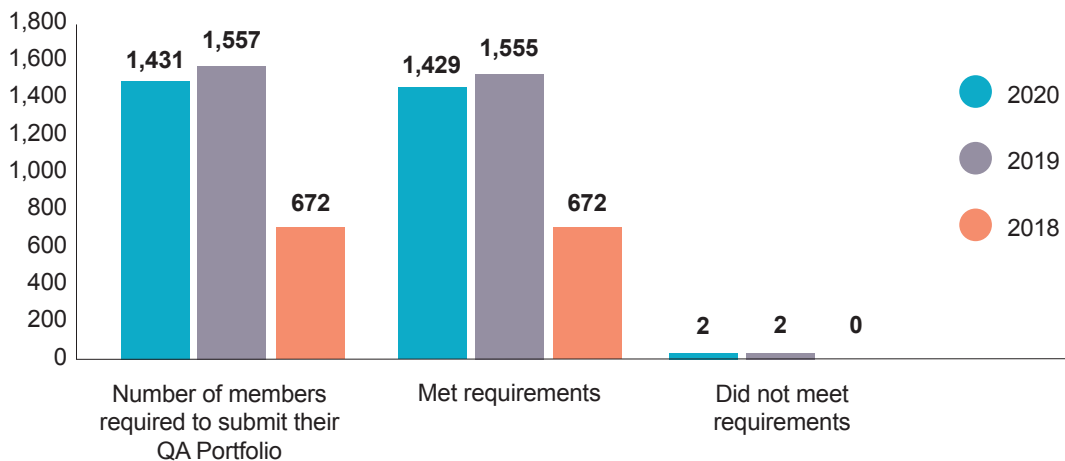
Quality Assurance Portfolio

The QA Portfolio is completed each calendar year by every member. The QA Portfolio includes a self-assessment based on the standards of practice, a QA profile which describes the member's practice, and a method to keep a record of continuing education and professional development activities completed each year. Each member is required to complete and record at least 25 hours of continuing education and professional development activities each year. A member may be requested to submit the QA Portfolio for assessment by the QA Committee or an assessor.

QA Portfolio Assessment 2020

In 2018, CMRTO retired the old paper portfolio – all members are now required to record their continuing education and professional development activities hours using the ePortfolio.

2020 QA Portfolio Assessments with 2019 and 2018 comparison



Hours of Continuing Education and Professional Development

The majority of members who submit their ePortfolio exceed the required 25 hours of continuing education and professional development activities, with some members recording over 100 hours.

QuickQA app

On November 6, 2020 CMRITO launched the new and improved QuickQA app available for free to all CMRITO members. This app allows members to record their continuing education and professional development activities using their mobile devices.

The QuickQA app has been downloaded 2,904 times and continues to be a popular tool among members for recording continuing education and professional development activities. In 2020 there were over 7,562 continuing educational activities uploaded using the app compared to 4,895 the previous year.

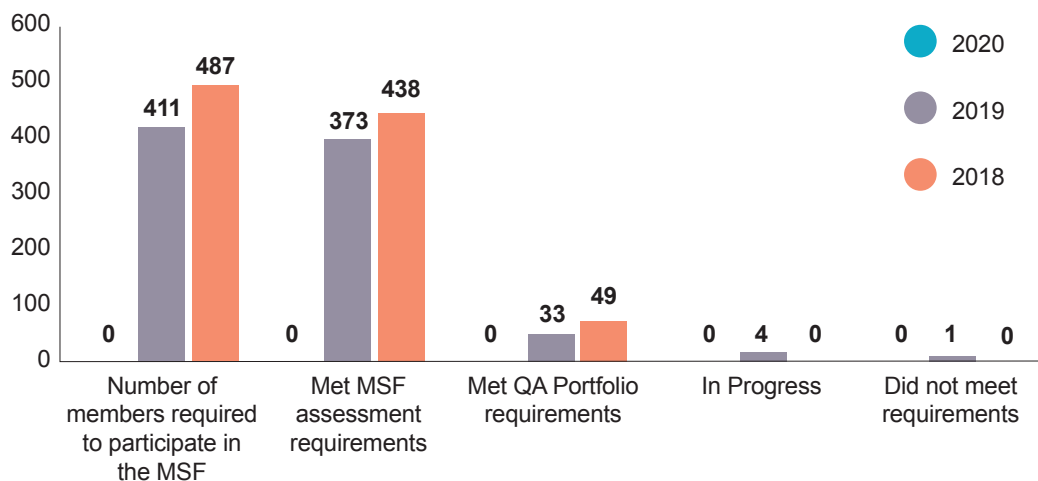
Multi-source Feedback (MSF) Assessment

The peer and practice assessment by means of a multi-source survey is completed by individual members randomly selected by the QA Committee in accordance with the QA regulation. The assessment includes a self, peer and co-worker, and patient assessments of a member's practice, based on the standards of practice. A report of this assessment is prepared by the QA Committee, a copy of which is provided to the member.

Due to the COVID-19 pandemic the MSF assessments were cancelled for 2020.

2020 Multi-source Feedback assessment with 2019 and 2018 comparison

* 2020 MSF assessment was cancelled due to the COVID-19 pandemic



Individual Practice Assessment (IPA)

A member will be selected by the QA Committee to participate in an IPA with an assessor when, based on an assessment of the QA Portfolio or an MSF assessment, the QA Committee is of the opinion that there may be a gap in a member's practice and a further assessment of the member's practice is required.

There were no individual practice assessments conducted in 2020.



Registration Committee

Martin Ward, Chair	Public Member	Council Member
Valentina Al-Hamouche	MRT(R)	Appointed Member
Zafar Bajwa	DMS	Appointed Member
Ruvette Coelho	MRT(T)	Appointed Member
Laura D'Alimonte	MRT(T)	Appointed Member
Dolores Dimitropoulos	MRT(R)	Appointed Member <i>(to June 11, 2020)</i>
Redon Hoxhaj	MRT(N)	Appointed Member <i>(from June 11, 2020)</i>
Cara Mazur	DMS, MRT(R)	Appointed Member
Kelly McDonald	MRT(R)	Appointed Member <i>(from June 11, 2020)</i>
Anna Simeonov	MRT(MR)(R)	Appointed Member
Kieng Tan	MRT(T)	Council Member

The role of the Registration Committee is to assess applications for registration which have been referred to the Committee by the Registrar to determine whether the applicants meet the requirements for registration to practise the profession in Ontario, in a fair, transparent, objective and impartial manner.

The Registration Committee held 10 days of meetings to discharge its statutory responsibilities in 2020.

During the 10 days of meetings, the Committee reviewed and approved the following:

Internationally educated applicants

- reviewed 133 new applications for registration from internationally educated individuals
- issued 118 decisions where the panel approved the applications for registration following the completion of certain requirements, including the successful completion of the CMRITO approved examinations (either the Canadian Association of Medical Radiation Technologists' national certification examination or the Sonography Canada national certification examination(s))

Applicants trained in Ontario

- reviewed five applications for registration from applicants who completed their education in Ontario. The panel approved the five applications for registration following the completion of certain requirements

Applicants trained in Canada outside of Ontario

- reviewed two applications for registration from applicants who completed their education in Canada in a province outside of Ontario. The panel approved the two applications for registration following the completion of certain requirements

Applications from members

- reviewed two applications for a variation of a term, condition and limitation imposed on the members' certificate of registration. The panel issued two decisions for these members

Health Professions Appeal and Review Board

The Health Professions Appeal and Review Board (HPARB) is an agency of the government, independent of the CMRITO that is responsible for reviewing decisions of the Registration Committee upon request of the applicant. In 2020, there was one HPARB decision issued, which upheld the decision of the Registration Committee.

Office of the Fairness Commissioner

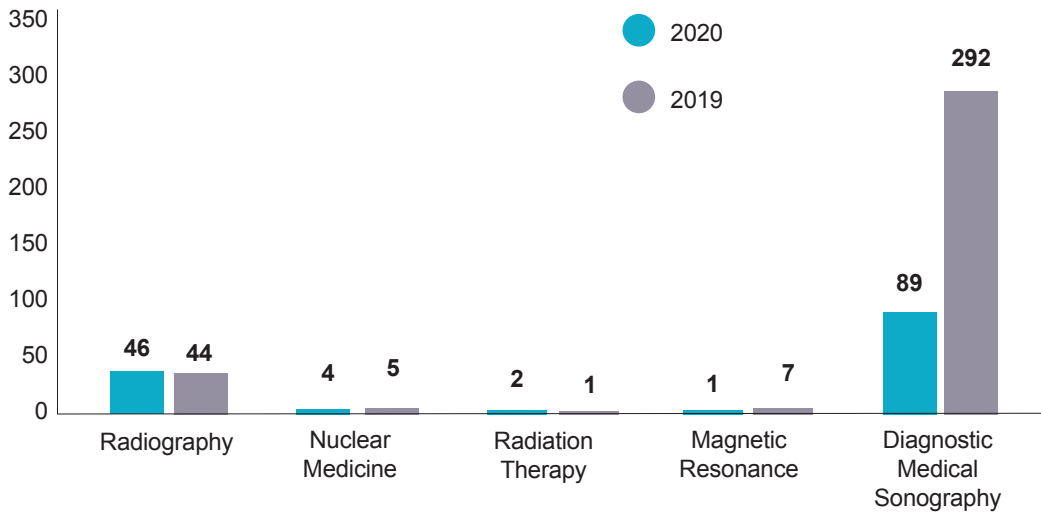
The CMRITO submitted the 2020 Fair Registration Practices Report to the Office of the Fairness Commissioner (OFC) in April 2021.

Education and Training

Members of the Registration Committee completed the following education in 2020:

1. orientation and training on the *Regulated Health Professions Act* (RHPA) legislative framework
2. orientation and training on CMRITO registration committee processes and procedures.
3. Office of the Fairness Commissioner (OFC) module on Applying Fair Access Law
4. 2020 Health Professions Regulators of Ontario (HPRO) governance training for *RHPA* colleges

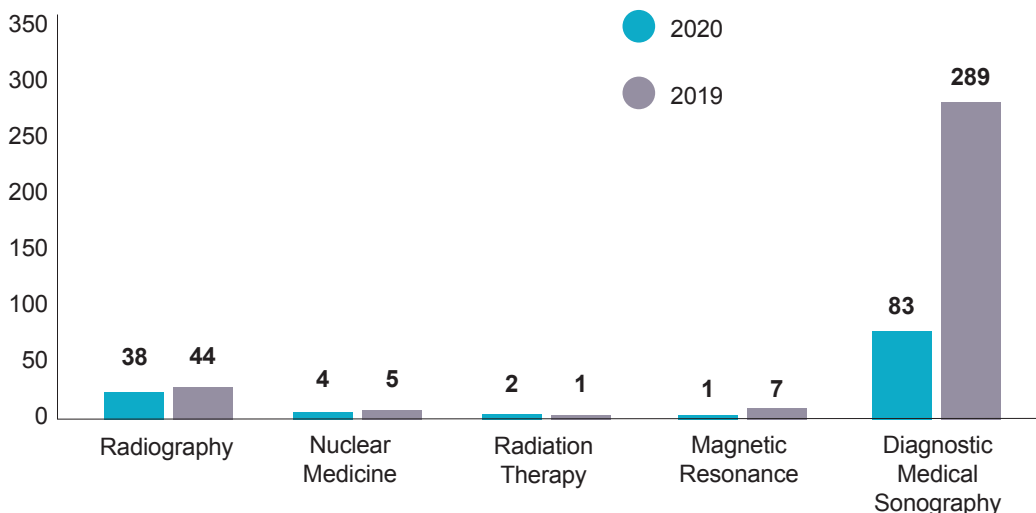
Applications reviewed by the Registration Committee by specialty in 2020, with 2019 comparison



**The total number of countries in which international applicants completed their education in medical radiation and imaging technology for new applications received in 2020 does not correspond to the total number of applications reviewed, or decisions issued, as the total number of applications reviewed includes applications from Canadian applicants.*

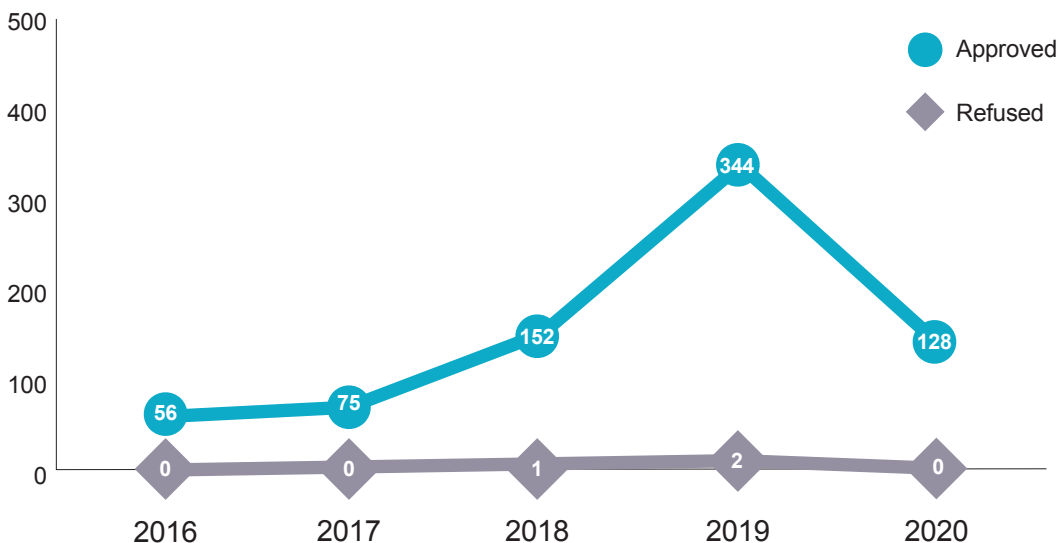


Decisions issued by the Registration Committee by specialty in 2020, with 2019 comparison



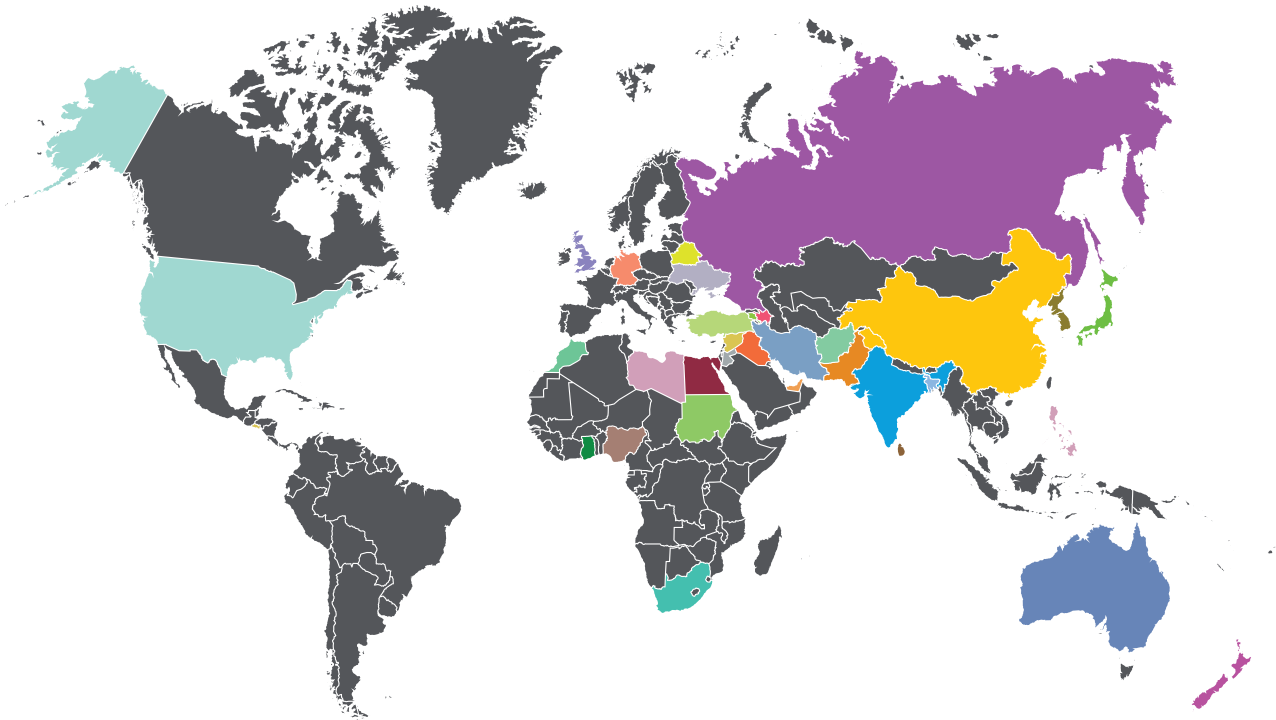
* The total number of decisions may not correspond to the total number of applications reviewed as decisions may be pending receipt of additional information or decisions may be issued for applications reviewed in the previous calendar year.

Decisions issued by the Registration Committee annually 2016 - 2020



* The total number of decisions issued by the Registration Committee includes decisions for all types of applications referred to the Committee including Ontario educated applicants, internationally educated applicants and past members.

Countries where education in medical radiation and imaging technology was completed for international applications reviewed in 2020

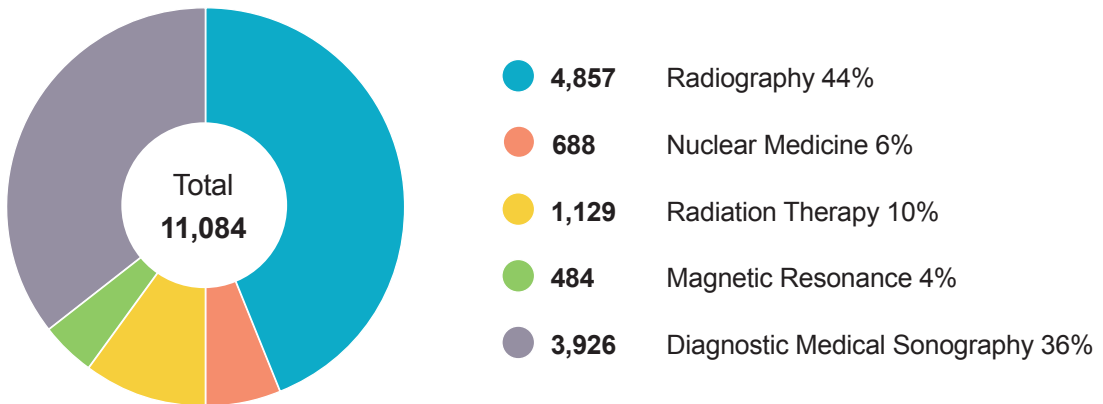


- | | | |
|-----------------|------------------|--------------------------|
| ● Afghanistan 1 | ● Iran 21 | ● Russia 3 |
| ● Armenia 1 | ● Iraq 2 | ● Singapore 1 |
| ● Australia 1 | ● Jamaica 2 | ● South Africa 1 |
| ● Azerbaijan 1 | ● Japan 1 | ● Sri Lanka 2 |
| ● Bangladesh 4 | ● Jordan 1 | ● Sudan 3 |
| ● Belarus 1 | ● Korea 1 | ● Syria 3 |
| ● China 2 | ● Libya 1 | ● Tanzania 1 |
| ● Egypt 4 | ● Morocco 1 | ● Turkey 1 |
| ● El Salvador 1 | ● New Zealand 1 | ● Ukraine 1 |
| ● Germany 1 | ● Nigeria 1 | ● United Arab Emirates 2 |
| ● Ghana 1 | ● Pakistan 27 | ● United Kingdom 5 |
| ● India 13 | ● Philippines 13 | ● USA 7 |

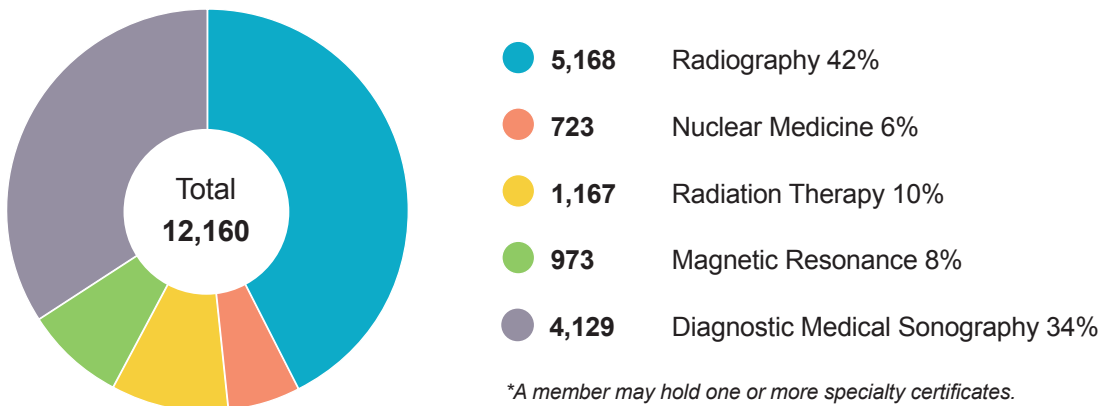
Membership Profile

Active	2020	2019	2018
Specialty (Primary)			
Nuclear Medicine	686	701	709
Radiography	4,857	4,829	4,838
Radiation Therapy	1,129	1,124	1,115
Magnetic Resonance	484	456	428
Diagnostic Medical Sonography	3,926	3,904	3,625
Employment Specific			
Nuclear Medicine	2	3	5
Total Active	11,084	11,017	10,720
Resigned			
Specialty (Primary)			
Nuclear Medicine	46	43	46
Radiography	310	303	329
Radiation Therapy	81	95	84
Magnetic Resonance	24	19	19
Diagnostic Medical Sonography	254	156	2
Employment Specific			
Nuclear Medicine	1	2	2
Total Resigned	716	618	482
Suspended (for failure to pay fees)			
Specialty (Primary)			
Nuclear Medicine	2	1	1
Radiography	5	11	8
Radiation Therapy	0	1	1
Magnetic Resonance	0	0	1
Diagnostic Medical Sonography	9	3	0
Total Suspended	16	16	11
Total Active, Resigned and Suspended	11,816	11,651	11,213

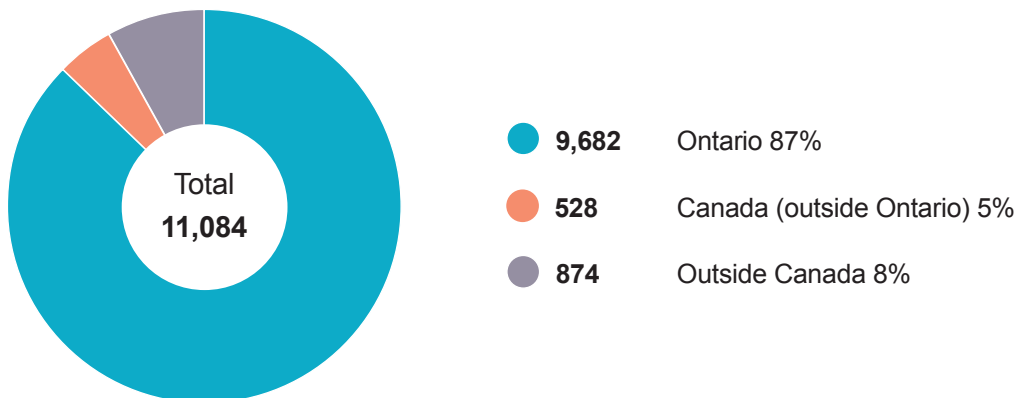
Active members on December 31, 2020 by primary specialty



Active specialty certificates on December 31, 2020



Active members on December 31, 2020 by location of initial education in medical radiation and imaging technology



Summary Financial Statements

HILBORNLLP

Report of the Independent Auditor on the Summary Financial Statements

To the Council of the College of Medical Radiation and Imaging Technologists of Ontario

Opinion

The summary financial statements, which comprise the summary statement of financial position as at December 31, 2020, and the summary statement of operations for the year then ended, and related note, are derived from the audited financial statements of the College of Medical Radiation and Imaging Technologists of Ontario (the “College”) for the year ended December 31, 2020.

In our opinion, the accompanying summary financial statements are a fair summary of the audited financial statements, in accordance with the criteria described in the note to the summary financial statements.

Summary Financial Statements

The summary financial statements do not contain all the disclosures required by Canadian accounting standards for not-for-profit organizations. Reading the summary financial statements and the auditor’s report thereon, therefore, is not a substitute for reading the audited financial statements of the College and the auditor’s report thereon.

The Audited Financial Statements and Our Report Thereon

We expressed an unmodified audit opinion on the audited financial statements in our report dated March 25, 2021.

Management's Responsibility for the Summary Financial Statements

Management is responsible for the preparation of the summary financial statements in accordance with the criteria described in the note to the summary financial statements.

Auditor's Responsibility

Our responsibility is to express an opinion on whether the summary financial statements are a fair summary of the audited financial statements based on our procedures, which were conducted in accordance with Canadian Auditing Standard (CAS) 810, *Engagements to Report on Summary Financial Statements*.

Toronto, Ontario
March 25, 2021

The logo for Hilborn LLP is written in a light blue, cursive script font.

Chartered Professional Accountants
Licensed Public Accountants

Summary Statement of Financial Position

December 31	2020	2019
	\$	\$
ASSETS		
Current assets		
Cash	411,740	191,436
Lease incentives receivable	-	160,140
Prepaid expenses	81,731	125,921
	493,471	477,497
Investments	2,228,098	2,383,080
Capital assets	297,826	321,234
Intangible assets	428,071	509,776
	2,953,995	3,214,090
	3,447,466	3,691,587
LIABILITIES		
Current liabilities		
Accounts payable and accrued liabilities	202,395	271,176
Deferred registration fees	2,209,494	2,628,560
	2,411,889	2,899,736
Deferred lease incentives	144,126	160,140
	2,556,015	3,059,876
NET ASSETS		
Invested in capital and intangible assets	725,897	831,010
Unrestricted	165,554	(199,299)
	891,451	631,711
	3,447,466	3,691,587

Summary Statement of Operations

Year ended December 31	2020	2019
	\$	\$
Revenues		
Registration fees	5,001,843	5,458,770
Investment income	46,117	52,000
	5,047,960	5,510,770
Expenses		
Human resources	2,959,440	2,726,221
Operating	884,821	1,019,735
Communications and legal	450,245	663,758
Committee meetings	83,535	165,627
Education and quality assurance	120,634	234,046
Amortization - capital assets	85,159	169,650
Amortization - intangible assets	204,386	199,082
	4,788,220	5,178,119
Excess of revenues over expenses for year	259,740	332,651

Note to Summary Financial Statements

December 31, 2020

1. Basis of presentation

These summary financial statements are derived from the audited financial statements of the College of Medical Radiation and Imaging Technologists of Ontario (the “College”) for the year ended December 31, 2020, which were prepared in accordance with Canadian accounting standards for not-for-profit organizations.

Management prepared these summary financial statements using the following criteria:

- (a) the summary financial statements include a statement for each statement included in the audited financial statements, except for the statements of changes in net assets and cash flows;
- (b) information in the summary financial statements agrees with the related information in the audited financial statements; and
- (c) major subtotals, totals and comparative information from the audited financial statements are included.

The audited financial statements of the College are available on the College website.

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CMRITO
Regulator of medical radiation and
imaging technologists in Ontario



By email to: Robert.Francis@ontario.ca

June 9, 2021

Robert Francis
Director, Strategic Policy Branch
Ministry of Health
10th Flr, 438 University Ave
Toronto, ON M7A 1N3

Dear Mr. Francis:

RE: Consultation on the *Healing Arts Radiation Protection Act*

The College of Medical Radiation and Imaging Technologists of Ontario (CMRITO) is the regulator of medical radiation and imaging technologists in Ontario. Our primary responsibility is to serve and protect the public interest and we welcome the opportunity to provide submissions regarding the *Healing Arts Radiation Protection (HARP) Act* from that perspective.

We have worked collaboratively with the Ontario Association of Medical Radiation Sciences (OAMRS) and the Ontario Association of Radiology Managers (OARM) to develop the attached submission. While we believe that the HARP Act provides essential protection to the public by prescribing who can order and apply ionizing radiation to human beings in Ontario, our submission provides suggestions that would eliminate red tape and promote more efficient oversight while still protecting the public.

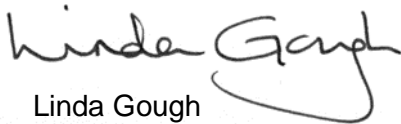
Finally, the CMRITO would like to once again request amendments to Regulation 543 under the HARP Act, to correct an unintended consequence of the regulation with respect to access to CT technology in dental practice.

In 2011, Cabinet passed amendments to Regulation 543 under the HARP Act with respect to access to CT technology in dental practice. While the CMRITO welcomed the principle objective of the regulatory change – providing access to CT technology in dental practice – specific language that requires a medical radiation and imaging technologist (MRIT) to be “supervised” by a member of the Royal College of Dental Surgeons of Ontario (RCDSO) for the operation of a dental CT scanner represents a major concern. Operation of a CT scanner is within the scope of practice for an MRIT and MRITs perform thousands of CT scans each year, safely, competently and without the supervision of other health professionals, such as physicians. While it is true that the MRIT operates a dental CT scanner on the *order* of a dentist, the order authorizes the performance of a dental CT scan. It does not imply that the

ordering dentist is supervising the performance of the scan by the MRT, who is competent to perform the dental CT scan independently.

Thank you for considering our submissions on this important piece of legislation that has fulfilled its objective of protecting patients undergoing x-ray examinations and procedures in Ontario. Please don't hesitate to contact me directly if you require additional information or have any questions.

Yours sincerely,



Linda Gough
Registrar & CEO

CC:

CMRITO Council

Sean Court, Assistant Deputy Minister

Allison Henry, Director

Greg Toffner, President & CEO, OAMRS

John Lai, Executive Director, OARM

Incl:

- Supporting Business Investment and Prosperity During COVID-19, Consultation on Healing Arts Radiation Act to enable use of emerging technology without compromising patient safety, A joint submission made by: Ontario Association of Medical Radiation Sciences, Ontario Association of Radiology Managers & College of Medical Radiation and Imaging Technologists of Ontario, June 9, 2021
- Healing Arts Radiation Protection Act, with proposed amendments
- R.R.O. 1990, Regulation 543, X-Ray Safety Code, with proposed amendments



SUPPORTING BUSINESS INVESTMENT AND PROSPERITY DURING COVID-19

Consultation on Healing Arts Radiation Protection Act to enable use of emerging technology without compromising patient safety

A joint submission made by:

Ontario Association of Medical Radiation Sciences
Ontario Association of Radiology Managers
College of Medical Radiation and Imaging Technologists of Ontario

June 9, 2021

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College of Medical Radiation and Imaging Technologists of Ontario (CMRITO)	12

Introduction

In April 2021, the Government of Ontario announced new red tape and burden reduction measures intended to minimize existing barriers on businesses and support a long-term recovery plan. This included a commitment to consult on opportunities to enhance the *Healing Arts Radiation Protection Act* (HARPA) to better enable innovation and the use of new and emerging technology. HARPA regulates the use of ionizing radiation to human beings in Ontario, which can be dangerous if used incorrectly. HARPA also regulates the installation, use and quality control of X-ray machines in Ontario with a strong mandate of protecting patients, the public, and workers from unnecessary exposure to ionizing radiation.

The consultation is an opportunity to review concerns under HARPA that impede the use of new and emerging technology and create unnecessary barriers to practice. The consultation builds on previous reviews of HARPA.

This submission articulates concerns and proposes recommendations for legislative and regulatory amendments that:

- ensures the continued safe use of ionizing radiation to the public;
- better enables innovation and the use of new technology, or improves clarity and implementation of the legislation;
- can be implemented within the existing HARPA framework;
- are within the scope of the provincial government; and,
- do not compromise safety and quality standards.

Each of the recommendations offered in this submission is supported by a rationale that accords with the purpose and scope of the consultation.

Background

Patients in Ontario deserve safe and high-quality x-ray examinations and procedures through the lowest exposure possible to ionizing radiation, ordered by only qualified and authorized regulated health professionals, and administered by qualified and authorized regulated health professionals, at the lowest possible cost to the publicly funded health care system. The *Healing Arts Radiation Protection Act* (HARPA) was world-leading patient safety legislation when it came into force in 1980 and was put into place to address the inconsistent and sometimes excessive use of ionizing radiation that patients were receiving from medical imaging procedures. Because technology and practice has evolved significantly since the introduction of HARPA and continues to evolve at light speed, much of the technical standards and requirements set out in HARPA and its regulations are woefully out of date which contributes to restrictive and slow implementation of new equipment and procedures. Ontario's legislation and regulations must be more flexible and allow for adaption to best practices in radiation protection, changes in technology, and changes in medical and related practices. Modernizing the HARPA

will enable innovation and the use of new technology, contributing to the objective of high-quality care¹, consistent standards, and reduced costs to the health care system.

Overview

A number of jurisdictions in Canada and the United States have modernized their legislative and regulatory systems to enable innovation and the use of new medical radiation technology. Manitoba and Alberta, for example, avoid specifying quality control requirements directly in regulation, and instead leverage standards set by external bodies such as accreditors or professional colleges to create a modernized, more flexible, and responsive legislative and regulatory framework. Similarly, rather than attempting to replicate standards already developed, the federal U.S. government refers to the standards of accrediting bodies that have the right expertise and that are continually updating their standards based on best evidence.² Ontario can adopt this more flexible and innovative approach by revoking, clarifying or otherwise simplifying various sections of HARPA and its regulations that have become burdensome to manufacturers and healthcare managers and practitioners due to the ongoing evolution in practice and innovations in the use of new and existing technologies. Most provinces defer to the federal legislation and guidelines regarding the use of medical x-ray technology.

Red Tape Reduction

Most of the current red tape and administrative barriers and inefficiencies are due to policy and implementation decisions made by the Licensing and X-ray Inspection branch of the Ministry of Health (MOH) and are not the result of restrictions in the legislation.

There are many opportunities open to the MOH to leverage technology and process improvements to implement a modernized oversight system that better reflects the fact that this is a sector subject to several layers of regulation, some of which did not exist at the time HARPA was brought in, including the regulation of health professionals under the Regulated Health Professions Act. This can be accomplished without amending the legislation. The administration and enforcement of HARPA is the responsibility of the Minister of Health and therefore MOH already has the authority to implement more appropriate policies and administrative processes that better reflect the evolving needs of the health sector and support innovation without sacrificing public protection.

The inspection and enforcement process should be modernized to reflect the concepts of 'right touch' and risk-based regulation, and the approval process for the installation of radiation emitting devices should be improved. The current provisions in the Act related to the approval

¹ Ontario Association of Medical Radiation Sciences. Modernization Recommendations on the Healing Arts and Radiation Protection Act and Its Regulations.

² Report and Recommendations on Modernizing Ontario's Radiation Protection Legislation. Health Quality Ontario (2016).

process are quite broad and high-level. This permits the approval process itself to be easily modernized and streamlined without amending the legislation. The current barriers to efficient approvals relate to the application and narrow interpretation of Reg. 543. This red tape could be removed and a streamlined, modernized application process introduced that continues to protect the public but that also reflects modern equipment standards and permits innovation.

The MOH and Director of X-Ray Safety requires the leadership of a scientific expert who understands the science of x-ray safety and x-ray technology, and who can exercise good judgement in the approval regime governing equipment procurement, installation, and inspection. A lay person who is not an expert does not have the knowledge, skill, or judgement to understand new and emerging technology or to evaluate installations of x-ray devices or oversee the inspection of x-ray devices or understand how the equipment is used in clinical practice. It is therefore strongly recommended that the Manager of the Licensing and X-Ray Safety branch be a legally qualified medical practitioner, a legally qualified medical or health physicist, or a member of the College of Medical Radiation and Imaging Technologists of Ontario.

The leadership of a scientific expert in this key role could potentially save millions of dollars of red tape at no additional cost to the government.

Recommendations

The legislation and regulations model should ensure that the patients continue to be protected by limiting who can order and apply ionizing radiation to those regulated professions that are qualified and authorized, but also be flexible enough to adapt to changing practices in radiation protection, innovations and changes in technology, and changes in medical radiation examinations and procedures. The legislative and regulatory model in Ontario should accord with the principles and standards outlined by Health Quality Ontario in its report on modernizing Ontario's radiation protection legislation.³ These principles ensure that the system provides oversight and accountability; is adaptable and flexible; is based on best evidence; and minimizes unnecessary burden and confusion.

The table below outlines the sections of HARPA and its regulations that can be revoked and/or amended. Each of these recommendations better enables innovation and the use of new technology; and/or improves clarity and implementation of the legislation; can be implemented within the existing HARPA framework; is within the scope of the provincial government; and does not compromise safety and quality standards. Our proposed amendments are made in blue text and deletions are in red text. A brief rationale and explanation are provided for each recommendation.

³ Health Quality Ontario (2016).

Legislation

Few changes are required to the Act. However, the Ministry may consider removing the definition of specialty X-ray equipment, such as C.A.T. scanners, and rely on the general definition of X-ray machines for the purposes of the legislation. Specialty equipment quality control and safety standards can then be addressed under policy rather than legislation, thereby making the approval and safety processes more nimble and able to react quickly to changes in technology.

If these broader changes are not made to the Act, then there are immediate amendments that would assist in addressing the concerns set out above, which are set out in the Table 1 below, including amendments to Section 9 (1). Other changes to the Act are highlighted in the appended Act. All references to “C.A.T.” in the Act should be changed to “CT” or “Computed Tomography,” as appropriate, and any outdated references to “film,” “darkrooms,” and “axial” tomography should be eliminated due to changes in technology.

TABLE 1: Legislation

Healing Arts Radiation Protection Act, R.S.O. 1990, c. H.2	
Section	9 (1)
Recommendation	Amend
Rationale	Removes red tape by expanding the role of the radiation protection office to include those who are qualified and would provide cost savings to the system
Amendment	<p>Radiation protection officer</p> <p>9 (1) The owner of a portable X-ray machine or an installed X-ray machine shall designate a person as the radiation protection officer for the portable X-ray machine or the facility in which the X-ray machine is installed if he or she meets the qualifications prescribed by the regulations and is,</p> <ul style="list-style-type: none"> (a) a legally qualified medical practitioner; (b) a legally qualified medical or health physicist; (c) a member of the Royal College of Dental Surgeons of Ontario; (d) a member of the College of Medical Radiation and Imaging Technologists of Ontario; (e) a member of the College of Chiropractors of Ontario who has been continuously registered as a chiropractor under the <i>Chiropractic Act</i> and the <i>Chiropractic Act, 1991</i> since before November 1, 1980 or who is a graduate of a four-year course of instruction in chiropractic; or

	(f) a member of the College of Chiropractors of Ontario. 2011, c. 1, Sched. 6, s. 2 (5).
Explanation	Removes red tape (reduces legal restrictions), expanding the number of professionals who can serve as radiation protection officers. Particularly helpful in small and/or rural hospitals and independent health facilities with limited budgets, staffing and access to professional staff. May reduce staffing and costs in certain work settings. This recommendation is also consistent with past approved consultations.

Regulation

Many sections of the Regulation (Reg. 543) to the Act are now obsolete and could be revoked to reduce red tape, eliminate confusion, and lower health system costs. Specific specialty equipment quality control and safety standards can then be addressed under policy rather than regulation, thereby making the approval and safety processes more nimble and able to react quickly to changes in technology.

If these broader changes are not made to the regulation, then there are immediate amendments that would assist in addressing the concerns set out above, which are set out in the Table 2 below. The major proposed changes to the Regulation are highlighted (in grey) in Table 2 below. All relevant standards and measures used in Reg. 543, including those provided in the tables, should be updated in compliance with the standards and measures established by the National Council on Radiation Protection and Measures (NCRP). The NCRP provides the international industry standards. Other minor proposed changes to Reg. 543 are highlighted in the appended Regulation.

TABLE 2: Regulation

R.R.O. 1990, Reg. 543: X-RAY SAFETY CODE (under HARP Act, R.S.O. 1990, c. H.2)	
Section	1. Definitions: "CT Scanner"
Recommendation	Amend
Rationale	Removes red tape, better enables innovation and the use of new technology; improves clarity and implementation of the legislation
Amendment	"CT scanner" means an X-ray machine that is a computed computerized tomography machine system or subsystem and that is able to generate a volumetric representation of the human body using a multitude of X-rays at a multitude of orientations, and includes any such device regardless of its

	common name or brand name or any other way it is referred to, including, without limiting the generality of the foregoing, a computerized tomography scanner or computerized axial tomography scanner
Explanation	Removes significant red tape and clarifies the implementation of the legislation. The current definition is confusing and highly problematic. It has been grossly misapplied and misinterpreted, causing significant barriers to equipment procurements and the integration of new and emerging technologies. This outdated definition has been and continues to be mistakenly applied to non-CT x-ray machines (such as general x-ray, mammography, fluoroscopy, magnetic resonance imaging, and ultrasound devices capable of generating a volumetric representation of the human body), causing millions or even tens of millions of dollars of wasted taxpayer money due to needless red tape for manufacturers and owners of the X-ray equipment additional construction expenses and delays, all of which provide no additional benefit to patient safety and leads to delays in providing important diagnostic services to patients. This definition has no relevance to new and emerging technologies, which should be exempted from ministerial oversight regarding “CT scanners.” This change will separate CT from other ionizing radiation equipment that are capable of producing volumetric 3D imagines using volumetric data reconstructions.

Section	(3) 1 – primary and secondary protective barriers for x-ray machine installation
Recommendation	Amend
Rationale	Removes red tape, better enables innovation and the use of new technology; improves clarity and implementation of the legislation
Amendment	<p>3. (1) Every installation of an x-ray machine shall be shielded with a primary protective barrier and a secondary protective barrier so that;</p> <p style="padding-left: 40px;">(a) no x-ray worker receives a whole-body dose equivalent of more than 1 millisievert (100 millirem) per week; and</p> <p style="padding-left: 40px;">(b) no person, other than the patient undergoing an application of therapeutic or diagnostic x-rays, who is not an x-ray worker, receives a whole-body dose equivalent of more than 0.1 millisievert (10 millirem) per week.</p> <p>(2) The barriers referred to in subsection (1) shall comply with the standards contained in Structural Shielding Design for Medical X-Ray Imaging Facilities (NCRP Report ; no. 147), published by the National Council on Radiation Protection and Measures, or the most recent version of these standards. Appendix 2 of Safety Code 20A — X-Ray Equipment in Medical Diagnosis Part</p>

	A: Recommended Safety Procedures for Installation and Use, published by the Department of National Health and Welfare.
Explanation	Health Canada Safety Code 20A and other federal radiation Safety Codes are decades outdated. The international industry standard for protective barriers (i.e., shielding) is established by NCRP as above.

Section	5. (2)
Recommendation	Amend
Rationale	Improves clarity and implementation of the legislation
Amendment	(2) The owner of an x-ray machine that is installed in a public hospital approved under the Public Hospitals Act or in a private radiological clinic that has no legally qualified medical radiologist on staff is exempt from the requirement of subsection 9 (1) of the Act provided that the owner designates a member of the College of Medical Radiation and Imaging Technologists of Ontario who, in the opinion of the Director of x-ray Safety, is competent to act as radiation protection officer for the facility in which the x-ray machine is installed, or a person who has completed an accredited course of study in the principles of ionizing radiation, radiation dosimetry, practical aspects of X-ray use in medicine and/or dentistry, and relevant legislation as prescribed in Table 9.
Explanation	Removes red tape (reduces legal restrictions), expanding the number of professionals who can serve as radiation protection officers. Particularly helpful in small and/or rural hospitals and independent health facilities with limited budgets, staffing and access to professional staff. May reduce staffing and costs in certain work settings. This recommendation is also consistent with past approved consultations. This provision will allow anyone not included in 9. (1) to become an RPO of their facility.
Note	An additional table should be added at the end of Reg. 543 to outline the accredited course of study for designated radiation protection officers who would be exempt from the requirement of s. 9 (1) of the Act.

Section	5.1 (2)
Recommendation	Amend
Rationale	Improves clarity and implementation of the legislation
Amendment	(2) A member of a class of persons who, under subsection 5 (2) of the Act, is deemed to meet the qualifications to operate an X-ray machine for the irradiation of a human being may only use a CT scanner or a dental CT scanner for the purpose of generating a volumetric representation of a region of the human body only if section 5.2 or 5.3 of this Regulation applies, as applicable.
Explanation	Removes significant red tape and clarifies the implementation of the legislation. The current definition is confusing and highly problematic. It has been grossly misapplied and misinterpreted, causing significant barriers to equipment procurements and the integration of new and emerging technologies. This outdated definition has been and continues to be mistakenly applied to non-CT x-ray machines (such as general x-ray, mammography, fluoroscopy, magnetic resonance imaging, and ultrasound devices capable of generating a volumetric representation of the human body), causing millions or even tens of millions of dollars of wasted taxpayer money due to needless red tape for manufacturers and owners of the X-ray equipment additional construction expenses and delays, all of which provide no additional benefit to patient safety and leads to delays in providing important diagnostic services to patients. This definition has no relevance to new and emerging technologies, which should be exempted from ministerial oversight regarding “CT scanners.” This change will separate CT from other ionizing radiation equipment that are capable of producing volumetric 3D images using volumetric data reconstructions.

Table	
Recommendation	Add
Rationale	Improves clarity and implementation of the legislation
Amendment	<p>TABLE 9</p> <p>Principles of Ionizing Radiation</p> <ul style="list-style-type: none"> • Nature and types of radiation • X-ray production • X-ray interaction with matter • Effects of radiation on cells/body systems • Risk models • Elements of radiation exposure safety systems (e.g. shielding) <p>Practical Aspects of X-ray Use in Medicine and/or Dentistry</p> <ul style="list-style-type: none"> • Basics of image quality and dose metrics

	<ul style="list-style-type: none"> • Imaging techniques, standards and best practices • Impact of technical acquisition factors on dose/image quality • Principles of operation of X-ray machines and detectors • Communicating radiation dose results with staff and patients <p>Basic Radiation Dosimetry</p> <ul style="list-style-type: none"> • Units of measure • Report interpretation • Reference levels and achievable doses • ALARA principle <p>Relevant Legislation and Guidelines</p>
Explanation	<p>This table should be added at the end of Reg. 543 to outline the accredited course of study for designated radiation protection officers who would be exempt from the requirement of s. 9 (1) of the Act. Amending Reg. 543 as above (and adding this table) removes red tape (reduces legal restrictions), expanding the number of professionals who can serve as radiation protection officers. Particularly helpful in small and/or rural hospitals and independent health facilities with limited budgets and staffing. May reduce staffing and costs in certain work settings.</p>

Conclusion

The legislation and regulations model should ensure that the patients continue to be protected by limiting who can order and apply ionizing radiation to those regulated professions that are qualified and authorized, but also be a flexible and easily amended one to adapt to best practices in radiation protection, changes in technology, and changes in medical and related practices. Ontario can adopt this more flexible and innovative approach by revoking, clarifying or otherwise simplifying various sections of HARPA and its regulations that have become burdensome to manufacturers, owners of x-ray equipment including hospitals and diagnostic clinics, healthcare managers, and health care professionals due to the ongoing evolution in practice and innovations in the use of new and existing technologies. Each of the recommendations offered in this submission better enables innovation and the use of new technology; and/or improves clarity and implementation of the legislation; can be implemented within the existing HARPA framework; is within the scope of the provincial government; and does not compromise safety and quality standards.

The authors of this submission thank the Ministry for the opportunity to comment on HARPA and are available to discuss these recommendations with the Ontario government.

Organizational Profiles

The Ontario Association of Medical Radiation Sciences

The OAMRS was incorporated in 1935 and is a non-profit professional association that supports the Medical Radiation Sciences profession. The OAMRS is a registered educational institute, recognized both federally and provincially, and provides professional education across Canada through corporate training, certifications, online courses, webinars, and face-to-face and virtual seminars and conferences. The Association is the recognized advocate and voice for approximately 11,000 Medical Radiation Technologists (MRTs) and Diagnostic Medical Sonographers (DMSs) in Ontario and works with various levels of government and regulatory authorities at the provincial and federal levels. In addition to education and advocacy, the OAMRS also provides medical imaging professionals with access to comprehensive professional liability insurance (PLI), offers professional consulting and is involved in setting professional standards and advancing the profession. The OAMRS has many partners and external stakeholders provincially and nationally, including representation on Safe Imaging Canada, promoting best practices for radiation protection.

The Ontario Association of Radiology Managers

The Ontario Association of Radiology Managers was established in the early 1980's in response to the need for an educational and communication forum for Managers in Radiology (X-ray) Departments throughout the province of Ontario. A small group of dedicated radiology managers from across the province laid the groundwork for the formation of the OARM. The OARM provides opportunities for the exchange of ideas and information. Today our membership consists of incredible Imaging Leadership from academic, community and clinic sites. Our members function in roles as Directors, Managers, Team Leads, Charge Technologists, Supervisors and Professional Associates. They are dedicated to supporting connectedness and communication for the Imaging Leaders of today, by creating a positive impact on our health communities' futures of tomorrow. We are Outstanding, Accountable, Respectful and Managers.....We are the OARM.

College of Medical Radiation and Imaging Technologists of Ontario (CMRITO)

CMRITO is the regulatory body for medical radiation and imaging technologists in Ontario, and is established under the *Regulated Health Professions Act*, and the *Medical Radiation and Imaging Technology Act*. CMRITO's mission is to protect the public interest through the regulation of medical radiation and imaging technologists. CMRITO establishes standards of practice for the profession and sets entry to practice requirements for medical radiation and imaging technologists. Additionally, we ensure the continued competence of our members through our quality assurance program and address concerns from the public through our complaints and discipline process.

Healing Arts Radiation Protection Act

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Interpretation

1 (1) In this Act,

“Appeal Board” means the Health Services Appeal and Review Board under the *Ministry of Health and Long-Term Care Appeal and Review Boards Act, 1998*; (“Commission d’appel”)

“Director” means the Director of X-ray Safety appointed under section 19; (“directeur”)

“inspector” means an inspector appointed under section 20; (“inspecteur”)

“Minister” means the Minister of Health ~~and Long-Term Care~~; (“ministre”)

“owner”, when used with reference to an X-ray machine, means the owner or other person who has the management and control of the X-ray machine;
(“propriétaire”)

“regulations” means the regulations made under this Act; (“règlements”)

“X-ray equipment” includes X-ray imaging systems, processing equipment and equipment directly related to the production of images for diagnosis or directly related to irradiation with X-rays for therapy; (“matériel de rayons X”)

“X-ray machine” means an electrically powered device the purpose and function of which is the production of X-rays for the irradiation of a human being for a therapeutic or diagnostic purpose; (“appareil à rayons X”)

“X-rays” means artificially produced electromagnetic radiation with peak energy greater than five kilovolts. (“rayons X”)

Shielding

(2) In this Act, a reference to the installation of an X-ray machine includes a reference to the shielding of the area in which the X-ray machine is installed.

Section Amendments with date in force (d/m/y)

Administration of Act

2 The Minister is responsible for the administration of this Act.

Approval of installation

3 (1) No person shall install an X-ray machine unless the Director has issued written approval for the installation.

Issuance of approval

(2) Subject to subsection (3), any person who applies in accordance with this Act and the regulations for written approval for the installation of an X-ray machine and,

(a) submits to the Director the plans, specifications and information prescribed by the regulations;

(b) who meets the requirements of this Act and the regulations; and

(c) pays the fee for the approval established by the Minister,

is entitled to be issued the written approval.

Criteria

(3) The Director may refuse to approve a proposed installation of an X-ray machine where,

(a) the proposed installation will not comply with this Act or the regulations;

(b) the application therefore is incomplete;

(c) the plans, specifications and information required by this Act and the regulations in respect of the installation of the X-ray machine have not been submitted to the Director or are incomplete; or

(d) any fees due are unpaid.

Installation

(4) Where the Director has issued written approval for the installation of an X-ray machine, no person shall install the X-ray machine other than in accordance with the plans, specifications and information on the basis of which the Director issued the written approval.

Revocation of approval

(5) Subject to section 10, the Director may revoke an approval where it was issued on mistaken or false information.

Approval of change

(6) Where the Director has given written approval for the installation of an X-ray machine and the X-ray machine has been installed in accordance with the plans, specifications and other information on the basis of which the Director issued the approval, no person shall change the installation without the written approval of the Director for the change.

Application of subss. (1-5)

(7) Subsections (1) to (5) apply with necessary modifications in respect of a change in an installation of an X-ray machine and, for the purpose, changing an installation of an X-ray machine shall be deemed to be installing an X-ray machine.

Section Amendments with date in force (d/m/y)

Registration

4 (1) The owner of an X-ray machine shall not operate the X-ray machine or cause or permit the X-ray machine to be operated for the irradiation of a human being unless the X-ray machine, the location of the X-ray machine and the name and business address of the owner of the X-ray machine are registered with the Director.

Application

(2) Upon the application of the owner of an X-ray machine and upon payment of the fee established by the Minister, the Director shall register the X-ray machine, its location and the name and business address of the owner thereof.

Notice of change

(3) An owner of an X-ray machine registered with the Director who changes his, her or its business address shall give written notice of the change to the Director within fifteen days of the occurrence of the change.

(4), (5) Repealed: 2011, c. 1, Sched. 6, s. 2 (1).

Section Amendments with date in force (d/m/y)

Use of X-ray machine

5 (1) No person shall operate an X-ray machine for the irradiation of a human being unless the person meets the qualifications and requirements prescribed by the regulations.

Persons deemed to be qualified

(2) The following persons shall be deemed to meet the qualifications prescribed by the regulations:

1. A legally qualified medical practitioner.
2. A member of the Royal College of Dental Surgeons of Ontario.
3. A member of the College of Chiropodists of Ontario who has been continuously registered as a chiropodist under the *Chiropody Act* and the *Chiropody Act, 1991* since before November 1, 1980 or who is a graduate of a four-year course of instruction in chiropody.
4. A member of the College of Chiropractors of Ontario.
5. Repealed: 1998, c. 18, Sched. G, s. 51 (2).
6. Repealed: 2011, c. 1, Sched. 6, s. 2 (1).

7. A member of the College of Medical Radiation and Imaging Technologists of Ontario.

8. A member of the College of Dental Hygienists of Ontario.

Section Amendments with date in force (d/m/y)

Instructions required

6 (1) No person shall operate an X-ray machine for the irradiation of a human being unless the irradiation has been prescribed by,

(a) a legally qualified medical practitioner;

(b) a member of the Royal College of Dental Surgeons of Ontario;

(c) a member of the College of Chiropodists of Ontario who has been continuously registered as a chiropodist under the *Chiropody Act* and the *Chiropody Act, 1991* since before November 1, 1980 or who is a graduate of a four-year course of instruction in chiropody;

(d) a member of the College of Chiropractors of Ontario; or

(e) Repealed: 1998, c. 18, Sched. G, s. 51 (4).

(f) Repealed: 2011, c. 1, Sched. 6, s. 2 (2).

(g) a member of the College of Nurses of Ontario who holds an extended certificate of registration under the *Nursing Act, 1991*.

Same

(2) Despite subsection (1), a person may operate an X-ray machine for the irradiation of a human being if the irradiation is prescribed in a manner permitted by the regulations by a member of the College of Physiotherapists of Ontario.

(3) Repealed: 2009, c. 26, s. 9 (2).

Section Amendments with date in force (d/m/y)

Causing or permitting use of X-ray machine

7 No person shall cause or permit any other person to operate an X-ray machine for the irradiation of a human being unless the other person meets the qualifications and requirements prescribed by the regulations.

X-ray machine standards

8 No person shall operate an X-ray machine for the irradiation of a human being, unless the X-ray machine meets the standards prescribed by the regulations. R.S.O. 1990, c. H.2, s. 8.

Radiation protection officer

9 (1) The owner of a portable X-ray machine or an installed X-ray machine shall designate a person as the radiation protection officer for the portable X-ray machine or the facility in which the X-ray machine is installed if he or she meets the qualifications prescribed by the regulations and is,

(a) a legally qualified medical practitioner;

(b) a legally qualified medical or health physicist;

(c) a member of the Royal College of Dental Surgeons of Ontario;

(d) a member of the College of Medical Radiation and Imaging Technologists of Ontario;

(d) a member of the College of Chiropractors of Ontario who has been continuously registered as a chiropractor under the *Chiropractic Act* and the

Chiropody Act, 1991 since before November 1, 1980 or who is a graduate of a four-year course of instruction in chiropody; or

(e) a member of the College of Chiropractors of Ontario. 2011, c. 1, Sched. 6, s. 2 (5).

(2), (3) Repealed: 2011, c. 1, Sched. 6, s. 2 (5).

Responsibilities

(4) A radiation protection officer for a facility is responsible,

(a) for ensuring that every X-ray machine operated in the facility is maintained in safe operating condition; and

(b) for such other matters related to the safe operation of each X-ray machine in the facility as are prescribed by the regulations.

Section Amendments with date in force (d/m/y)

Proposal to refuse to issue or to revoke an approval

10 (1) Where the Director proposes to refuse to issue or to revoke an approval under section 3 for the installation or for a change in the installation of an X-ray machine, the Director shall serve notice of his or her proposal, together with written reasons therefor, on the applicant or the person to whom the approval was issued, as the case may be.

Notice

(2) A notice under subsection (1) shall inform the applicant or person to whom the approval was issued that he or she is entitled to a hearing by the Appeal Board if, within fifteen days after the notice under subsection (1) is served on him or her, the applicant or person gives written notice to the Director and the Appeal Board requiring a hearing by the Appeal Board and the applicant or person may so require such a hearing.

Powers of Appeal Board

(3) Where a hearing is required under subsection (2), the Appeal Board shall appoint a time for and hold the hearing and may direct the Director to carry out his or her proposal or refrain from carrying out his or her proposal and to take such action as the Appeal Board considers the Director ought to take in accordance with this Act and the regulations and, for such purposes, the Appeal Board may substitute its opinion for that of the Director.

Hearing

11 (1) The Director, the applicant or other person who has required the hearing and such other persons as the Appeal Board may specify are parties to proceedings before the Appeal Board under this Act.

Notice of hearing

(2) Notice of a hearing shall afford the applicant or other person who has required the hearing a reasonable opportunity to show or to achieve compliance before the hearing with all lawful requirements for the issue of the approval of the Director.

Examination of documentary evidence

(3) Any party to proceedings under section 10 shall be afforded an opportunity to examine before the hearing any written or documentary evidence that will be produced or any report the contents of which will be given in evidence at the hearing.

Members holding hearing not to have taken part in investigation, etc.

(4) Members of the Appeal Board holding a hearing shall not have taken part before the hearing in any investigation or consideration of the subject-matter of the hearing and shall not communicate directly or indirectly in relation to the subject-matter of the hearing with any person or with any party or the party's or person's representative except upon notice to and opportunity for all parties to participate, but the Appeal Board

may seek legal advice from an adviser independent from the parties and in such case the nature of the advice shall be made known to the parties in order that they may make submissions as to the law.

Recording of evidence

(5) The oral evidence taken before the Appeal Board at a hearing shall be recorded and, if so required, copies of a transcript thereof shall be furnished upon the same terms as in the Superior Court of Justice.

Findings of fact

(6) The findings of fact of the Appeal Board pursuant to a hearing shall be based exclusively on evidence admissible or matters that may be noticed under sections 15 and 16 of the *Statutory Powers Procedure Act*.

(7) Repealed: 1998, c. 18, Sched. G, s. 51 (7).

Release of documentary evidence

(8) Documents and things put in evidence at a hearing shall, upon the request of the person who produced them, be released to the person by the Appeal Board within a reasonable time after the matter in issue has been finally determined.

Section Amendments with date in force (d/m/y)

Appeal to court

12 (1) Any party to the proceedings before the Appeal Board under this Act may appeal from its decision or order to the Divisional Court in accordance with the rules of court.

Record to be filed in court

(2) Where any party appeals from a decision or order of the Appeal Board, the Appeal Board shall forthwith file in the Superior Court of Justice the record of the proceedings

before it in which the decision was made, which, together with the transcript of evidence if it is not part of the Appeal Board's record, shall constitute the record in the appeal.

Minister entitled to be heard

(3) The Minister is entitled to be heard, by counsel or otherwise, upon the argument of an appeal under this section.

Powers of court on appeal

(4) An appeal under this section may be made on questions of law or fact or both and the court may affirm, alter or rescind the decision of the Appeal Board and may exercise all powers of the Appeal Board to direct the Director to take any action which the Appeal Board may direct him or her to take and as the court considers proper and for such purposes the court may substitute its opinion for that of the Director or of the Appeal Board, or the court may refer the matter back to the Appeal Board for rehearing, in whole or in part, in accordance with such directions as the court considers proper.

Section Amendments with date in force (d/m/y)

Order by Director or inspector

13 (1) The Director or an inspector may make a written order directed to any one or more of,

- (a) the owner of an X-ray machine;
- (b) any person who operates the X-ray machine; or
- (c) the radiation protection officer for the facility in which the machine is installed or, in the case of a portable X-ray machine, the radiation protection officer for the portable X-ray machine,

requiring the taking of such action as, in the opinion of the Director or inspector, upon reasonable and probable grounds, is necessary in order to achieve compliance with this Act or the regulations, or both, or is necessary or advisable to protect the health or safety of any patient or member of the public in or near the premises where the X-ray machine is operated.

Notice of proposal to make order

(2) The Director or the inspector who proposes to make an order under subsection (1) shall serve notice of the proposal, together with written reasons therefor, on the person to whom he or she proposes to direct the order.

Notice requiring hearing

(3) A notice under subsection (2) shall inform the person that the person is entitled to a hearing by the Appeal Board if the person gives notice in writing to the Director and the Appeal Board, within fifteen days after the notice under subsection (2) is served on the person, requiring a hearing, and the person may so require such a hearing.

Power of Director or inspector where no hearing

(4) Where a person served with notice under subsection (2) does not require a hearing in accordance with subsection (3), the Director or inspector may carry out the proposal stated in his or her notice.

Powers of Appeal Board where hearing

(5) Where a hearing is required under subsection (3), the Appeal Board shall appoint a time for and hold the hearing and by order may direct the Director or the inspector to carry out his or her proposal or refrain from carrying out his or her proposal and to take such action as the Appeal Board considers the Director or the inspector ought to take in accordance with this Act and the regulations and, for such purposes, the Appeal Board may substitute its opinion for that of the Director or the inspector.

Application of ss. 11, 12

(6) Sections 11 and 12 apply with necessary modifications to a proceeding under this section.

Emergency order

14 (1) Where the Director or an inspector is of the opinion, upon reasonable and probable grounds, that an emergency exists by reason of danger to the health or safety of any patient or member of the public in respect of an X-ray machine or the installation, operation or maintenance of an X-ray machine, the Director or inspector may make an oral or written order directed to any one or more of,

- (a) the owner of the X-ray machine;
- (b) any person who operates the X-ray machine;
- (c) the radiation protection officer for the facility in which the X-ray machine is installed or, in the case of a portable X-ray machine, the radiation protection officer for the portable X-ray machine.

Contents of order

(2) An order under subsection (1) may require the person to whom it is directed to stop operating or stop the operation of the X-ray machine either permanently or for a specific period of time.

Immediate appeal

(3) A person affected by an order under subsection (1) may appeal therefrom in person or by an agent and by telephone or otherwise to the Director, and the Director, after receiving the submissions of the person and of the inspector, shall vary, rescind or confirm the order.

Written reasons for order

(4) Where the Director makes an order under subsection (1) or varies or confirms an order under subsection (3), the Director shall forthwith thereafter serve a written copy of the order or the order as varied or confirmed, together with written reasons therefor, upon the person to whom the order is directed.

Notice

(5) An order under subsection (1) or an order as varied or confirmed under subsection (3) shall inform the person to whom it is directed that the person is entitled to a hearing by the Appeal Board if the person gives to the Director and the Appeal Board, within fifteen days after a copy of the order or the order as varied or confirmed is served notice in writing requiring a hearing, and the person may so require such a hearing.

Effect of order

(6) Although an appeal is taken against an order under subsection (1) or an order as varied or confirmed under subsection (3), the order is effective at and from the time it is communicated to the person to whom it is directed until it is confirmed, varied or rescinded on appeal and the person shall comply with the order immediately.

Powers of Appeal Board

(7) Where a hearing is required under subsection (5), the Appeal Board shall appoint a time for and hold the hearing and the Appeal Board by order may confirm, alter or rescind the order of the Director and for such purposes the Appeal Board may substitute its opinion for that of the Director.

Application of ss. 11, 12

(8) Sections 11 and 12 apply with necessary modifications to proceedings under this section.

Where order rescinded by Director

(9) The Director by an order may rescind an order made under subsection (1) or an order as varied or confirmed and in such case shall serve a copy of the order upon the person to whom the order or the order as varied or confirmed was directed.

15 Repealed: 2011, c. 9, Sched. 19, s. 2.

Section Amendments with date in force (d/m/y)

16-18 Repealed: 2011, c. 9, Sched. 19, s. 2.

Section Amendments with date in force (d/m/y)

Director of X-ray Safety

19 The Minister shall appoint an employee of the Ministry of Health and Long-Term Care as Director of X-ray Safety for the purposes of this Act and the regulations.

Section Amendments with date in force (d/m/y)

Inspectors

20 (1) The Minister may appoint in writing one or more employees in the Ministry of Health and Long-Term Care or other persons as inspectors for the purposes of this Act and the regulations and in an appointment may limit the authority of an inspector in such manner as the Minister considers necessary or advisable.

Certificate of appointment

(2) The Minister shall issue to every inspector appointed under subsection (1) a certificate of appointment.

Production of certificate

(3) Every inspector, in the execution of duties under this Act and the regulations, shall produce his or her certificate of appointment upon request.

Inspection

(4) An inspector at all reasonable times may enter and inspect the premises and may inspect the operations and all records and radiographs where an X-ray machine is installed or operated and may require the production of proof that any person who operates an X-ray machine meets the qualifications and requirements prescribed by the regulations to ensure that this Act and the regulations are complied with.

Powers of inspector

(5) Upon an inspection under this section, an inspector is entitled to make tests and examinations to determine whether or not X-ray machines are installed and used in compliance with this Act and the regulations.

Copies

(6) Upon an inspection under this Act, an inspector, upon giving a receipt therefor, may remove any material that relates to the purpose of the inspection in order to make a copy thereof, but the copying shall be carried out with reasonable dispatch and the material in question shall be promptly thereafter returned to the person being inspected.

Admissibility of copies

(7) Any copy made as provided in subsection (6) and purporting to be certified by an inspector is admissible in evidence in any action, proceeding or prosecution as proof, in the absence of evidence to the contrary, of the original.

Obstruction

(8) No person shall obstruct an inspector or withhold or destroy, conceal or refuse to furnish any information or thing required by the inspector for the purposes of an inspection.

Section Amendments with date in force (d/m/y)

Information confidential

21 (1) The Director, each inspector appointed under this Act and each person engaged in the administration of this Act and the regulations shall preserve secrecy with respect to all matters that come to his or her knowledge in the course of employment or duties pertaining to the health of any person and shall not communicate any such matter to any other person except as provided in this Act.

Exceptions

(2) A person referred to in subsection (1) may furnish information pertaining to the health of a person,

- (a) in connection with the administration of this Act or any Act of Ontario or of Canada related to the delivery of health services or to safety in relation to irradiation from X-rays or regulations made thereunder;
- (b) in proceedings under this Act or the regulations;
- (c) to the person who provided a service to which the information is related, the person's solicitor, other personal representative, executor, administrator, guardian of property, trustee in bankruptcy or other legal representative; or
- (d) to the person who received the service to which the information is related, his or her solicitor, personal representative, another person who has lawful custody of or is guardian for the person or other legal representative of the person.

Exception for professional discipline

(3) The Director may communicate information of the kind referred to in subsection (2) and any other information related thereto to the statutory body governing the profession

or to a professional association of which a person who provides a service referred to in subsection (2) is a member or governing the health practice practised by the person.

Section Amendments with date in force (d/m/y)

Regulations

22 The Lieutenant Governor in Council may make regulations,

- (a) prescribing any matter required or authorized by this Act to be, or referred to in this Act as, prescribed by the regulations;
- (b) prescribing classes of or in respect of any matter that is or may be prescribed under the regulations;
- (c) limiting the application of any regulation to any one or more of the classes prescribed under clause (b);
- (d) exempting any class of persons, X-ray machines or facilities from any provision of this Act or the regulations and attaching conditions to any such exemption;
- (e) governing or limiting, or both, the purposes for which any class of persons may operate X-ray machines or any class of X-ray machines;
- (f) prescribing an X-ray Safety Code including,
 - (i) prescribing standards for the installation of X-ray machines,
 - ~~(ii) prescribing standards for darkrooms and darkroom procedures associated with the operation of X-ray machines or any class of X-ray machines,~~

- (iii) prescribing standards and procedures for the operation of X-ray machines and X-ray equipment or any class of X-ray machines or X-ray equipment,
- (iv) prescribing physical standards for persons who operate X-ray machines or X-ray equipment,
- (v) prescribing standards and procedures for the purpose of minimizing exposure to X-rays of patients and members of the public,
- (vi) governing the testing of X-ray machines and X-ray equipment including, but not limited to, prescribing tests in respect of X-ray machines and X-ray equipment and requiring persons operating X-ray machines and X-ray equipment and radiation protection officers to perform the tests,
- (vii) prescribing programs for evaluation of performance of procedures and observance of standards,
- (viii) prescribing additional duties of radiation protection officers and persons who own or operate X-ray machines,
- (ix) prescribing standards of design, construction, operation and performance for X-ray machines and X-ray equipment operated in Ontario,
- (x) requiring compliance with any matter prescribed or governed under subclauses (i) to (ix);

- (g) governing the keeping of records by persons who own or operate X-ray machines and by radiation protection officers and requiring and governing returns by them to the Director;
- (h) prescribing classes of radiation protection officers and restricting or limiting the types of facilities or X-ray machines or both for which any such class may be designated as radiation protection officers;
- (i) prescribing subject-matters for courses of study in the operation of X-ray machines and X-ray equipment;
- (j) prescribing additional duties and powers of the Director and inspectors;
- (k) Repealed: 1997, c. 15, s. 4 (3).
- (l) adopting by reference, in whole or in part, with such changes as the Lieutenant Governor in Council considers necessary, any code or standard and requiring compliance with any code or standard that is so adopted.
- (m) Repealed: 1997, c. 15, s. 4 (3).

Section Amendments with date in force (d/m/y)

Fees

22.1 The Minister may establish and charge fees for registrations and approvals.

Section Amendments with date in force (d/m/y)

~~CT.A.T.~~ scanners

23 (1) In this section,

“hospital” has the same meaning as in the *Public Hospitals Act*. R.S.O. 1990, c. H.2, s. 23 (1).

Designations by Minister

(2) The Minister may designate,

- (a) a hospital or facility or a class of hospitals or facilities within which it is permitted to install or operate ~~computed~~~~computerized~~ ~~axial~~-tomography scanners; and
- (b) the number of ~~computed~~~~computerized~~ ~~axial~~-tomography scanners that may be installed or operated in such hospitals or facilities. 1998, c. 18, Sched. G, s. 51 (8).

Prohibition

(3) No person shall install or operate or cause or permit the installation or operation of a ~~computed~~~~computerized~~ ~~axial~~-tomography scanner unless it is installed and operated in a hospital or facility that is designated under subsection (2) or in a hospital or facility that is part of a class of hospitals or facilities that is designated under subsection (2). 1998, c. 18, Sched. G, s. 51 (8).

Same

(3.1) No person shall install or operate or cause or permit the installation or operation of more ~~computed~~~~computerized~~ ~~axial~~-tomography scanners in a hospital or facility than the number designated under subsection (2). 1998, c. 18, Sched. G, s. 51 (8).

Application

~~(4) This section does not apply in respect of a computerized tomography scanner that was installed before the 1st day of May, 1984. R.S.O. 1990, c. H.2, s. 23 (4).~~

Section Amendments with date in force (d/m/y)

Offence

24 (1) Every person is guilty of an offence who,

- (a) knowingly furnishes false information in an application under this Act or in any statement or return required to be furnished under this Act or the regulations;
- (b) fails to comply with any order, direction or other requirement made under this Act; or
- (c) contravenes any provision of this Act or the regulations. 2002, c. 18, Sched. I, s. 4.

Penalty, individual

- (2) Every individual who is convicted of an offence under subsection (1) is liable,
- (a) for a first offence, to a fine of not more than \$25,000 or to imprisonment for a term of not more than 12 months, or to both;
 - (b) for a subsequent offence, to a fine of not more than \$50,000 or to imprisonment for a term of not more than 12 months, or to both.

Same, corporation

- (3) Every corporation that is convicted of an offence under subsection (1) is liable to a fine of not more than \$50,000 for a first offence and to a fine of not more than \$200,000 for a subsequent offence.

No limitation

- (4) Section 76 of the *Provincial Offences Act* does not apply to a prosecution under this section.

Section Amendments with date in force (d/m/y)

Proceeding to prohibit continuation or repetition of contravention

25 Where any provision of this Act or the regulations or any order issued under this Act by the Director is contravened, despite any other remedy or any penalty imposed, the

Director may apply to the Superior Court of Justice for an order prohibiting the continuation or repetition of the contravention or the carrying on of any activity specified in the order that, in the opinion of the court, will or is likely to result in the continuation or repetition of the contravention by the person committing the contravention, and the court may make the order and it may be enforced in the same manner as any other judgment of the Superior Court of Justice.

Section Amendments with date in force (d/m/y)

Protection from personal liability

26 (1) No action or other proceeding for damages shall be instituted against the Director or an inspector for any act done in good faith in the execution or intended execution of his or her duty or for any alleged neglect or default in the execution in good faith of his or her duty.

Crown not relieved of liability

(2) Subsection (1) does not, by reason of subsection 8 (3) of the *Crown Liability and Proceedings Act, 2019*, relieve the Crown of liability in respect of a tort committed by a person mentioned in subsection (1) to which it would otherwise be subject, and the Crown is liable under that Act for any such tort in a like manner as if subsection (1) had not been enacted.

Section Amendments with date in force (d/m/y)

Service

27 (1) Any notice, order, decision or other document required to be given, served or delivered under this Act or the regulations is sufficiently given, served or delivered if delivered personally or sent by registered mail addressed to the person to whom it is required to be given, served or delivered at the latest address for service appearing on

the records of the Ministry or, where there is no address for service so appearing, at the address, if any, last known to the Director.

When service deemed made

(2) Where service is made by registered mail in accordance with subsection (1), the service shall be deemed to be made on the seventh day after the day of mailing unless the person on whom service is being made establishes that the person did not, acting in good faith, through absence, accident, illness or other cause beyond the person's control, receive the notice, order, decision or other document until a later date.

Healing Arts Radiation Protection Act

R.R.O. 1990, REGULATION 543

X-RAY SAFETY CODE

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1. In this Regulation,

“aluminum equivalent” of a material means the thickness of aluminum (Aluminum Association Type 1100) that affords the same attenuation as the material where the aluminum and the material are irradiated under the same conditions;

“attenuation” means the decrease in radiation intensity caused by absorption and scattering of x-rays in a medium;

“automatic exposure control” means a device that delivers a predetermined quantity of radiation to the image receptor by automatically controlling one or more technique factors;

“average peak kilovoltage” means the maximum kilovoltage developed in a single pulse of voltage applied to the anode of an x-ray tube averaged over at least twelve successive pulses;

“backscatter” means radiation reaching a point from material located more distant from the x-ray source than the point;

“beam limiting device” means a device that restricts the dimensions of the useful beam;

“cephalometric x-ray machine” means a dental x-ray machine that is used for the examination of the maxillofacial skeleton;

“chiropractic x-ray machine” means an x-ray machine that is used for the examination of the foot;

“coefficient of variation” means the ratio of the estimated standard deviation to the mean value of a series of measurements calculated using the following equation:

$$C = \frac{S}{\bar{X}} = \frac{1}{\bar{X}} \left[\sum_{i=1}^n (X_i - \bar{X})^2 \right]^{1/2} / (n-1)$$

where,

X_i = i th measurement

X = mean value of the measurements

S = estimated standard deviation

n = number of measurements

C = the coefficient of variation;

“control booth” means a defined area in which an x-ray worker operates an x-ray machine;

“control panel” means that part of an x-ray machine that contains the switches, knobs, keys, buttons or other controls accessible to the x-ray operator that are used to set technique factors manually or automatically;

“CT scanner” means an X-ray machine that is a computerized tomography ~~machine or subsystem and that is able to generate a volumetric representation of the human body using a multitude of X-rays at a multitude of orientations, and includes any such device regardless of its common name or brand name or any other way it is referred to, including, without limiting the generality of the foregoing, a computerized tomography scanner;~~

“darkroom” ~~means an enclosed space that is constructed to process light sensitive materials;~~

~~“density unit” means the relative amount of light transmitted through a processed film expressed on a common logarithmic scale;~~

“dental CT scanner” means a CT scanner that is used in the practice of dentistry and that is designed to produce images of the oral-facial complex only;

“dental x-ray machine” means an x-ray machine that is used outside the mouth to examine teeth, jaws and related structures;

“diagnostic x-ray machine” means an x-ray machine that is used for the examination of a human being but does not include a radiation therapy simulator or a ~~computed~~computerized transaxial tomographic x-ray machine;

“dose equivalent” means a quantity that expresses on a common scale the energy absorbed by a small mass of a body irradiated by a beam of radiation weighted by a factor describing the biological effectiveness of the radiation concerned;

“filter” means material that is placed in the useful beam to attenuate preferentially the lower energy or a specific energy range of x-rays;

“fluoroscopic x-ray machine” means an x-ray machine, an image receptor and the equipment associated with the x-ray machine and the image receptor that is used in fluoroscopy;

“fluoroscopy” means a mode of x-ray exposure in which the image receptor and associated equipment produce and display a visible image that is viewed by the operator during or subsequent to the exposure;

“general-purpose radiographic x-ray machine” means a radiographic x-ray machine that is not limited by design or adaptation to radiographic examination of a specific anatomical region;

“half-value layer” means the thickness of a specified material that attenuates the x-ray beam under conditions that minimize scattered radiation such that the exposure is reduced to one-half of its original value;

“image receptor” means a device that converts incident x-radiation into a visible image or into a form that can be made into a visible image by further transformation;

“lead equivalent” of material means the thickness of lead that affords the same attenuation as the material where the lead and the material are irradiated under the same conditions;

“leakage radiation” means all the radiation except the useful beam that comes from within the housing of an energized x-ray tube or the radiation that is produced when the exposure switch or timer of an x-ray machine is not activated;

“light field” means the area of light at a specified plane that is directly outlined by a beam limiting device;

“mammographic x-ray machine” means an x-ray machine that is used for the examination of the breast;

“manual exposure control” means a device that is used by an x-ray operator to set technique factors in order to deliver a predetermined quantity of radiation to the image receptor;

“mean glandular breast dose” means the absorbed dose in milligrays averaged over the central volume of the breast, assuming .5 centimetre adipose tissue above and below the region of the central volume of the breast;

“mobile x-ray machine” means an x-ray machine that can be moved from one location to another;

“occupancy” means the nature and extent of use of space adjacent to an x-ray machine;

~~“optical density” means the degree of opacity to visible light of a processed film expressed in density units;~~

“panoramic x-ray machine” means a tomographic unit used for the production of radiographs of the teeth, jaws and related structures ~~on a single film or radiograph~~;

“patient entrance exposure” means the x-ray exposure, excluding exposure arising from back-scattered radiation, in the centre of an x-ray beam at the position of the surface of the patient that is closest to the x-ray source;

“phantom” means an object that simulates a patient when placed in an x-ray beam for the purpose of testing an x-ray machine or image receptor;

“photofluorographic x-ray machine” means an x-ray machine that records photographically in reduced size the image produced on a fluorescent screen;

“primary protective barrier” means a barrier that is sufficient to attenuate the useful beam to a specified degree;

“protective accessory” means a device that is used to protect a person in an x-ray facility from receiving unnecessary radiation;

“secondary protective barrier” means a barrier that is sufficient to attenuate stray radiation to a specified degree;

“stationary x-ray machine” means an x-ray machine that is installed permanently in one location and includes a machine that is permanently installed in a truck, bus, train or other movable facility;

“technique factors” means the following conditions of operation of a diagnostic x-ray machine that can be selected by the operator:

1. The peak tube potential.
2. The tube current.

3. The exposure time.
4. The added filtration.
5. A combination of the variables set out in paragraphs 1 to 4.
6. The distance between the radiation source and the image receptor;

“tube housing assembly” means an x-ray tube housing that has an x-ray tube installed in it;

“useful beam” means the delineated beam of x-rays that passes through the tube housing and the beamlimiting aperture;

“whole-body-dose-equivalent” means the weighted average of the dose-equivalents received by all tissues in the body of an irradiated person;

“work-load” means the degree of use of an x-ray machine expressed in milliamperere minutes;

“x-ray exposure” means a quantity of x-rays delivered at a defined point in space or in a medium that is expressed in terms of the amount of electric charge produced by the radiation in a small mass of air located at the point;

“x-ray field” means the area of the intersection of a useful beam and one of the set of planes parallel to the plane of the image receptor;

“x-ray room” means a defined area where one or more permanently fixed x-ray machines and equipment are located;

“x-ray tube” means an evacuated envelope that is designed to produce x-rays by the bombardment of a metal target by accelerated electrons;

“x-ray worker” means a person who is qualified under the Act or the regulations to operate an x-ray machine.

2. (1) The following information is prescribed for the purpose of clause 3 (2) (a) of the Act:

1. The name of the owner of the x-ray machine.
2. The number or identifying name of the x-ray room for which approval of installation is sought.
3. The name of the manufacturer and the model number of the x-ray machine, the anticipated maximum workload, the maximum tube voltage, and the maximum tube current.
4. The thickness and nature of materials that form the boundaries of the x-ray room.
5. The occupancy of the adjacent spaces, including spaces above and below the x-ray room.
6. The percentage of the working day each adjacent space is occupied.
7. The percentage of the exposure time the useful beam is projected toward each adjacent space.

(2) The following plan, to be submitted in duplicate, is prescribed for the purpose of clause 3 (2) (a) of the Act:

A floor plan drawn to a scale of not less than one to fifty that indicates:

1. The compass point North.
2. The name of the owner and address of the installation.
3. The limits of travel of the x-ray tube within the room.

4. The location of the control booth or the exposure switch.
5. The position of each horizontal or erect ~~image receptor x-ray film cassette~~ holder.
- ~~6. The location of the darkroom and storage of unprocessed film.~~

(3) In addition to the requirements prescribed in subsection (2) where the application for approval is for the installation of an x-ray machine in a dental facility, the floor plans shall indicate,

- (a) the position and limits of rotation of the chair; and
- (b) the position of the head of the person being irradiated.

3. (1) Every installation of an x-ray machine shall be shielded with a primary protective barrier and a secondary protective barrier ~~so that,~~

- ~~(a) no x-ray worker receives a whole body dose equivalent of more than 1 millisievert (100 millirem) per week; and~~
- ~~(b) no person, other than the patient undergoing an application of therapeutic or diagnostic x-rays, who is not an x-ray worker, receives a whole body dose equivalent of more than 0.1 millisievert (10 millirem) per week.~~

~~(2) The barriers referred to in subsection (1) shall comply with the standards contained in Structural Shielding Design for Medical X-Ray Imaging Facilities (NCRP Report ; no. 147), published by the National Council on Radiation Protection and Measures, or the most recent version of these standards. Appendix 2 of Safety Code 20A— X-Ray Equipment in Medical Diagnosis Part A: Recommended Safety Procedures for Installation and Use, published by the Department of National Health and Welfare.~~

(3) Where lead shielding is used as a barrier, it shall be mounted in such a manner as to avoid sagging or damage to the lead shielding.

(4) Joints between different kinds of barrier material shall be constructed so that the overall attenuation of the barrier is not impaired.

(5) Windows, doors or other openings in a barrier shall be so constructed that they meet the same protection design standards referred to in subsection (2) that apply to barriers.

(6) All doors leading directly into an x-ray room shall be fitted with self-closing devices and, where the doors are accessible to the public, shall have prominently displayed on them warning signs sufficient to alert persons to the presence of the x-ray equipment.

~~(7) Unprocessed film shall be protected from x-rays being generated by x-ray machines in the facility so that during its storage the increase in optical density caused by unintentional irradiation is less than 0.02 density units. R.R.O. 1990, Reg. 543, s. 3.~~

4. (1) The following subject-matters for courses of study in the operation of x-ray machines and x-ray equipment are prescribed:

1. Properties of radiation.
2. Interactions of radiation.
3. Biological effects of radiation.
4. Background radiation.
5. Measurement of radiation.
6. Production and characteristics of x-rays.

7. Relationship between technical factors that affect image quality and dose.
8. Radiation protection legislation.
9. Control of radiation hazards.
10. Quality control.

(2) Revoked: O. Reg. 242/09, s. 1 (1).

(3) Successful completion of one of the following requirements is prescribed for the purposes of sections 5 and 7 of the Act in respect of any person who operates an x-ray machine in a dental diagnostic x-ray facility:

1. A course in dental radiation safety approved by the Director of X-ray Safety.
2. A program or course in dental assisting that is approved by the Director of X-ray Safety at a College of Applied Arts and Technology.
3. On and after the 1st day of January, 1981, a dental assisting program that is approved by the Commission at,
 - i. Career Canada Limited,
 - ii. Career Canada (Hamilton) Limited,
 - iii. Lorne Park Secondary School,
 - iv. Etobicoke Collegiate Institute,
 - v. Sir Allan MacNab Secondary School,

vi. Toronto School of Business Inc., 5631 Yonge Street, Willowdale, Ontario, or

vii. Barnett-Christie Corporation carrying on business as the College of Business Training, 2820 Danforth Avenue, Toronto, Ontario.

4. A program or course in dental assisting offered by the Canadian Armed Forces.

5. (1) A person who is a member of a class of persons set out in Column 1 of Table 1 is exempt from the provision of subsection 5 (1) of the Act provided that the person only operates an x-ray machine under the supervision of a person set out opposite thereto in Column 2 of Table 1.

(2) The owner of an x-ray machine that is installed in a public hospital approved under the *Public Hospitals Act* or in a private radiological clinic that has no legally qualified medical radiologist on staff is exempt from the requirement of subsection 9 (1) of the Act provided that the owner designates a member of the College of Medical Radiation and Imaging Technologists of Ontario ~~who, in the opinion of the Director of x-ray Safety, is competent to act as radiation protection officer for the facility in which the x-ray machine is installed, and~~ or a person who has completed an accredited course of study in the principles of ionizing radiation, radiation dosimetry, practical aspects of X-ray use in medicine and/or dentistry, and relevant legislation as prescribed in **Table 9**.

5.1 (1) CT scanners and dental CT scanners are classes of X-ray machine for the purposes of clause 22 (d) and (e) and subclause 22 (f) (iii) of the Act.

(2) A member of a class of persons who, under subsection 5 (2) of the Act, is deemed to meet the qualifications to operate an X-ray machine for the irradiation of a human being may ~~only~~ use a CT scanner or a dental CT scanner ~~for the purpose of generating a volumetric representation of a region of the human body only~~ if section 5.2 or 5.3 of this Regulation applies, as applicable.

5.2 (1) A member of the following classes of persons is exempt from the prohibition in subsection 5 (1) of the Act with respect to the operation of a CT scanner, other than a dental CT scanner, for the irradiation of a human being, as long as subsection (2) is complied with:

1. A legally qualified medical practitioner.
2. A member of the College of Medical Radiation and Imaging Technologists of Ontario.
3. A person who is a member of a class of persons set out in Item 1 or 6 in Column 1 of Table 1 provided that the person only operates the CT scanner under the supervision of a person set out opposite that item in Column 2 of Table 1.

(2) The exemption under subsection (1) only applies when the irradiation is prescribed by,

- (a) a legally qualified medical practitioner; or
- (b) a member of the Royal College of Dental Surgeons of Ontario who holds a specialty certificate of registration authorizing the practice of the specialty of Oral and Maxillofacial Surgery.

5.3 (1) A member of the following classes of persons is exempt from the prohibition in subsection 5 (1) of the Act with respect to the operation of a dental CT scanner for the irradiation of a human being, as long as subsection (2) is complied with:

1. A member of the Royal College of Dental Surgeons of Ontario who holds a specialty certificate of registration authorizing the practice of the specialty of Oral and Maxillofacial Radiology.
2. A member of the Royal College of Dental Surgeons of Ontario in compliance with the standards of practice set out in the document dated April 18, 2011 and entitled "Standard of Practice – Dental CT Scanners" that is published by the Royal College of Dental Surgeons of Ontario and approved by the Council of that College.
3. A member of the College of Medical Radiation and Imaging Technologists of Ontario who is under the supervision of a person described in paragraph 1 or 2.
4. A person who is a member of a class of persons set out in Item 2 in Column 1 of Table 1 provided that the person only operates the CT scanner under the supervision of a person set out opposite that item in Column 2 of Table 1 who is also a person described in paragraph 1 or 2.

(2) The exemption under subsection (1) only applies,

- (a) with respect to a dental CT scanner that is installed and operated in a facility that is designated under subsection 23 (2) of the Act, and that is a dental facility operated by a dentist; and

(b) when the irradiation is prescribed by a person described in paragraph 1 or 2 of subsection (1).

6. Members of the College of Medical and Imaging Technologists of Ontario are exempt from section 6 of the Act in the operation of an x-ray machine for the irradiation of a human being if the irradiation is part of a breast cancer screening program administered by Ontario Health.

7. The classes of radiation protection officers set out in Column 1 of Table 2 are prescribed and may only act as radiation protection officers for the class of facility set out opposite thereto in Column 2 of Table 2.

8. (1) Every radiation protection officer shall ensure that every person who operates an x-ray machine in the facility for which he or she is a radiation protection officer is qualified in accordance with this Regulation to operate an x-ray machine.

(2) Every radiation protection officer shall establish and maintain procedures and tests for the x-ray machines and x-ray equipment in the facility for which he or she is a radiation protection officer to ensure compliance with this Regulation.

(3) Every radiation protection officer shall ensure that protective accessories of at least 0.5 millimetres lead equivalent at 150 kilovolts peak are available for use by persons who may receive exposure to x-rays in the facility.

(4) Every radiation protection officer shall provide to the Director of X-ray Safety, within sixty days of the installation of a new x-ray machine in a facility where he or she is the radiation protection officer, written results of the tests conducted to verify whether or not

the x-ray machine complies with the provisions of the *Radiation Emitting Devices Act* (Canada) and the regulations made thereunder.

(5) Every radiation protection officer shall provide to the Director of X-ray Safety, within sixty days of the installation of a used x-ray machine in a facility where he or she is the radiation protection officer, written results of the tests conducted to verify whether or not the x-ray machine complies with the provisions of the Act and this Regulation.

(6) Every radiation protection officer shall ensure that records are maintained of each test required to be carried out under this section that set out,

- (a) the type and result of the test;
- (b) the frequency of testing where applicable; and
- (c) the action taken to correct each deficiency identified by the test.

(7) Every radiation protection officer shall ensure that the records referred to in subsection (6) are maintained for at least six years from the time of their making in the facility in which the x-ray machine to which the records referred to is operated.

(8) Every dental radiation protection officer shall ensure that at the facility where the officer acts, the procedures and tests set out in Column 1 of Table 3 are conducted at the frequencies set out opposite thereto in Column 2 of Table 3.

(9) Every chiropodic radiation protection officer shall ensure that at the facility where the officer acts, the procedures and tests set out in Column 1 of Table 4 are conducted at the frequencies set out opposite thereto in Column 2 of Table 4.

(10) Every medical radiation protection officer and every chiropractic radiation protection officer shall ensure that at the facility where the officer acts, the procedures and tests set out in Column 1 of Table 5 are conducted at the frequencies set out opposite thereto in Column 2 of Table 5.

(11) Every medical radiation protection officer, every chiropractic radiation protection officer and every chiropodic radiation protection officer shall ensure that at the facility where the officer acts, the entrance exposure of that part of a patient set out in Column 1 of Table 6 of a thickness set out opposite thereto in Column 2 of Table 6 that is a distance from the x-ray source set out opposite thereto in Column 3 of Table 6 does not exceed the exposure set out opposite thereto in Column 4 of Table 6.

(12) Every dental radiation protection officer shall ensure that at the facility where the officer acts, the entrance exposure of that part of a patient set out in Column 1 of Table 7 at the measured potential set out opposite thereto in Column 2 of Table 7 does not exceed the exposure set out opposite thereto in Column 3 of Table 7.

(13) Every radiation protection officer shall notify the Director of x-ray Safety forthwith of the occurrence, in a facility where he or she is a radiation protection officer, of,

(a) an accident involving an x-ray machine; or

(b) an overexposure to radiation involving a patient or patients.

(14) In addition to the notice required under subsection (13), the radiation protection officer shall ensure that a written report of the accident or overexposure is received by the Director of x-ray Safety not later than five days after the occurrence of the accident or overexposure.

(15) Every medical radiation protection officer shall ensure that, at the facility where the officer acts, the mean glandular breast dose calculated for a standard breast, using technique factors and conditions used clinically for such a breast, does not exceed 3 milligrays per image.

(16) In subsection (15),

“standard breast” means a 4.2 centimetre thick compressed breast consisting of 50 per cent glandular tissue and 50 per cent adipose tissue.

9. (1) Every diagnostic x-ray machine shall bear either on the external surface of the main x-ray control panel or at the exposure switch location a warning sign that indicates that,

- (a) unauthorized use is prohibited; and
- (b) hazardous radiation is emitted when the x-ray machine is activated.

(2) Every diagnostic x-ray machine shall be so constructed that,

- (a) all controls, meters, lights or other indicators on the machine are readily recognizable and clearly identifiable as to function;
- (b) the x-ray tube is securely fixed and correctly aligned with the tube housing;
- (c) the x-ray tube housing maintains its required exposure position without significant drifting, tipping or vibration so as to affect the quality of the image;
- (d) there are recognizable warning lights or other indicators that indicate,
 - (i) when the machine is energized and is ready to produce x-rays, and
 - (ii) when the x-rays are produced;

- (e) where the machine has individual technique factors that are either fixed or can be selected manually by the operator, there are electrical meters, controls or other indicators to enable the x-ray operator to determine those selected technique factors before the patient is irradiated;
- (f) where the x-ray machine is used in the radiographic mode and has automatically controlled exposure or anatomically related exposure selection or falling load, there is an electrical meter, control or other indicator that enables the x-ray operator to determine the kilovoltage before the patient is irradiated;
- (g) where the x-ray machine is battery powered, there is a visual indicator that shows whether the battery is charged for proper operation;
- (h) it is not possible to energize more than one x-ray tube at the same time; and
- (i) where there are two x-ray tubes, there is a visible indication of which x-ray tube is selected and ready to be activated at the control panel.

(3) Every diagnostic x-ray machine shall be provided with,

- (a) an exposure switch, timer or other device that is controlled by the operator to initiate and terminate the irradiations; and
- (b) filters that,
 - (i) are located in the exit port of the x-ray tube housing or beam limiting device or both,
 - (ii) intercept the entire useful beam, and

- (iii) at a measured potential set out in Column 1 of Table 8 with a thickness of aluminum set out opposite thereto in Column 2 of Table 8, reduce the exposure at least by half.

10. (1) Every exposure switch on an x-ray machine shall,

- (a) be so located that it cannot be conveniently operated outside a shielded area; and
- (b) where it is part of a mobile machine, be equipped with a cable at least three metres in length.

(2) Clause (1) (a) does not apply to an exposure switch that is used in conjunction with mobile x-ray machines, spot-film devices or fluoroscopy.

(3) Every exposure switch on an x-ray machine shall be so constructed that it requires continuous pressure by the x-ray operator to produce x-rays, except where the x-ray machine is equipped with a serial changer.

(4) Where an exposure switch on an x-ray machine is used in conjunction with a serial changer, the switch shall be so constructed that it permits the x-ray operator to terminate an irradiation at any time.

(5) Every exposure switch on an x-ray machine that is a foot switch shall be so constructed as to prevent an unintended exposure if the switch is overturned.

11. (1) Every diagnostic x-ray machine and every fluoroscopic x-ray machine shall, except where the x-ray machine is equipped with an automatic exposure control device, be so constructed that the timing device on the machine terminates an irradiation on completion of,

- (a) a preset time interval;
- (b) a preset product of current and time; or
- (c) a preset number of pulses.

(2) Where an x-ray machine is equipped with an automatic exposure control device, the device shall terminate the exposure to the patient when a predetermined amount of radiation is detected.

(3) Every timing device on a diagnostic x-ray machine and fluoroscopic x-ray machine shall be so constructed that it,

- (a) resets automatically to its original position or to ZERO on termination of an irradiation; and
- (b) prevents an irradiation from occurring at the ZERO or OFF position.

12. Every beam limiting device on an x-ray machine shall be so constructed that it affords the same attenuation of leakage radiation as that required of the tube housing assembly.

13. (1) Every diagnostic x-ray machine that is equipped with an automatic exposure control shall be equipped with,

- (a) an indicator that shows when the automatic exposure control mode of operation has been selected;
- (b) a means of terminating the exposure,

- (i) of an x-ray tube with a potential of less than fifty kilovolts peak, when the product of the x-ray tube current and the exposure time is 2,000 milliampere-seconds per exposure, or
- (ii) of an x-ray tube with a potential of fifty kilovolts peak or more, when,
 - (A) the product of the x-ray tube current and the exposure time is 600 milliampere-seconds, or
 - (B) the product of the peak x-ray tube potential, current and exposure time is sixty kilowatt-seconds per exposure; and
- (c) an indicator that warns the operator that a condition set out in subclause (b) (i) or (ii) has been reached.

(2) Every diagnostic x-ray machine shall be so constructed that,

- (a) over the normal range of use of the machine for any given combination of x-ray tube potential (in kilovolts peak), tube current (in milliamperes), exposure time (in seconds) or for selected radiation exposure to the image receptor (in milliroentgens),
 - (i) the estimated coefficient of variation of any ten consecutive radiation exposure measurements taken at the same source-to-detector distance within a time period of one hour is no greater than 0.08, and
 - (ii) each of the ten radiation exposures referred to in subclause (i) is within 20 per cent of the mean value of the ten measurements;
- (b) for any selected setting of the peak x-ray tube potential over the normal range of use of the machine, the average peak kilovoltage corresponds to the selected value to within ± 8 per cent;

- (c) the timer on the x-ray machine may be set to control irradiations as short as 1/30 second or five milliamperere-seconds, whichever is greater;
- (d) at each setting over the normal range of use, the timer on the x-ray machine is accurate to within ± 10 per cent; and
- (e) at each setting over the normal range of use, the timer on the x-ray machine will comply with the reproducibility standards set out in clause (a).

(3) Subsection (2) does not apply to dental x-ray machines, chiropodic x-ray machines or to mammographic x-ray machines.

(4) Where a diagnostic x-ray machine is constructed so that the tube current (in milliamperes) has a range of preset values and both it and the exposure time (in seconds) can be selected individually, the average ratios of exposure (in milliroentgens) to the product of tube current and exposure time, obtained at any two adjacent tube current settings for any fixed indicated value of x-ray tube potential (in kilovolts) over the normal range of use of the machine, shall not differ by more than 0.10 times their sum or

$$|\bar{x}_1 - \bar{x}_2| \leq 0.10 (\bar{x}_1 + \bar{x}_2)$$

where x_1 and x_2 are the average mR/mAs (milliroentgens divided by milliamperere-seconds) values obtained at the two selected settings of mA (milliamperes).

(5) Where a diagnostic x-ray machine is constructed so that the exposure selection can be made only as the tube current exposure time product (in milliamperere-seconds) or where the milliamperere value is continuously variable, the average ratios of exposure (in milliroentgens) to the product of tube current and exposure time, obtained at any two selections of milliamperere-second differing by at least a factor of two, for any fixed

indicated value of x-ray tube potential (in kilovolts) within the range of normal operation of the machine, shall not differ by more than 0.10 times their sum, or

$$|\bar{x}_1 - \bar{x}_2| \leq 0.10 (\bar{x}_1 + \bar{x}_2)$$

where x_1 and x_2 are the average mR/mAs (milliroentgens divided by milliampere-seconds) values obtained at the two selected settings of mA (milliamperes).

14. (1) The leakage radiation measured at a distance of one metre in any direction from an x-ray source shall not exceed 100 milliroentgens in one hour under any conditions.

(2) The leakage radiation measurements referred to in subsection (1) shall be averaged over an area of 100 square centimetres with no linear dimension greater than twenty centimetres.

15. (1) Every general-purpose radiographic x-ray machine and every mobile radiographic x-ray machine shall be equipped with an x-ray beam limiting device that,

- (a) provides for stepless adjustment of the size of the x-ray field;
- (b) provides for a minimum field size that does not exceed five centimetres by five centimetres at a target-to-image-receptor distance of 100 centimetres; and
- (c) ensures that at each position, the x-ray field is aligned with the image receptor in such a manner that the x-ray field is always confined within the boundaries of the image receptor.

(2) An x-ray beam limiting device referred to in subsection (1) shall,

- (a) be equipped with an adjustable light beam diaphragm or other device that defines visually the outline of the x-ray field when the axis of the x-ray beam is perpendicular to the plane of the image; or
 - (b) allow the operator to adjust the dimensions of the x-ray field at the image receptor to a size smaller than the dimensions of the image receptor.
- (3) An adjustable light beam diaphragm or other device that defines visually the outline of the x-ray field shall be so constructed that,
- (a) misalignment of the visually defined field with respect to the x-ray field along either the length or width of the x-ray field does not exceed 2 per cent of the target-to-image-receptor distance; and
 - (b) the size of the x-ray field in the plane of the image receptor is indicated at selected distances that are accurate to within 3 per cent of the target-to-image-receptor distance.

16. Every general-purpose radiographic x-ray machine that is used with only one size of image receptor at a fixed target-to-image-receptor distance shall be equipped with devices to ensure that,

- (a) the centre of the x-ray field is aligned with the centre of the image receptor to within 2 per cent of the target-to-image-receptor distance; and
- (b) the x-ray field in the plane of the image receptor does not extend beyond any edge of the image receptor. R.R.O. 1990, Reg. 543, s. 16.

17. (1) Every fluoroscopic x-ray machine shall be equipped with,

- (a) an image intensification system that,

- (i) includes a shielded protective barrier and shielding such that,
 - (A) the entire cross-section of the useful beam is intercepted within the protective barrier for any target-to-image distance, and
 - (B) the fluoroscopic x-ray tube is not capable of producing x-rays unless the shielding is in place to intercept the useful beam,
- (ii) in the case of a mobile fluoroscopic x-ray machine, is an integral part of the machine or is interlocked in such a manner that its removal prevents x-rays from being produced;
- (b) where it is a stationary machine, a means to prevent the x-ray tube from producing x-rays unless there is an image receptor in place to intercept the x-ray beam;
- (c) an audible signal that,
 - (i) indicates completion of any preset time of use up to a maximum of five minutes, and
 - (ii) continues to sound until the timer is reset whenever x-rays are produced after the preset time of use has expired, or,a timer circuit that will,
 - (iii) cut off the high tension voltage to the x-ray tube after a preset time of use up to a maximum of five minutes, and
 - (iv) continue to prevent fluoroscopy until the timer has been reset manually;
- (d) electrical meters or other visual indicators on the control panel that will provide a continuous indication of current in milliamperes;

- (e) a means to limit the target-to-skin distance to not less than,
 - (i) twenty-five centimetres for a mobile fluoroscopic machine,
 - (ii) thirty-eight centimetres for a stationary fluoroscopic machine, or
 - (iii) twenty centimetres for an image-intensified fluoroscopic machine used for special procedures that would not be possible at the minimum target-to-skin distance set out in subclause (ii);
- (f) an x-ray beam limiting device that,
 - (i) allows the operator to adjust the dimensions of the x-ray field at the image receptor to a size smaller than the dimensions of the image receptor, and
 - (ii) aligns the x-ray field with the image receptor in such a manner that the x-ray field is always confined within the boundaries of the image receptor;
- (g) a shield of at least 0.25 millimetres lead equivalent at 100 kilovolts peak that intercepts scattered radiation originating in the patient that would otherwise reach the x-ray operator or other persons in the facility.

(2) Clause (1) (b) does not apply to special purpose x-ray tubes or image intensifiers that are constructed to have free and independent movement within an x-ray room.

(3) Clause (1) (g) does not apply to a mobile fluoroscopic x-ray machine.

(4) The exposure rate limits of a fluoroscopic x-ray machine that uses a zinc cadmium sulphide input phosphor or a phosphor of similar efficiency calculated where the centre

of the useful beam enters the patient at the shortest target-to-skin distance specified for the machine shall not exceed,

- (a) a maximum exposure rate of 12.5 roentgens per minute; and
- (b) an entrance exposure rate of five roentgens per minute for an average patient represented for test purposes by a twenty centimetre water phantom.

(5) The exposure rate limit of a fluoroscopic x-ray machine that uses a cesium iodide input phosphor or a phosphor of similar efficiency calculated where the centre of the useful beam enters the patient at the shortest target-to-skin distance specified for the machine shall not exceed,

- (a) a maximum exposure rate of ten roentgens per minute; and
- (b) an entrance exposure rate of 2.5 roentgens per minute for an average patient represented for test purposes by a twenty centimetre water phantom.

(6) Clauses (4) (a) and (5) (a) do not apply when the high-level control of the x-ray machine is activated.

(7) A fluoroscopic x-ray machine that is equipped with an optional high-level control that allows higher exposure rates at the image receptor than the rates set out in subsections (4) and (5) shall be so constructed that,

- (a) the high-level control is activated by its own control separate from any other control; and
- (b) there is a continuous signal to the x-ray operator to indicate that the high-level control is being activated.

(8) A photofluorographic x-ray machine shall only be used when the primary image is enhanced by electronic image intensification.

18. (1) Every x-ray machine that is used to conduct mammographic x-ray examinations shall be equipped with,

- (a) an x-ray beam limiting device that limits the useful beam so that at any target-to-image-receptor distance specified for the machine the x-ray field in the plane of the image receptor,
 - (i) does not exceed the edge of the image receptor next to the chest wall by more than 2 per cent of the target-to-image-receptor distance, and
 - (ii) except for the edge of an image receptor referred to in subclause (i), does not extend beyond any other edge of the image receptor;
- (b) an image receptor supporting device that is shielded sufficiently to ensure that for each activation of the x-ray tube the radiation exposure does not exceed 0.1 milliroentgens where,
 - (i) the machine is operated,
 - (A) in the mammographic mode,
 - (B) at the maximum rated x-ray tube potential,
 - (C) the maximum rated tube current-exposure product for that tube potential, and
 - (D) at the minimum target-to-receptor distance attainable, and
 - (ii) the radiation exposure is averaged over a detection area of 100 square centimetres, with no linear dimension greater than twenty

centimetres and centred at five centimetres from an accessible surface beyond the plane of the support device; and

(c) a device that will compress the breast of the patient being x-rayed.

(2) A removable fixed-operative beam limiting device that is installed on an x-ray machine that is constructed or adapted to perform mammographic examinations shall bear on its external surface clearly visible permanent markings that state,

(a) the image receptor size; and

(b) the target-to-image-receptor distance for which the beam limiting device is designed.

(3) Every mammographic x-ray machine shall be so constructed that the accuracy of kilovoltage calibration for the machine is ± 1 kilovolts for kilovoltage up to thirty-five and ± 4 per cent for kilovoltage above thirty-five.

(4) Every x-ray machine that is constructed or adapted to perform mammographic examinations shall be so constructed or adapted that,

(a) for any selected combination of kilovoltage, current and time, the coefficient of variation of any ten consecutive radiation measurements taken at the same distance within a time period of one hour is not greater than 0.08;

(b) where the timer is non-mechanical, it is accurate to within 1/30 second (two cycles) or 10 per cent of the set value, whichever is greater; and

(c) where the timer is mechanical, it is accurate to within 1/20 second or 15 per cent, whichever is greater.

19. Only tungsten target x-ray tubes shall be used for xeroradiography.

20. (1) Every dental x-ray machine and every chiropodic x-ray machine shall be so constructed that,

- (a) for any selected combination of kilovoltage, current and time, the estimated coefficient of variation of any ten consecutive radiation measurements taken at the same distance within a time period of one hour is not greater than 0.08;
- (b) when the x-ray machine is operating in the fixed milliamperage mode, the timer is, at each setting, accurate to within 1/30 second (two cycles) or 10 per cent of the set value; and
- (c) for any selected setting of the peak x-ray tube potential, the actual peak kilovoltage corresponds to the selected value to within ± 8 per cent.

(2) Clause (1) (b) does not apply to equipment used for panoramic dental examinations.

21. (1) Every dental x-ray machine shall be equipped with a beam limiting device that limits the size of the useful beam to a maximum linear dimension of seven centimetres at the end of the localizing cone or device.

(2) Subsection (1) does not apply to a panoramic x-ray machine or a cephalometric x-ray machine.

22. Every panoramic x-ray machine shall be equipped with a beam limiting device that limits the useful beam at the image receptor to a size not more than 2 per cent of the source-to-image-receptor distance at each dimension of the scanning slit.

23. Every cephalometric x-ray machine shall be equipped with a beam limiting device that limits the size of the useful beam to maximum linear dimensions of thirty-one centimetres by thirty-eight centimetres at the plane of the image receptor.

TABLE 1

Item	Column 1 Class of Student	Column 2 Supervisor
1.	Medical student	Radiologist
2.	Dental student	Dentist
3.	Dental Hygiene student	Dentist
4.	Dental Assisting student	Dentist
5.	Chiropractic student	Chiropractor
6.	Medical Radiation and Imaging Technologist student	Radiologist or Medical Radiation and Imaging Technologist

R.R.O. 1990, Reg. 543, Table 1; O. Reg. 359/19, s. 5.

TABLE 2

Item	Column 1 Class of Radiation Protection Officer	Column 2 Class of Facility
1.	Medical radiation protection officer	Medical facility
2.	Dental radiation protection officer	Dental facility

3.	Chiropractic radiation protection officer	Chiropractic facility
4.	Chiropodic radiation protection officer	Chiropody facility

R.R.O. 1990, Reg. 543, Table 2.

TABLE 3

DENTAL FACILITY

Item	Column 1 Test or Procedure	Column 2 Frequency
1.	Photographic quality control	Every operational day
2.	Patient entrance exposure measurements	Every twelve months and upon alteration or servicing of the machine
3.	Collimation	Every twelve months and upon alteration of servicing of the machine
4.	Half-value layer	Every twelve months and upon alteration or servicing of the machine

R.R.O. 1990, Reg. 543, Table 3.

TABLE 4

CHIROPODIC FACILITY

Item	Column 1	Column 2
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	Test or Procedure	Frequency
1.	Photographic quality control	Every operational day
2.	Patient entrance exposure measurements	Every twenty-four months and upon alteration or servicing of the machine
3.	Collimation	Every twelve months and upon alteration or servicing of the machine
4.	Half-value layer	Every twelve months and upon alteration or servicing of the machine

R.R.O. 1990, Reg. 543, Table 4.

TABLE 5

MEDICAL AND CHIROPRACTIC FACILITIES

Item	Column 1 Test or Procedure	Column 2 Frequency
1.	Photographic quality control	Every operational day
2.	Patient entrance exposure measurements and, for every mammographic x-ray machine, calculation of mean glandular breast dose	Every six months and upon alteration or servicing of the machine
3.	Collimation	Every six months and upon alteration or servicing of the machine

4.	Half-value layer	Every six months and upon alteration or servicing of the machine
5.	Phototiming parameters including operation of back-up timer	Every six months
6.	Fluoroscopic parameters, including, (a) maximum patient entrance exposure rate (b) resolution (c) limit timer (d) automatic brightness control	Every six months and upon servicing of the machine
7.	Tomographic parameters, including fulcrum accuracy, thickness of cut and mechanical stability	Every six months

R.R.O. 1990, Reg. 543, Table 5; O. Reg. 663/00, s. 3.

TABLE 6

Item	Column 1 Projection	Column 2 Patient Thickness (standard for test purposes)	Column 3 Source-to-image distance	Column 4 Maximum entrance exposure (exposures expressed as
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				exposure in air without backscatter) expressed in milliroentgens
1.	Abdomen AP	23 cm	100 cm	450
2.	Cervical Spine AP	13 cm	100 cm	120
3.	Chest PA	23 cm	180 cm	20
4.	Foot (Dorso-Plantar) Direct Film	8 cm	100 cm	200
5.	Full Spine	23 cm	180 cm	250
6.	Intravenous Pyelogram	23 cm	100 cm	500
7.	Lumbar Spine AP	23 cm	100 cm	500
8.	Lumbar Spine Lateral	32 cm	100 cm	2,000
9.	Revoked: O. Reg. 663/00, s. 4.			
10.	Skull Lateral	15 cm	100 cm	170
11.	Thoracic Spine AP	23 cm	100 cm	400

R.R.O. 1990, Reg. 543, Table 6; O. Reg. 663/00, s. 4.

TABLE 7

Item	Column 1 Projection	Column 2 Peak Kilovoltage	Column 3 Maximum entrance exposure expressed in milliroentgens
1.	Posterior Bitewings	50	550
2.	Posterior Bitewings	60	475
3.	Posterior Bitewings	70	360
4.	Posterior Bitewings	80	280
5.	Posterior Bitewings	90	220

R.R.O. 1990, Reg. 543, Table 7.

TABLE 8

Item	Column 1 Measured Potential (kilovolts peak)	Column 2 Minimum Half-value Layer (millimetres of aluminum)
1.	30	0.3
2.	40	0.4
3.	49	0.5
4.	50	1.2
5.	60	1.3
6.	70	1.5

7.	71	2.1
8.	80	2.3
9.	90	2.5
10.	100	2.7
11.	110	3.0
12.	120	3.2
13.	130	3.5
14.	140	3.8
15.	150	4.1

TABLE 9

<p>Principles of Ionizing Radiation</p> <ul style="list-style-type: none"> ● Nature and types of radiation ● X-ray production ● X-ray interaction with matter ● Effects of radiation on cells/body systems ● Risk models ● Elements of radiation exposure safety systems (e.g. shielding)
<p>Practical Aspects of X-ray Use in Medicine and/or Dentistry</p> <ul style="list-style-type: none"> ● Basics of image quality and dose metrics ● Imaging techniques, standards and best practices

- Impact of technical acquisition factors on dose/image quality
- Principles of operation of X-ray machines and detectors
- Communicating radiation dose results with staff and patients

Basic Radiation Dosimetry

- Units of measure
- Report interpretation
- Reference levels and achievable doses
- ALARA principle

Relevant Legislation and Guidelines

June 8, 2021

158-2021-46

Dear College Presidents and Registrars/ Executive Directors

Over the past several months, we have seen the ongoing diligent and tireless contributions of all our health system partners in response to the COVID-19 pandemic.

As we prepare for a potential burden reduction Bill this Fall, the ministry is exploring opportunities for governance reforms under the *Regulated Health Professions Act, 1991* and your respective 26 health profession Acts that would increase your efficiency and your ability to respond swiftly to emerging needs.

I am aware that many colleges have expressed interest in governance changes since 2017. Since that time, there have been developments, namely, the ongoing pandemic and the introduction of Bill 283, which have added to the discussion on governance reform.

As I have noted in previous conversations, I would like to seek your input on whether previous advice to the ministry on governance reform has changed in light of the progress of time and recent experience with the COVID-19 pandemic, as well as, the government's introduction of legislation establishing a new framework for oversight.

I am requesting your feedback on possible governance reforms by June 30th.

I look forward to our continued partnership as we explore opportunities to improve and strengthen the oversight system for health professions in Ontario.

Sincerely,



Sean Court
Assistant Deputy Minister

Encl.

c. Allison Henry, Director