PRESIDENT OF THE CONFERENCE:

W. Weiss, Germany
Federal Office for Radiation Protection (BfS)

PROGRAMME COMMITTEE:

W. Hendee, USA (Chair)
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M. Perez, WHO
L. Pinillos-Ashton, Peru
M. Rehani, IAEA
E. Vañó, Spain
W. Weiss, Germany
Y. Yonekura, Japan
B. Yue, China

CONFERENCE SECRETARIAT:

Scientific Secretary:	O. Holmberg, IAEA
Local Organizers:	A. Böttger, Germany B. Saha, Germany A. Ullrich, Germany
Conference Coordination:	M. Khaelss, IAEA M. Neuhold, IAEA
Administrative Support:	M.T.M. Brittinger, IAEA J. Neufing, IAEA
Editor:	M. Siomos, IAEA

LOCATION OF THE CONFERENCE:

World Conference Center Bonn (WCCB)
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Working Language: English

Resolutions: No resolutions may be submitted for consideration on any subject; no votes will be taken.

TIMETABLE

Sunday, 2 December 2012

16:00–19:00	Registration and distribution of Conference material
19:00–21.00	Reception at Conference Site (WCCB)

Monday, 3 December 2012

08:00	Registration
10:00–11:15	**Opening Session**
11:15–12:25	**Briefing Session**
12:25–14:00	Lunch Break
14:00–16:30	**Session 1:** **Justification in the use of radiation in medicine**
16:30–17:00	Coffee Break
17:00–18:00	**Roundtable 1:** **Benefit/risk dialogue with patients and public**
19:00–22:00	Welcome Reception at the Kunst- und Ausstellungshalle

Tuesday, 4 December 2012

09:00–10:25	**Session 2:** **Radiation protection of patients in external beam radiotherapy**
10:25–11:00	Coffee Break
11:00–12:00	**Session 2 (continued)**
12:00–14:00	Lunch Break
12:10–13:40	**UNSCEAR breakout session:** **UNSCEAR's surveys on medical exposures: How to assess global levels and trends, and interpret the risks?**
14:00–16:30	**Session 3:** **Radiation protection of patients and staff in diagnostic nuclear medicine and hybrid imaging**
16:30–17:00	Coffee Break
17:00–18:00	**Roundtable 2:** **Manufacturers' role in medical radiation protection**

Wednesday, 5 December 2012

09:00–10:25	**Session 4:** **Radiation protection of patients, staff and the public during therapeutic use of sealed and unsealed radioactive sources**
10:25–11:00	Coffee Break
11:00–12:00	**Session 4 (continued)**
12:00–14:00	Lunch Break
12:10–13:40	**EC breakout session:** **Revision of the EURATOM Basic Safety Standards and beyond**
14:00–16:30	**Session 5:** **Radiation protection of patients and staff in interventional procedures**
16:30–17:00	Coffee Break
17:00–18:00	**Roundtable 3:** **Meeting radiation protection needs in healthcare settings with limited infrastructure**

Thursday, 6 December 2012

09:00–10:25	**Session 6:** **Radiation protection of patients in computed tomography**
10:25–11:00	Coffee Break
11:00–12:00	**Session 6 (continued)**
12:00–14:00	Lunch Break
14:00–16:30	**Session 7:** **Radiation protection of patients in film-based and digital radiography, diagnostic fluoroscopy and mammography**
16:30–17:00	Coffee Break
17:00–18:00	**Roundtable 4:** **Goals for medical radiation protection in 2020**

Friday, 7 December 2012

09:00–10:30	**Session 8:** **Radiation protection of patients and staff where procedures are performed outside radiology departments**
10:30–11:00	Coffee Break
11:00–13:20	**Mobilizing for future effective work and Conclusions**

Sunday, 2 December 2012

16:00–19:00 Registration

19:00–21:00 Reception

Monday, 3 December 2012

08:00 **Registration**

10:00-11:15 ***OPENING SESSION***

Chair: **M. Pinak, IAEA**

Opening Addresses:

P. Altmaier
Federal Minister for the Environment, Nature Conservation and Nuclear Safety

J. Nimptsch
Mayor, City of Bonn

D. Flory, IAEA
Deputy Director General
Head of Department of Nuclear Safety and Security

S. Matić, WHO
Acting Director
WHO European Centre for Environment and Health

P. Faross, EC
Acting Deputy Director General
Directorate General for Energy

Conference President's address:

W. Weiss, Germany
Federal Office for Radiation Protection (BfS)

Keynote Address:

W. Hendee, USA
Instilling a culture of safety

11:15-12:25 ***BRIEFING SESSION***

Chair: **W. Weiss, Germany**
O. Holmberg, IAEA

Changes impacting on radiation protection in medicine since the Malaga Conference

C. Cousins, ICRP

Short briefing on activities and priorities influenced by the Malaga Conference

IAEA

WHO

PAHO

EC

UNSCEAR

IOMP

IRPA

ISR

ISRRT

12:25–14:00 *Lunch Break*

Monday, 3 December 2012

14:00-16:30	***SESSION 1:*** ***Justification in the use of radiation in medicine***
Chair:	**D. Remedios, EC** **J. Malone, Ireland**
	Introduction of the Topic:
14:00	**D. Remedios, EC**
	Topical Presentations:
14:10	**J. Malone, Ireland** Strategies for improving the implementation of justification
14:35	**M. Bettmann, USA** Developing and implementing appropriateness criteria and referral guidelines
15:00	**D. Frush, Image Gently** Justification and the role of technology and algorithms
	Summary of Contributed Papers:
15:25	**R. Guleria, India**
15:50	**Discussion**
16:30–17:00	*Coffee Break*

17:00-18:00	***ROUNDTABLE 1:*** ***Benefit/risk dialogue with patients and public***
Chair:	**M. Perez, WHO** **G. Frija, EC**
	Introduction of the Topic:
17:00	**M. Perez, WHO**
	Summary of Contributed Papers:
17:05	**G. Frija, EC**
	Statements:
17:10	**G. Gamhewage, WHO** Public health risk communication with the media and public
17:20	**M. Murphy, Ireland** Patients' perspective on communicating risks and benefits
17:25	**D. Frush, Image Gently** Radiologists' perspective on communicating risks and benefits
17:30	**R. Roberts, World Association of Family Doctors, USA** Family physicians' perspective on communicating risks and benefits
17:35	**Discussion**
19:00-22:00	*Welcome Reception at the Kunst- und Ausstellungshalle*

Tuesday, 4 December 2012

09:00-10:25	***SESSION 2:*** ***Radiation protection of patients in external beam radiotherapy***
Chair:	**P. Ortiz, ICRP** **A. Meghzifene, IAEA**
	Introduction of the Topic:
09.00	**P. Ortiz, ICRP**
	Topical presentations:
09:10	**Y. Yonekura, Japan** Impact of new treatment technology on patient protection in radiotherapy
09:35	**T. Knöös, Sweden** Tools needed and tools available for safety improvement
10:00	**A. Wiley, USA** Medical issues associated with radiotherapy accidents
10:25–11:00	*Coffee Break*
11:00-12:00	***SESSION 2 (cont'd)***
	Summary of Contributed Papers:
11:00	**O. Holmberg, IAEA**
11:25	**Discussion**
12:00–14:00	*Lunch Break*

12:10-13:40	***UNSCEAR breakout session: UNSCEAR's surveys on medical exposures: How to assess global levels and trends, and interpret the risks***
12:10	**F. Shannoun, UNSCEAR** UNSCEAR's surveys on medical exposure: Findings and the way forward
12:25	**P. Jacob, Germany** Uncertainties of cancer risk estimates for applications of ionizing radiation in medicine
12:35	**W. Müller, Germany** Can we attribute health effects to medical radiation exposure?
12:55	**Panel discussion** on risk estimations from medical exposures
Chair: Rapporteur:	**W. Weiss, Germany, Chair of UNSCEAR** **F. Shannoun, UNSCEAR**
Members:	**A. González, Argentina** **W. Hendee, USA** **P. Jacob, Germany** **W. Müller, Germany** **M. Waligórski, Poland** **Y. Yonekura, Japan**

Tuesday, 4 December 2012

14:00-16:30	***SESSION 3:*** ***Radiation protection of patients and staff in diagnostic nuclear medicine and hybrid imaging***
Chair:	**S. Mattsson, Sweden** **Y. Yonekura, Japan**
	Introduction of the Topic:
14:00	**S. Mattsson, Sweden**
	Topical Presentations:
14:10	**A. Hosono, Japan** Radiation protection challenges and trends in PET/CT
14:35	**D. Newman, ISRRT** Dose reduction in nuclear cardiology
15:00	**F. Vanhavere, Belgium** Assessing and reducing exposures to nuclear medicine staff
	Summary of Contributed Papers:
15:25	**A. Rojo, Argentina**
15:50	**Discussion**
16:30–17:00	*Coffee Break*

17:00-18:00	***ROUNDTABLE 2:*** ***Manufacturers' role in medical radiation protection***
Chair:	**S. Ebdon-Jackson, UK** **J. Griebel, Germany**
	Introduction of the Topic:
17:00	**S. Ebdon-Jackson, UK**
	Summary of Contributed Papers:
17:05	**J. Griebel, Germany**
	Statements on the manufacturers' role:
17:10	**Manufacturer, through COCIR** The manufacturers' perspective
17:15	**N. Denjoy, Belgium, COCIR** The trade association's perspective
17:20	**N. Bischof, IEC** The IEC perspective
17:25	**P. Trueb, Switzerland** The regulatory authorities' perspective
17.30	**J.S. Wambani, Kenya** The end-users' perspective
17:35	**Discussion**

Wednesday, 5 December 2012

09:00-10:25	***SESSION 4:*** ***Radiation protection of patients, staff and the public during therapeutic use of sealed and unsealed radioactive sources***
Chair:	**R. Czarwinski, Germany** **L. Dauer, USA**
	Introduction of the Topic:
09.00	**R. Czarwinski, Germany**
	Topical presentations:
09:10	**L. Dauer, USA** Radiation protection in brachytherapy in the next decade
09:35	**S. Mattsson, Sweden** Radiation protection in radionuclide therapy in the next decade
10:00	**G. Glatting, Germany** Developments in patient dosimetry for unsealed sources
10:25–11:00	*Coffee Break*
11:00-12:00	***SESSION 4 (cont'd)***
	Summary of Contributed Papers:
11:00	**A. Hosono, Japan**
11:25	**Discussion**
12:00–14:00	*Lunch Break*

12:10-13:40	***EC breakout session:*** ***Revision of the EURATOM Basic Safety Standards and beyond***
12:10	**G. Simeonov, EC** The revised EURATOM Basic Safety Standards: major changes in the medical part
12:25	**S. Ebdon-Jackson, UK** Specific topics in the revised EURATOM BSS: Accidents in radiotherapy
12:40	**J. Griebel, Germany** Specific topics in the revised EURATOM BSS: Asymptomatic individuals
12:55	Panel discussion on future transposition and implementation challenges
Chair: Rapporteur:	**E. Vañó, Spain, Chair of Art. 31 WP MED** **G. Simeonov, EC**
Members:	**G. O'Reilly, Ireland** **C. Milu, Romania** **S. Ebdon-Jackson, UK** **J. Griebel, Germany** **C. Rousse, France** **G. Simeonov, EC**

Wednesday, 5 December 2012

14:00-16:30	***SESSION 5:*** ***Radiation protection of patients and staff in interventional procedures***
Chair:	**M. Rehani, IAEA** **S-T. Lim, Singapore**
	Introduction of the Topic:
14:00	**M. Rehani, IAEA**
	Topical Presentations:
14:10	**R. Loose, Germany** Improving protocols and procedures for strengthened radiation protection in interventional procedures
14:35	**E. Vañó, Spain** Diagnostic reference levels in interventional procedures
15:00	**R. Padovani, EFOMP** Assessing and reducing exposures to cardiology staff
	Summary of Contributed Papers:
15:25	**A. Duran, Uruguay**
15:50	**Discussion**
16:30–17:00	*Coffee Break*

17:00-18:00	***ROUNDTABLE 3:*** ***Meeting radiation protection needs in healthcare settings with limited infrastructure***
Chair:	**P. Jiménez, PAHO** **A. Nader, IAEA**
	Introduction of the Topic:
17:00	**P. Jiménez, PAHO**
	Summary of Contributed Papers:
17:05	**A. Nader, IAEA**
	Statements:
17:15	**M. Kawooya, Uganda** Role of collaborations between well-resourced and low-resourced countries
17:20	**C. de Almeida, WHO** Matching technology with health care needs and infrastructure
17:25	**C. Borras, Spain** Challenges and opportunities with refurbished/second hand equipment
17:30	**M. Rehani, IAEA** The role of education and training
17:35	**Discussion**

Thursday, 6 December 2012

09:00-10:25	***SESSION 6:*** ***Radiation protection of patients in computed tomography***
Chair:	**P-L. Khong, China** **P. Shrimpton, UK**
	Introduction of the Topic:
09.00	**P-L. Khong, China**
	Topical Presentations:
09:10	**W. Kalender, Germany** New developments in CT technology and their impact on patient protection
09:35	**W. Lee, Rep. of Korea** Radiation protection in paediatric CT
10:00	**W. Hendee, USA** Reporting of dose in CT
10:25–11:00	*Coffee Break*
11:00-12:00	***SESSION 6 (cont'd)***
	Summary of Contributed Papers:
11:00	**M. Bourguignon, France**
11:25	**Discussion**
12:00–14:00	*Lunch Break*

14:00-16:30	***SESSION 7:*** ***Radiation protection of patients in film-based and digital radiography, diagnostic fluoroscopy and mammography***
Chair:	**L. Lau, Australia** **B. Keller, Germany**
	Introduction of the Topic:
14:00	**L. Lau, Australia**
	Topical Presentations:
14:10	**K-H. Ng, AFOMP** Ensuring safety in transition to digital radiography in practice
14:35	**P. Mildenberger, Germany** Impact of teleradiology on radiation protection
15:00	**H. Bosmans, EFOMP** Radiation protection issues in breast screening
	Summary of Contributed Papers:
15:25	**K-H. Do, Rep. of Korea**
15:50	**Discussion**
16:30–17:00	*Coffee Break*

Thursday, 6 December 2012

17:00-18:00	***ROUNDTABLE 4:*** ***Goals for medical radiation protection in 2020***
Chair:	**W. Weiss, Germany** **S. Magnusson, Iceland**
	Introduction of the Topic:
17:00	**W. Weiss, Germany**
	Summary of Contributed Papers:
17:05	**S. Magnusson, Iceland**
	Statements:
17:15	**B. Le Guen, IRPA** Narrowing the gap between evidence and practice
17:20	**M. Bourguignon, France** Future impact on medical radiation protection from radiobiological advances
17:25	**J. Labuscagne, ISR** Goals for medical radiation protection in diagnostic applications
17:30	**D-R. Olsen, ESTRO** Goals for medical radiation protection in therapeutic applications
17:35	**F. Nüsslin, IOMP** Models for education and training
17:40	**Discussion**

Friday, 7 December 2012

09:00-10:30	***SESSION 8:*** ***Radiation protection of patients and staff where procedures are performed outside radiology departments***
Chair:	**C. Etard, France** **C. Liapis, Greece**
	Introduction of the Topic:
09.00	**C. Etard, France**
	Topical Presentations:
09:10	**M. Maher, WGO** Minimizing patient exposure to radiation in GI imaging
09:35	**K. Horner, EC** Radiation protection in dental radiology
	Summary of Contributed Papers:
10:00	**V. Holahan, USA**
10:15	**Discussion**
10:30–11:00	*Coffee Break*
11:00-13:20	***Mobilizing for future effective work and Conclusions***
Chair:	**W. Weiss, Germany** **M. Perez, WHO**
11:00	**W. Hendee, USA** A summary of conclusions from sessions and roundtables of the Conference
11:20	**J. Le Heron, IAEA** The new International Basic Safety Standards and their potential impact on radiation protection in medicine
11:40	**E. Vañó, Spain** Working towards an appropriate level of radiation protection in medicine in the next decade
12:00	**A. González, Argentina** Lessons learnt from the past to consider when mobilizing for future effective work
12:20	**W. Weiss, Germany** Synthesis and Call for Action
13:00	**P-S. Hahn, IAEA** Future international cooperation on radiation protection in medicine and Closing of the International Conference

LIST OF CONTRIBUTED FULL PAPERS

All contributed full papers are available on the USB-sticks provided to registered participants.

Posters will be displayed outside the Conference room throughout the duration of the Conference. Poster authors are invited to be at their posters for discussion during coffee and lunch breaks.

Main Author	Designating Member State/ Organization	Title of Paper
Session 1. **Justification in the use of radiation in medicine**		
Buzzi, A.	Argentina	The Argentine guide of recommendations for the correct indications of diagnostic imaging examinations. The role of the medical societies
Lahfi, Y.	Syrian Arab Republic	Syrian radiological examination information card (SREIC) - a preliminary approach to track patient diagnostic radiation exposure
Moores, M.	United Kingdom	The role and relevance of efficacy to the principle of justification in the field of radiation protection of the patient
Pallewatte, A.	Sri Lanka	Preliminary study on the impact of a redesigned paper based radiology requisition form with a radiation dose scale on referring clinicians - As a model for developing countries
Remedios. D.	European Commission	EC Guidelines Project: Report of work in progress
Van Bladel, L.	Belgium	HERCA's contribution to improving justification in medical imaging
Session 2. **Radiation protection of patients in external beam radiotherapy**		
Alfonso Laguardia, R.	Cuba	On radiation protection in electron arc therapy. A case study
Alves, C.F.	Brazil	Cs-137 radioactive check device for quality control of dosimeters used in radiotherapy

Main Author	Designating Member State/ Organization	Title of Paper
Ascención Ybarra, Y.	Cuba	Safety improvement in radiotherapy treatment plan. Planning vs redundant check vs in vivo
Asnaashari Lahroodi, K.	Iran, Islamic Republic of	Lessons learnt from errors and accidents to improve patient safety in radiotherapy centers
Bero, M.	Syrian Arab Republic	Gel dosimetry for radiotherapy patient dose measurements and verification of complex absorbed dose distributions
Campos, L.T.	Brazil	A method for external quality audit program in radiosurgery with TLD and radiochromic film
Castellanos, C.	Dominican Republic	Optimization acceptance guidance of 3DRT and IMRT plans as a part of a radiation protection program for the patient in radiotherapy
Chelminski, K.	Poland	Film dosimetry for validation of the performance of commerically available 3D detector arrays for patient treatment plan verifications
Chung, J.B.	Korea, Republic of	Radioprotective effect of bolus on testicular dose during radiation therapy for testicular seminoma
Cordero Ramírez, A.	Costa Rica	Portal imager as a tool for improving radiation protection to patients undergoing dIMRT treatments
Dash Sharma, P.	India	Issues on patient safety during radiation therapy - concerns of regulatory authority
Dubner, D.	Argentina	Inflammatory response parameters in patients following radiotherapy or interventional procedures
Dufek, V.	Czech Republic	Organ and effective doses from verification techniques in image-guided radiotherapy
Dumenigo. C.	Cuba	Application of the risk matrix approach in radiotherapy - an Ibero-American experience
Expósito, M.R.	Spain	Neutron contamination in radiotherapy treatments - evaluation of dose and secondary cancer risks in patients
Findlay, U.	United Kingdom	Developing a national reporting system - the HPA experience
Gershkevitsh, E.	Estonia	IAEA supported national treatment planning system audit as a tool to improve safety and quality in radiotherapy
Harty, P.	Australia	Direct calbiration of Australian hospital reference chambers in linac beams
Horakova, I.	Czech Republic	Prevention and management of accidental exposures in radiotherapy in the Czech Republic
Ismail, A.	Syrian Arab Republic	An implantable in-vivo GAN dosimeter for the measurement of delivered dose to patient during radiation therapy
Johnston, P.	Australia	The Australian Clinical Dosimetry Service: Initial results
Karamloo Ghezeljeh, A.	Iran, Islamic Republic of	Determination of entrance and exit doses in vivo in radiotherapy photon beams – a simple approach
Lachos Davila, A.	Peru	Radiological accident due to direct exposure of Co-60 source. Follow-up after 16 years
Lee, J.W.	Korea, Republic of	Analysis of cumulative dose to implanted pacemaker according to various IMRT delivery techniques - optimal dose delivery vs dose reduction strategy
Malicki, J.	Poland	Risk analysis of accidental and unintended exposures in radiotherapy

Main Author	Designating Member State/ Organization	Title of Paper
Manickam, R.	India	Dose from secondary radiation outside the treatment fields at different treatment distances with the use of multi-leaf collimators, physical and enhanced dynamic wedges
Mari, A.	Italy	Imaging dosimetric evaluation and radioprotection IGRT
Melchor, M.	Spain	Radiation protection of the patient during the IMRT process
Mukherjee, B.	Germany	Operational health physics during the commissioning phase of the West German Proton Therapy Centre Essen
Niemeyer, C.	Brazil	PET/CT in radiotherapy planning
Nonato.F.B.	Brazil	Comparison of the energy dependence of two homemade ionization chambers in relation to a standard ionization chamber in low-energy kilovoltage X ray beams
Nyakodzwe, W.	Zimbabwe	Characterizing silicon diodes response for radiation measurements
Parkhomenka, L.	Belarus	Radioprotection of workers with head and neck cancer during radiotherapy
Paz Garcia Beltran, A.	Mexico	Main results of the risk assessment using SEVRRA
Portas, M.	Argentina	The development of a specialized service for the treatment of radiation-induced burns
Rahman, M.S.	Bangladesh	Doses to critical organs following radiotherapy treatment of lung, larynx and pelvis
Raslawski, E.	Argentina	Radioprotection in paediatric patients at the Department of Radiotherapy of Dr. Juan P. Garrahan Paediatric Hospital
Ribeiro da Rosa, L.A.	Brazil	Implementation of EPID model aS500-II of the Trilogy LINAC of the National Cancer Institute Brazil
Rodrigues, L.N.	Brazil	Implementation of safety culture in radiotherapy centers in Brazil
Rodriguez Ponce, M.	Mexico	Surface dose for cone beam CT scans for head and neck cancer treatments
Salinas Aranda, F.	Argentina	One complex tool and 3 simple approaches to the improvement of QA and safety in EBR
Sansogne, R.	Argentina	Current status of radiotherapy equipment in Argentina
Sergieva, K.	Bulgaria	The proton therapy - primum non nocere
Siraprapasiri, P.	Thailand	Effect of radiation therapy to immunological and virological status in HIV AIDS cancer patients
Stadnyk, L.	Ukraine	Creation and implementation of national TLD postal dose audit for radiotherapy departments in Ukraine
Teixeira, F.C.	Brazil	Risk assessment for stereotactic intracranial radiosurgery (SRS) in Brazil using FMEA
Zamani,M.	Iran, Islamic Republic of	Calculation of absorbed dose in target tissue and equivalent dose in remained tissues of patients treated by BNCT using MCNP4C

Session 3.
Radiation protection of patients and staff in diagnostic nuclear medicine and hybrid imaging

Alnaaimi, M.	Kuwait	Radiation protection in Kuwait nuclear medicine departments
Cabrejas, M.	Argentina	Pearls and pitfalls of the nuclear medicine applications in Argentina

Main Author	Designating Member State/ Organization	Title of Paper
Gil Stamati, M.	Argentina	Dosimetry analysis in production and quality control tasks in a radiopharmaceutical laboratory with F-18 FDG
Gómez Avila, J.	Cuba	Dosimetric evaluation of extravasated activity in nuclear medicine scans
Gupta, A.	India	Optimization of imaging and radiation protection protocols is a key to safety of both patients and workers in medicine - a practical and validated approach in a high volume PET center in India
Mhiri Chaabouni, A.	Tunisia	Evaluation of SPECT-CT dosimetry for some routine nuclear medicine exams
Montezano, G.	Brazil	A dosimetric study in PET CT
Namias, M.	Argentina	Radiation protection in diagnostic nuclear medicine in Argentina: current status and future recommendations
Namias, M.	Argentina	Radiation exposure of patients undergoing whole-body 18F-FDG PET/CT
Piwowarska-Bilska, H.	Poland	Radiation doses to staff in Nuclear Medicine Department (Szczecin, Poland) in years 2008-2011
Ptacek, J.	Czech Republic	A 10-year retrospective study of radiation exposure of the staff at nuclear medicine department
Qafmolla, L.	Albania	Evaluation of effective doses for occupational staff and patients in examinations with Mo99-Tc-99m
Ramos, S.M.	Brazil	Optimization of cardiologic protocols in nuclear medicine examinations
Tandon, P.	India	Radiation dose to occupationally exposed worker from a patient undergoing nuclear medicine scan - Relation to ICRP recommendation for pregnant workers

Main Author	Designating Member State/ Organization	Title of Paper
Session 4. **Radiation protection of patients, staff and the public during therapeutic use of sealed and unsealed radioactive sources**		
Costa, G.	Brazil	Patient's retained activity in neuroendocrine tumours treatment with Lu177, Ty3 octreaotate
Crane. P.	USA	Radiation protection issues associated with outpatient treatment of thyroid cancer using high doses of I-131: The US experience
Desai, R.	Malta	Volume of MIRD mathematical phantom using single formula
Eaton, D.	United Kingdom	Thermoluminescent in vivo dosimetry for patient protection in intraoperative radiotherapy
Guimaraes, M.I.	Brazil	Dosimetric calculations for patients with differentiated thyroid cancer therapy with I131 preceded by REC-HTSH
Menezes, A.F.	Brazil	Analysis of the influence of cell size detectors considering conventional scenarios and voxel structure in DICOM medical images using Monte Carlo simulation code MCNP
Natouh, Ms. S.	Libya	Radiobiological evaluation of 213Bi and 149Tb radioisotopes for targeted alpha therapy by computational methods
Oyekunle, E.O.	Nigeria	Safety in brachytherapy source position indicator as a quality assurance tool in stepping source technology
Pellizzon, A.C.	Brazil	Prostate cancer and radiation protection - A future health and radiation protection issue in developing countries
Petitguillaume, A.	France	Monte Carlo treatment planning in nuclear medicine: application in Y-90 microspheres therapy of liver cancer

Main Author	Designating Member State/ Organization	Title of Paper
Queijo, D.A.	Brazil	A general sight of radioisotope therapy and associated safety management
Saminathan, S.	India	Unusual incident in high dose rate remote afterloading system
Sarti, G.	EFOMP	Extremity and eye lens dosimetry - individual monitoring of staff during therapies with Y90 labelled substances
Soetopo, S.	Indonesia	Patient's safety in the application of high dose rate superficial brachytherapy
Tandon, P.	India	Estimation of radiation dose to the caregivers/relatives of patients during the treatment of cancer thyroid and thyrotoxic patients in India
Tuncel, N.	Turkey	The environmental dose measurement of high dose I-131 treated patients during hospitalization period
Vergara Gil, A.	Cuba	MCID: A personalized dosimetric tool associating voxel-based models with MCNP5
Zdraveska Kochovska, M.	T.F.Y.R. Macedonia	RADAR calculated effective doses to family members of patients treated with I131

Session 5.
Radiation protection of patients and staff in interventional procedures

Main Author	Designating Member State/ Organization	Title of Paper
Azhar, A.	Indonesia	Occupational radiation protection in interventional radiology in Indonesia
Bahreyni Toossi, M.	Iran, Islamic Republic of	Preliminary results of an attempt to predict over apron dose of cardiologist from cardiac fluoroscopy procedures based on DAP values
Canevaro, L.	Brazil	Monitoring doses in interventional cardiology to identify factors that increase patient exposure
Duran Reyes, A.C.	Uruguay	Randomized comparison of occupational dose between radial and femoral access for percutaneous coronary intervention - Radifemoproc trial
Duran Reyes, A.C.	Uruguay	Collaboration between IAEA and Latin-American Society of Interventional Cardiology regarding radiation protection
Etard, C.	France	Need for improving patient radiation protection in interventional radiology - A review of recent overexposure cases in France
Giczi, F.	Hungary	A pilot study of patient radiation exposure arising from interventional cardiology procedures in Hungary
Ginjaume, M.	Spain	Staff radiation doses in interventional cardiology
Järvinen, H.	Finland	Accuracy of KAP displays and the feasibility of two methods for their calibrations
Khan, M.	Bangladesh	Patient exposure in interventional cardiology
Kidali, M.M.	Kenya	Optimization of patient protection in interventional procedures
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Le Heron, J.C.	IAEA	ISEMIR - An international database for optimization of occupational radiation protection in interventional cardiology

Main Author	Designating Member State/ Organization	Title of Paper
Livingstone, R.S.	India	An overview on radiation doses to patients from interventional procedures in a tertiary referral centre in India
Merino Gestoso, J.	Spain	Patient dose in medical interventional procedures. A local study
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Sanchez, R.	Spain	Patient and staff doses in interventional cardiology - the DOCCACI project and preliminary results
Touzet, R.E.	Argentina	Project of remote assessment and optimization of interventional cardiology services
Touzet, R.E.	Argentina	Key issues in the optimization of doses in interventional procedures. The proper use of the reference levels
Ubeda, C.	Chile	Patient and occupational dose survey in paediatric interventional cardiology in Chile

Session 6.
Radiation protection of patients in computed tomography

Bahreyni Toossi,M	Iran, Islamic Republic of	First report of LDRL arising from CT examinations of children in the greater Khorasan province of Iran
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Ivanov, V.	UNSCEAR	Risk of medical radiation exposure in terms of the effective and organ dose

Main Author	Designating Member State/ Organization	Title of Paper
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Schmidt, R.	Germany	Reducing the absorbed dose to the eye lenses during CT by adjusting the beam path
Srivastava A.	India	Comparative studies of radiation doses from 4-slice and 64-slice CT
Yoshimura, E.	Brazil	Study of the dose to the lens of the eye in CT exams using an iterative reconstruction
Zink, K.	Germany	Personalized calculation of organ dose in computer tomography using Monte Carlo simulations

Session 7.
Radiation protection of patients in film-based and digital radiography, diagnostic fluoroscopy and mammography

Main Author	Designating Member State/ Organization	Title of Paper
Adhikari, K.P.	Nepal	A view of the status of radiation protection, patient dose and staff awareness in diagnostic radiology in Nepal
Al Shehhi, A.	United Arab Emirates	Shielding calculations as regulatory tools in diagnostic radiology
Al Suwaidi, J.	United Arab Emirates	A survey on paediatric radiation doses at Dubai Health Authority hospitals
Binst, J.	EFOMP	Preliminary experience with a new test method for the automatic exposure controller in digital mammography, and its link to patient dosimetry
Cepuliene, A.	Lithuania	Survey for determination of diagnostic reference levels for common radiography examinations of paediatric patients in Lithuania
Charnock, T.	UK	Optimization of pelvis examinations using a direct digital detector
Chevalier, M.	Spain	Breast doses for tomography examinations: A pilot study
Correa, E.	Brazil	Calibration of radiochromic film in different X ray systems in the range of diagnostic radiology
Costa, N.A.	Brazil	Development of a calibration methodology of the patient dose calibrator
Costa, P.R.	Brazil	Exploring the uncertainties on the fitting parameters of a widely used mathematical model of X ray transmission
Costa, P.R.	Brazil	Qualitative analysis of X ray spectra transmitted by an anthropomorphic phantom and a shielding barrier
David, M.G.	Brazil	Spectra and depth-dose deposition in a PMMA breast phantom obtained by experimental and Monte Carlo methods
Fabiszewska, E.	Poland	Individual doses during mammography screening examinations with screen-film and DR systems
Fernández Herrera, A.	Cuba	Paediatric patient dosimetry towards a program to reduce dose in chest examination in Cuba
Geeraert, N.	EFOMP	Breast characteristics and dosimetric data in X ray mammography - a large sample survey
Gyekye, K.	Ghana	Ovary and uterus dose assessment of female patients undergoing some selected radiographic examinations

Main Author	Designating Member State/ Organization	Title of Paper
Hunstad, S.	Indonesia	Entrance surface dose (ESD) for various radiographic examinations in Indonesia
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Paydar, R.	Iran, Islamic Republic of	A survey of patients effective dose undergoing digital chest X ray radiography in Iran
Pereira, L.S.	Brazil	Evaluation of parameters of image quality in digital mammography according to the European Commission using the phantom PAS 1054
Pylypenko, M.	Ukraine	Study of patient doses in radiography and establishment of national reference levels in Ukraine
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Wilkins, H.	UK	Potential applications of dose-tracking and active dosimetry systems to encourage X ray image optimization and minimize staff dose

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Session 8. **Radiation protection of patients and staff where procedures are performed outside radiology departments**		
Helmrot, E.	Sweden	Kerma-area product as a dose indicator in dental CBCT
Horner, K.	European Commission	Cone beam CT for dental and maxillofacial radiology: the development of European evidence based guidelines
Jakubiak, R.R.	Brazil	Optimization of paediatrics chest exams at Intensive Care Units
Khoury, H.	Brazil	Organ doses and air kerma-area product from dental cone beam CT scanners
Khoury, H.	Brazil	Radiation exposure to paediatric patients in cerebral procedures
Muchuki, C.W.	Kenya	Dose reduction in trauma patients performed using portable equipment at Kenyatta National Hospital, Kenya
Rottke, D.	Germany	Dosimetry and the use of a lead apron in dental radiographic modalities
Sanchez, R.	Spain	Implementation of digital radiography in a neonatal intensive care unit
Vassileva, J.	Bulgaria	Radiation protection training for dental students: Experience in Bulgaria
Voigt, J.	Germany	Simulation of patient exposure at radius fracture diagnostics. Using 2D and 3D imaging techniques
Zatelli, G.	EFOMP	Radiation exposure during endovascular abdominal aortic aneurysm repair (EVAR)
Zhang, G.	Belgium	Organ absorbed dose and the effective dose calculated using computational anatomical phantoms for dedicated cone beam oral and maxillofacial CT

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Roundtable 2. Manufacturers' role in medical radiation protection		
Arifin, Z.	Indonesia	Manufacturers cyclotron role in protecting patient on use of PET in Indonesia
Hartmann, H.	Germany	The smartphone as a dose rate meter
O'Connor, U.	European Commission	EC Report RP-162: Criteria of acceptability for medical radiological equipment: General background and application to diagnostic radiology
Spyropoulos, B.	Greece	Trends in patients' radiation protection: Manufacturers' research strategy as outlined in industrial property documents
Trianni, A.	EFOMP	The need to foster collaboration between medical physicists and manufacturers through standards in the area of radiation protection of patients
Roundtable 3. Meeting radiation protection needs in healthcare settings with limited infrastructure		
Almhena, H.E.Y.	Sudan	A study on the annual doses received by the workers
Al Naemi, H.	Qatar	Radiation safety training of workers in Qatar
Dash Sharma, P.	India	Regulation of radiation therapy practice in India - Challenges in ensuring patient safety
Fatah, N.A.	Iraq	Environmental survey and quality control tests of X ray diagnostic facility of hospitals in Kurdistan Region, Iraq
Ghezaiel, M.J.	Tunisia	Radiological protection of patients in medical exposure in Tunisia
Isoardi	Argentina	The consequences of the lack of specialists in radiation protection in health services and different ways to overcome it
Kasige, C.	Sri Lanka	TL dosimetry on assessment of occupational exposures and status of ionizing radiation exposures of medical workers in Sri Lanka
Katumba, M.F.	Uganda	Personnel radiation monitoring in Uganda: Preliminary findings
Lunardon, R.	Argentina	Operation of radiological protection committees in hospitals that do not have a specialized radiation protection services
Mairal, M.L.	Argentina	Academic education, clinical training and professional recognition of medical physicists in Argentina
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Sutrisno, S.A.	Indonesia	Strategy of Indonesia's nuclear energy regulatory agency to control patient dose in the utilization of radiology diagnostic equipment
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Vassileva, J.	Bulgaria	Bulgarian approach for strengthening the radiation protection in medicine

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Bourguignon, M.	France	Individual radiosensitivity and increasing medical doses
Ciraj-Bjelac, O.	Serbia	First results of population dose assessment from X ray and nuclear medicine examinations in Serbia
Damilakis, J.	European Commission	Education and training in medical radiation protection: The experience from the MEDRAPET project
Guibelalde, E.	European Commission	EU Project Guidelines on medical physics expert Parts 1, 2, and 3
Havukainen, R.	Finland	Education and training in radiation protection for health care professionals. A survey in Finland.
Huber, S.	Germany	The radiographer's key role in radiation protection in medicine
Järvinen, H.	Finland	Estimation of population doses from diagnostic radiological and nuclear medicine procedures: a tool for authorities to promote justification and optimization
Lafont, M.	France	Establishing clinical audits in France
Pesznyak, C.	Hungary	Role of radiation protection in the schedule of medical physics MSc course of BME University

Main Author	Designating Member State/ Organization	Title of Paper
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