

CONTENTS

EXECUTIVE SUMMARY	i
OPENING SESSION	
Opening Address <i>C. Villalobos Talero</i>	3
Opening Address <i>J.Á. Azuara</i>	7
Opening Address <i>A. Díez de los Ríos Delgado</i>	11
Opening Address <i>R. Ruiz Cruces</i>	13
Opening Address <i>F.A. Mettler</i>	15
Opening Address <i>A.J. González</i>	17
Opening Address <i>K. Schnuer</i>	23
Opening Address <i>C. Borrás</i>	27
Opening Address <i>H. Ostensen</i>	31
GLOBAL VIEW ON THE RADIOLOGICAL PROTECTION OF PATIENTS (Background Session)	
Role of the IAEA in the radiological protection of patients <i>P. Ortiz López, A.D. Wrixon, A. Meghzifene, J. Izewska</i>	35
EU laws and guidance reinforce the radiological protection of patients <i>M. Sarró Vaquero, D. Teunen</i>	47
Global view on the radiological protection of patients: PAHO position paper <i>C. Borrás</i>	55
Global view on the radiological protection of patients: The World Health Organization position <i>H. Ostensen</i>	67
The role of the United Nations Scientific Committee on the Effects of Atomic Radiation in relation to medical radiation exposures <i>P.C. Shrimpton</i>	71

International Commission on Radiological Protection	
<i>F.A. Mettler</i>	77
Role and responsibilities of medical physicists in radiological protection of patients	
<i>A. Niroomand-Rad</i>	79
The activities of the International Radiation Protection Association in relation to the radiological protection of patients	
<i>G.A.M. Webb</i>	91
International Society of Radiology and Radiation Protection	
<i>C.G. Standertskjöld-Nordenstam</i>	95
Global view on the radiological protection of patients: Position paper by the International Society for Radiation Oncology	
<i>H. Svensson</i>	97
International Society of Radiographers and Radiological Technologists and radiation protection	
<i>A. Yule</i>	99
Global view on the radiological protection of patients: Position paper by the World Federation of Nuclear Medicine and Biology	
<i>H. Amaral</i>	103

BRIEFING SESSION

The current uses of radiation in medicine	
<i>P.C. Shrimpton</i>	109
Radiological risks associated with the various uses of radiation in medicine within the context of their associated benefits	
<i>F.A. Mettler</i>	119
Current level of radiation dose to patients	
<i>A. Servomaa</i>	129
Lessons learned in radiology	
<i>D.J. Goodenough</i>	145
The international regulatory climate	
<i>J.-F. Lacronique</i>	157

TOPICAL SESSIONS

RADIOLOGICAL PROTECTION OF PATIENTS IN GENERAL DIAGNOSTIC RADIOLOGY (Topical Session 1)

Protection of patients in general radiography	
<i>M.M. Rehani</i>	169
Discussion	178

RADIOLOGICAL PROTECTION ISSUES IN SPECIFIC USES OF DIAGNOSTIC RADIOLOGY (Topical Session 2)

Radiological protection issues in mammography and computed tomography	
<i>J.E. Gray</i>	183
Discussion	199

RADIOLOGICAL PROTECTION IN INTERVENTIONAL RADIOLOGY (Topical Session 3)

Radiological protection in interventional radiology	
<i>R. Padovani</i>	203
Discussion	223

RADIOLOGICAL PROTECTION OF PATIENTS IN NUCLEAR MEDICINE (Topical Session 4)

Radiological protection of patients in nuclear medicine	
<i>L.K. Harding</i>	227
Discussion	234

DEVELOPING AND USING GUIDANCE (REFERENCE) LEVELS IN RADIOLOGY AND NUCLEAR MEDICINE EXAMINATIONS (Topical Session 5)

Diagnostic reference levels in medical imaging	
<i>M. Rosenstein</i>	241
Discussion	259

RADIOLOGICAL PROTECTION OF THE EMBRYO AND FOETUS IN PREGNANT PATIENTS (Topical Session 6)

Effects after prenatal radiation exposures	
<i>C. Streffer</i>	267
Discussion	275

RADIOLOGICAL PROTECTION OF PAEDIATRIC PATIENTS (Topical Session 7)

Radiological protection of paediatric patients: An overview	
<i>H.G. Ringertz, S. Bremmer</i>	281
Discussion	285

**RADIOLOGICAL PROTECTION OF PATIENTS IN
RADIOTHERAPY (Topical Session 8)**

Radiation protection in patients treated with radiation therapy <i>C.A. Pérez, H. Svensson, J.A. Purdy</i>	291
Radiotherapy dosimetry audit: A European programme to improve quality and safety in radiation treatments <i>I.H. Ferreira, A. Dutreix, A. Bridier, D. Marre, J. Chavaudra, H. Svensson</i>	309
Discussion	325

**RADIOLOGICAL PROTECTION OF PATIENTS IN BIOMEDICAL
RESEARCH (Topical Session 9)**

Radiation protection of patients in biomedical research <i>J. Liniecki</i>	333
Discussion	343

**INFLUENCE OF STANDARDIZATION IN THE DESIGN AND
DEVELOPMENT OF MEDICAL RADIOLOGICAL EQUIPMENT
(Topical Session 10)**

Influence of standardization in the design and development of medical radiological equipment for the radiological protection of patients <i>S.C. Lillicrap, P. Paras, H. Duschka</i>	347
Discussion	357

**EDUCATION, TRAINING AND CONTINUOUS PROFESSIONAL
DEVELOPMENT IN THE RADIOLOGICAL PROTECTION OF
PATIENTS (Topical Session 11)**

Education, training and continuous professional development in the radiological protection of patients <i>L.K. Wagner</i>	361
Discussion	375

**TOPICS FOR RESEARCH AND DEVELOPMENT IN THE
RADIOLOGICAL PROTECTION OF PATIENTS (Topical Session 12)**

Topics for research and development in the radiological protection of patients <i>K. Faulkner</i>	379
Discussion	386

**IMPLEMENTATION OF REGULATIONS FOR THE RADIOLOGICAL
PROTECTION OF PATIENTS (Topical Session 13)**

Implementation of regulations for the radiological protection of patients <i>J. Cassar</i>	391
Discussion	398

ROUND TABLES

Round Table 1: Expectations of patients' advocates	403
Round Table 2: What should be done about radiation sensitive groups?	415
Round Table 3: Establishing priorities in radiological protection	425
Round Table 4: Risks and benefits: Can they be assessed? How?	435
Round Table 5: Regulations: Too much or not enough?	445
Round Table 6: What is the acceptable (non-occupational) exposure of caregivers?	455
Chairpersons of Sessions	461
President of the Conference	461
Vice-Presidents of the Conference (Spain)	461
Scientific Conference Programme Committee	462
Spanish Conference Organizing Committee	462
Spanish Scientific Committee	463
Host Government Liaison	463
Secretariat of the Conference	464
List of Participants	465
Author Index	587