

ISRRT's Perspective:

The optimized use of CT scanners and RG/RT Involvement

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ISRRT

- Represents **96** national Societies (countries)
- More than **500.000** radiographers
- Formed in **1959** to act as a link btw RG & RT throughout the world
- Recognized as the **global voice** of radiographers



ISRRT MISSION STATEMENT



" To improve the standards of delivery and practice of medical imaging and radiation therapy throughout the world by acting as the international liaison organisation for medical radiation technology and by promoting Quality Patient Care, Education and Research in the radiation medicine sciences".



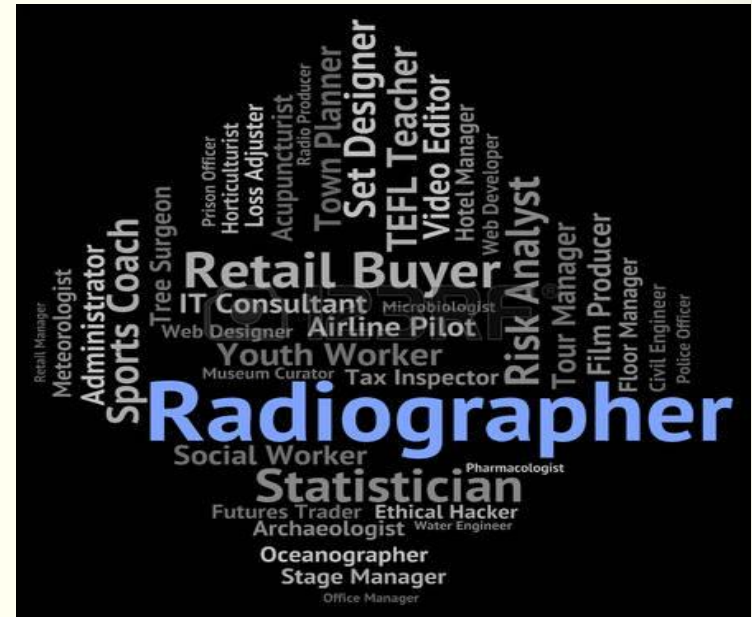
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INTERNATIONAL
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& RADIOLOGICAL
TECHNOLOGISTS

3rd HERCA Multi-Stakeholder Meeting
on The optimized use of CT scanners
Vienna, Austria 6th of March 2017



In daily practice....

- regulation and licensure
 - ensures a critical standard of practice
 - includes the effective and efficient use of radiation
- the administration of radiation is only under the direction of medical authority
- the radiographer operates the equipment and administers the radiation to the patient hence affecting dosage



CT radiographer....

- Performs CT examinations using predefined CT protocols
- Constantly deals with new challenges due to the advent of new CT systems and the never ending development in medical imaging technology
- these “decided” protocols are often slightly modified, depending on:
 - the diagnostic requirements,
 - the patient factors
 - pt dose (below than the national/regional/local/dept DRLs without compromise in diagnostic quality)



Radiographer recognition

- This recognition must be reflected at the global level so that ANY body looking into the use, management and safe practice of radiation must have RGs as key members of any strategy or initiative.
- The ISRRT is the only body recognized by WHO and must therefore provide that representation



Patient



Radiographer



Technology

The interface btw patient and CT technology

The sole health professional with appropriate training in the use of medical imaging technology and at the same time is capable to act as the patient advocate for radiation protection.

ISRRT's relationships and commitment



1. Collaborates with

- WHO
- IAEA
- HERCA
- EFRS



2. Committed to

- BONN call for Action (IAEA and WHO)

3. Supports

- SMART Tracking Dose (IAEA)
- Clinical Audit in Radiology (QUADRILL-IAEA)



BONN CALL FOR ACTION
10 Actions to Improve Radiation Protection
in Medicine in the Next Decade



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ISRRT ACTION PLAN TO BONN CALL FOR ACTION

ACTION 2:

Bonn Actions	Current Actions (Specific sub-actions identified highlighted)	Suggested Actions still required (Specific sub-actions identified highlighted)
<p>Action 2: Enhance the implementation of the principle of optimization of protection and safety</p> <ul style="list-style-type: none"> a) Ensure establishment, use of, and regular update of diagnostic reference levels for radiological procedures, including interventional procedures, in particular for children; b) Strengthen the establishment of quality assurance programmes for medical exposures, as part of the application of comprehensive quality management systems; c) Implement harmonized criteria for release of patients after radionuclide therapy, and develop further detailed guidance as necessary; d) Develop and apply technological solutions for patient exposure records, harmonise the dose data formats provided by imaging equipment, and increase utilization of electronic health records. 	<p>(b)ISRRT have contributed to a number of IAEA &WHO conferences and initiatives on optimisation.</p> <p>(b)ISRRT has funded a number projects worldwide in developing countries which address this action</p> <p>(b) has produced in the past a QA handbook specific to film/chemistry based systems</p> <p>(d) WHO and IAEA SMART CARD participated Joint statement for support and development of project</p>	<p>(a) Promote and fund workshops in Developing countries which focus on Optimisation and DRLs. (a & d) Fund DRL research to establish the range of dose being applied for specific examinations and dose recording (b) Produce a policy /guidance document to support radiographer DRLs. Have this document in English, French and Spanish if feasible</p> <p>Continue international cooperation with IAEA, WHO, ICRQS and other Professional bodies</p>

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ACTION 3:

Bonn Actions	Current Actions (Specific sub-actions identified highlighted)	Suggested Actions still required (Specific sub-actions identified highlighted)
<p>Action 3: Strengthen manufacturers' role in contributing to the overall safety regime</p> <ul style="list-style-type: none"> a) Ensure improved safety of medical devices by enhancing the radiation protection features in the design of both physical equipment and software and to make these available as default features rather than optional extra features; b) Support development of technical solutions for reduction of exposure of patients, while maintaining clinical outcome, as well as of health workers; c) Enhance the provision of tools and support in order to give training to users that is specific to the particular medical devices, taking into account radiation protection and safety aspects; d) Reinforce the conformance to applicable standards of equipment with regard to performance, safety and dose parameters; e) Address the special needs of health care settings with limited infrastructure, such as sustainability and performance of equipment, whether new or refurbished; f) Strengthen cooperation and communication between manufacturers and other stakeholders, such as professionals and professional societies; g) Support usage of platforms for interaction between manufacturers and health and regulation authorities and their representative organizations. 	<p>This is an area which has not involved ISRRT on a formal basis.</p> <p>However senior officers have established contacts at senior level with a number of manufacturers and are involved to a certain degree in assessing developments</p> <p>(e) ISRRT has contributed to the Medical Devices forum in November 2013 and is listed as partner with WHO on medical devices</p>	<p>(f) Foster new and existing contacts with manufacturers</p> <p>Continue international cooperation with IAEA, WHO, ICRQS and other Professional bodies in developing links with manufacturers.</p>



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ACTION 4:

Bonn Actions	Current Actions (Specific sub-actions identified highlighted)	Suggested Actions still required (Specific sub-actions identified highlighted)
<p>Action 4: Strengthen radiation protection education and training of health professionals</p> <ul style="list-style-type: none"> a) Prioritize radiation protection education and training for health professionals globally, targeting professionals using radiation in all medical and dental areas; b) Further develop the use of newer platforms such as specific training applications on the Internet for reaching larger groups for training purposes; c) Integrate radiation protection into the curriculum of medical and dental schools, ensuring the establishment of a core competency in these areas; d) Strengthen collaboration in relation to education and training among education providers in health care settings with limited infrastructure, as well as among these providers and international organizations and professional societies; e) Pay particular attention to the training of health professionals in situations of implementing new technology. 	<p>(a)ISRRT has not been directly involved in this action apart from partnering with WHO, IAEA,PAHO and other agencies</p> <p>(d) WHO Western Pacific Regional Office Represent technologist voice on issues related to universal health care and international health regulations</p> <p>(e)WHO Second Global Forum on Medical Devices in developing nations</p>	<p>(a&d) Produce a new policy /guidance document to support development of simple training documents that can be handed out by radiographers in English, French and Spanish.</p> <p>Continue international cooperation with IAEA, WHO, ICRQS and other Professional bodies in developing links with health professionals and updating literature.</p>



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ACTION 5:

Bonn Actions	Current Actions (Specific sub-actions identified highlighted)	Suggested Actions still required (Specific sub-actions identified highlighted)
<p>Action 5: Shape and promote a strategic research agenda for radiation protection in medicine</p> <ul style="list-style-type: none"> a) Explore the re-balancing of radiation research budgets in recognition of the fact that an overwhelming percentage of human exposure to man-made sources is medical; b) Strengthen investigations in low-dose health effects and radiological risks from external and internal exposures, especially in children and pregnant women, with an aim to reduce uncertainties in risk estimates at low doses; c) Study the occurrence of and mechanisms for individual differences in radiosensitivity and hyper-sensitivity to ionizing radiation, and their potential impact on the radiation protection system and practices; d) Explore the possibilities of identifying biological markers specific to ionizing radiation; e) Advance research in specialized areas of radiation effects, such as characterization of deterministic health effects, cardiovascular effects, and post-accident treatment of over-exposed individuals; f) Promote research to improve methods for organ dose assessment, including patient dosimetry when using unsealed radioactive sources, as well as external beam small-field dosimetry. 	<p>ISRRT has an annual research budget with the latest addressing the Role of the Radiographer in the Justification of Medical Exposure.</p> <p>ISRRT needs to explore how it embraces all of the sub actions</p>	<ul style="list-style-type: none"> (e) Continue ISRRT funded targeted annual research projects into radiation protection in medicine (f) Work with research bodies and target research into one or more of the specific sub-actions. (f) Consider partnering with MELOD1 – the Multidisciplinary European Low Dose Initiative or other similar organisations (e) Continue international cooperation with IAEA, WHO, ICRQS and other Professional bodies in developing links with health professionals in advancing research

ISRRT ACTION PLAN TO BONN CALL FOR ACTION

ACTION 6:

Bonn Actions	Current Actions (Specific sub-actions identified highlighted)	Suggested Actions still required (Specific sub-actions identified highlighted)
<p>Action 6 – Increase availability of improved global information on medical exposures and occupational exposures in medicine</p> <ul style="list-style-type: none"> a) Increase collection of dose data and trends on medical exposures globally, and especially in low- and middle-income countries, by fostering international co-operation; b) Improve data collection on occupational exposures on medicine globally, also focussing on corresponding radiation protection measures taken in practice; c) Make the data available as a tool for quality management and for trend analysis, decision making and resource allocation 	<p>ISRRT is a partner of the Alliance for Radiation Safety in Paediatric Imaging and associated with various campaigns (Image Gently, Image Wisely, Step Lightly and Image Gently for Dentistry) and with European member organisations linked through EFRS to the EuroSafe Imaging Strategy.</p> <ul style="list-style-type: none"> a) participate in Smart Card project IAEA and WHO 	<ul style="list-style-type: none"> (a) Partner or lead an initiative for collection of dose data in developing countries or in a specific Region – perhaps as a pilot. (a) Partner with the Alliance for radiation safety in Paediatric Imaging Continue international cooperation with IAEA, WHO, ICRQS and other Professional bodies in supporting and developing research projects

ISRRT ACTION PLAN TO BONN CALL FOR ACTION

ACTION 8:

Bonn Actions	Current Actions (Specific sub-actions identified highlighted)	Suggested Actions still required (Specific sub-actions identified highlighted)
Action 8: Strengthen radiation safety culture in health care <ul style="list-style-type: none"> a) Establish patient safety as a strategic priority in medical uses of ionizing radiation, and recognize leadership as a critical element of strengthening radiation safety culture; b) Foster closer co-operation between radiation regulatory authorities, health authorities and professional societies; c) Foster closer co-operation on radiation protection between different disciplines of medical radiation applications as well as between different areas of radiation protection overall, including professional societies and patient associations; d) Learn about best practices for instilling a safety culture from other sources, such as the nuclear power industry and the aviation industry; e) Support integration of radiation protection aspects in health technology assessment; f) Work towards recognition of medical physics as an independent profession in health care, with radiation protection responsibilities; g) Enhance information exchange among peers on radiation protection and safety-related issues, utilizing advances in information technology 	<p>(a) IRRT has funded a number of projects worldwide in developing countries which address radiation safety but this has been focused on the role of the radiographer</p> <p>(b) Links with the ISRP are established but needs to be fostered to improve cooperation and joint projects.</p> <p>(g) Participate represent global technologist voice in WHO meeting with other international organization and governmental organizations to mobilize health sector towards safe and effective use of radiation in medicine implement Bonn call to action (sept 2013)</p>	<p>(a,c&g) Produce a policy document that addresses patient safety, closer co-operation on safety protection and the enhancement of information exchange among peers.</p> <p>(b) Improve the links with the ISRP to improve cooperation and joint projects</p> <p>(c) Promote Image Gently, Image Wisely, Step Lightly and Image Gently for Dentistry campaigns and all campaigns on safety including the Patient Safety Quality in Medical Imaging : The Radiological Technologist's Role white paper of the ASRT as an example</p> <p>Continue international cooperation with IAEA, WHO, ICRQS and other Professional bodies in strengthening a radiation safety culture in health care.</p>

ISRRT ACTION PLAN TO BONN CALL FOR ACTION

ACTION 10:

Bonn Actions	Current Actions (Specific sub-actions identified highlighted)	Suggested Actions still required (Specific sub-actions identified highlighted)
Action 10: Strengthen the implementation of safety requirements globally <ul style="list-style-type: none"> a) Develop practical guidance to provide for the implementation of the International Basic Safety Standards in health care globally; b) Further the establishment of sufficient legislative and administrative framework for the protection of patients, workers and the public at national level, including enforcing requirements for radiation protection education and training of health professionals, and performing on-site inspections to identify deficits in the application of the requirements of this framework. 	<p>(a) Directly involved at International level with Draft writing group for Safety Guide supplement to the Basic Safety Standard's: Chapter 5(DS399) Nuclear medicine section revision meeting, Vienna Austria and Chapter one and two of the Radiation Safety Guide in Medical Uses of Ionizing Radiation in Vienna IAEA Aug 19-23, 2013</p> <p>(a) May 2013 IAEA RS-G1.5 Safety Series Drafting group for the update of Medical Exposure in Diagnostic and Interventional Radiology to accompany BSS</p> <p>a) June 2014 Provide Feedback as stakeholder on IAEA Draft Safety guide DS453 on Occupational Radiation Protection</p>	<p>(a) Produce a policy document which supports and influences the implementation of the BSS</p> <p>(a) Promote the publication written articles in "News and Views" which addresses this issue.</p> <p>(a) Continue as an organisation to respond to requests for comments and feedback for various draft documents and participation in relevant international meetings – using feedback from experts in the field.</p> <p>(a) Use the offices of the Director of Public Relations to influence governments and related agencies</p> <p>(b) Continue international cooperation with IAEA, WHO, ICRQS and other Professional bodies and particular individual countries in furthering the establishment of legislative and administrative frameworks</p>



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ISRRT RELEVANT ACTIVITIES RELATED TO BONN CALL FOR ACTION

NAME	Convener e.g. IAEA, WHO, ICRQS or Other Body	Conference/Workshop title and date	Bonn Call for Action	Ongoing Yes/ No
Napapong Pongnapang	WHO/ IAEA Smart Card Rad Track Project	Feb 2012- WHO/IAEA meeting to develop Joint position statement for Smart Card/Smart Rad Trac Project (WHO, ISR,ESR,IOMP,IHE,IAEA,FDA and ISRRT	Action 2: Enhance the implementation of the principle of optimization of protection and safety Develop and apply technological solutions for patient exposure records, harmonise the dose data formats provided by imaging equipment, and increase utilization of electronic health records	YES
Michael Ward	ACR, ESR and ISR	May 9th – 11th 2013 First Global Summit on Radiological Quality and Safety	Action 1: Enhance the implementation of the principle of justification Action 2: Enhance the implementation of the principle of optimization of protection and safety	YES
Dimitris Katsifarakis	IAEA	Sept 2013 Technical meeting on Smart card/smart tracking dose. 23-25 September 2013 Vienna.	Action 2: Enhance the implementation of the principle of optimization of protection and safety Develop and apply technological solutions for patient exposure records, harmonise the dose data formats provided by imaging equipment, and increase utilization of electronic health records The meeting was aiming to propose a uniform way	YES
Dimitris Katsifarakis	ISRRT with the contribution of EFRS Oct 2013- in Kaunas, Lithuania	Workshop on radiation Protection and optimization of doses in CT and Interventional Modalities.	Action 2 - Enhance the implementation of the principle of optimization of protection and safety	YES

QUESTIONNAIRE

- A web version of a short survey questionnaire on CT exposure optimization to evaluate the current situation was recently circulated via link to council members of the ISRRT worldwide
- 33% have returned and the responses were analyzed
- The results are not very reliable yet...but in time they may provide useful information



INITIAL RESULTS



1. To provide a specific knowledge in CT (i.e. principles, applications, and CT dose metrics)
2. To communicate new CT optimization campaigns and related e-learning programs
3. To increase awareness on dose reduction measures as well as on the innovative tools offered with current CT systems
4. To provide practical skills for protocol tailoring within a team approach depending on pt factors and diagnostic requirements
5. To encourage rg participation in CT CPD programs
6. To enhance competences for the implementation of DRLs, dose tracking (ie dose data collection) and dose reporting by RGs
7. To empower rg to become more involved in CT benchmarking,
8. To promote CT QA and clinical audits by core teams including rgs
9. To improve rg visibility!!!!!!

Future Actions

- Harmonize RG training and CPD in CT
- Emphasize on collaboration btw MS and manufacturers for webinars in CT
- Encourage manufacturers to become more visible to rgs within a country member state perhaps with seminars in collaboration with rg societies
- Promote Safety culture by
 - *Strengthening Dose recording and dose alert implementation*
 - *Increasing Awareness in CT Dose optimization Campaigns*
- **Get RGs involved!**



ISRRT's Reservation

How will we **ensure** and **promote**
patient safety, dose management and **quality of services** in CT
when the importance of the radiographer who actually administers the
radiation dose to the patient is not recognized by legislative authorities?





Thank You



E. AGADAKOS MSc
ISRRT COUNCIL MEMBER

President of the Panhellenic Society of Radiological Technologists (Greece)

