SENTINEL "European Coordination Action" Madrid, 21-22 April 2006 Training actions in interventional radiology Prof. Eliseo Vano Complutense University Dr. Keith Faulkner QA Reference Centre. Wallsend. UK

	Friday, 21 April 2006	
Time	Tepic	Lecturer
9:00 - 9:05	Meeting opening	E. Borrego
9:05 - 9:30	Introduction to European Coordination Action SENTINEL	E. Vano
9:30 - 10:00	Procedures in Interventional Radiology (IR)	J.J. Osliege
10:00 - 10:30	The Spanish Society of Vascular and Interventional Radiology (SERVEI) involved in the SENTINEL Programme	J. Urbano E. Vano
10:30 - 11:00	BREAK	
11:00 - 11:30	Detectors and mensurement tools for IR. Messurement of DAP including DAP-meter estimation Messurement techniques for ESD	H. Jarvises
11:30 - 12:00	Patient dosimetry in IR Dosimetry in 3D acquisition Image evaluation in 3D reconstruction	R. Padovan
12:00 - 12:15	Discussion	
12:15 - 12:45	Training actions in IR	E. Vano
12:45-13:15	Quality control in IR.	C. Prieto
13:15-13:30	Final discussion	E. Vano

Training RP actions in IR

- Basic: introductory seminars (1-2 h).
- Dedicated courses for certification (EC Guidelines RP-116 recommend 20 hours = 2.5 days of intensive course).
- Continuous training: on the job, refresher courses in congresses, web, E-learning, etc.
- Other audiovisual alternatives (e.g. EC MARTIR programme).
- Specific training for dose survey programmes.







or radiobiology.



Education and training ICRP report 85 (2001) states ...

- Paragraph 50:
- A second, speci?c, level of training in radiation protection, additional to that undertaken for diagnostic radiology, is desirable.
- Speci?c additional training should be planned when new x-ray systems or techniques are implemented in a centre.

RP training for medical exposures

- The Council Directive 97/43/EURATOM on medical exposures considers interventional radiology (article 9) as a "special practice" involving high doses to the patient.
- patient. • Article 7 states that Member States shall ensure that PRACTITIONERS and INDIVIDUALS MENTIONED in Articles 5(3) and 6(3) have adequate theoretical and practical training ... as well as relevant competence in radiation protection. For this purpose Member States shall ensure that appropriate curricula are established and shall recognise the corresponding diplomas, certificates or formal qualifications.



1. Outline for specific training in Radiation Protection for Interventional Radiology (29) Practical exercises and practical sessions should be included in the programmes for training in radiation protection. A minimum of 1-2 hours practical session in a clinical installation should be included in the most simple training programmes, while 20-00% of the total time scheduled in more extensive courses should be devoted to practical exercises.

Practical exercises and practical sessions should be included in the programmes for training in radiation protection.



20-40% of the total time scheduled should be devoted to practical exercises.

	TAB	LE I							
TRAINING AREA	DR: MD	AT MD	AM MD	00	07	MD	80	NU.	ME.
Above structure production and interaction of radiation	-	h		1	1	1	-	1	
Noclear structure and radioactivity		h.	а.	1	-	-	-	1	
Fadiciopical quantities and units		h.	h.	m	1	1	-	1	
Physical characteristics of the 3-ray or therapy machines.		h	1	n	1	*	-	1	h
Fundamentats of radiation detection	1		- 11	1	1	1	-	1	
Fundamentals of radiotoology Biological effects of radiation.				- 11	1		-	1	1
Radiation protection. General principles		h.,		h. 1	-	-		1	-
Operational radiological protection	. h	h	h	h.	=		h		
Particular patient RP aspects	1			h	-				
Particular staff RP aspects		ь	ħ.	ь.	=	h	5		-
Quality control and quality assurance		5			1	1	-	1	5
National and European regulations and standards				n				1	5
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People to be trained

- Interventional senior radiologists (and cardiologists).
- Residents attending in IR laboratories.
- Radiographers
- Nurses.
- Medical Physicists.
- Other MD practising IR procedures (vascular surgeons, urologists, etc).

Practical experiences ...

• Congresses:

- ■Refresher courses on RP just starting ◆ISR. Japan, May 2005.
- •European Congress of IR, Rome, September 2006.







Practical experiences ...

- Courses for certification:
 - Spanish Societyof Interventional Radiology (SERVEI). Four courses organised with the Complutense University.
 - Other similar courses in Spain (2-3) authorised by the Ministry of Health.
 - Certification in RP (second level) cited by the European Guideline R P-116 and required by the Spanish law.

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adaction Parasoction Decimetry on the Num 1-2, no. (17-142) (2001) incluse Parasochistic Pathiotopy

TRAINING AND ACCREDITATION IN RADIATION PROTECTION FOR INTERVENTIONAL RADIOLOGY ¹⁷³ L. Gonzalez', K. Faulherz', B. Padrvari' and J. P. Malowi' aga Department, Complicationa University of Madded, 2000 Madded, Spain Reparks, Service, San Carlos, University Heapitel, 2000 Madded, Spain Annuaux Reference: Centre, Nervicatle General Haspitel, Nervicette-open de Matius della Mathematical University. In Jones Hospital, Service ment of Medical Physics and Bio-empirering, St. James Hospital, Nerland

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ACCREDITATION IN RADIATION PROTECTION FOR CARDIOLOGISTS AND INTERVENTIONALISTS E. Vano^{5,3,4} and L. Gonzaller² San Carlos University Hospital, Medical Physics Service, 20040 Madrid, Spain 'Badiology Department, Modicine School, Completense University, 20040 Madrid, Sp. Badiology Department, Modicine School, Completense University, 20040 Madrid, Sp. 2004

The detail Assessed of Andrology, N (2003), 217-219 (0.200) The details in DOI: 10.1299/sci4279488

Commentary

Training in radiological protection for interventionalists. Initial Spanish experience

"E VANO, mo, "L GONZALEZ, mo, "M CANIS, wo, mo and "A HERNANDEZ-LEZANA, wo, m og Department, Campulanes Linuesis, 2000 Mariel, ¹Molo d'Inpess Service Scotter Scotter University, 2004 Mariel, ¹Molo d'Appess Service Scotter University, 2004 Mariel, ¹Molo de Centes University, 2004 Mariel, ¹Molo de Vestard, ¹Cotter de Vestard, ¹Sotter de Vestard, ¹Cotter de Vestard, ¹Sotter de Vestard, ¹Molo de Vestard, ¹

Spanish requirements in radiological
protection training for the practice of
interventional radiology. A five years
experience (ETRAP, Brussels 2005)

	Global	Lecturers	Interest of the topics
Pilot course July 2002	8.4	8.4	8.3
Second course June 2003	8.7	9.1	8.4
Third course January 2005	8.7	8.5	8.3

Practical experiences ...

• Interective MARTIR CD-ROM:

- Widely distributed (free).
- Free available from the EC and some European Organizations
- Opinion of the potential users very possitive.
- BUT!!! ... probably scarce real use duu to the lack of time of the interventionalists.







MARTIR = Multimedia and Audiovisual Radiation Protection Training in Interventional Radiology



It is allowed:

To select different levels of trainingTo follow a training programme as a regular course

(step by step) or looking onlyfor the topics of interest.
To do some autoevaluation exercise at the end of the different sections or topics.

MARTIR = Multimedia and Audiovisual Radiation Protection Training in Interventional Radiology

It is allowed:

To perform a final examination at the end of the course and to have a certification with the total time dedicated to the training programme with the computer and the score obtained with the final examination. An accreditation certificate can be printed with all these information.
The CD-ROM con be used as a bibliographic manual to review the knowledge in radiation protection. It contains 80 lessons with their texts, 350 images, 30 videos and 25 power point slide presentations.

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images present videos	25 presentations	111111		1111111
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MARTIR Manager Program Quick Reference • The program of MARTIR user monitoring is a tool for consulting the learning process of the students and the performed evaluations.

- It also allows to print or to copy to your windows clipboard all the student's information for further uses. This option could be useful for possible accreditations.
- The program contains these sections: User (It recognize the coded user files previously created) Exam (It allows check the exam details of all users) • Options (It allows you to modify the entrance password)

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Practical experiences for Medical Physicists...

- Training actions dedicated to IR are quite scarce.
- More experiences in interventional cardiology.
- The present session is an attempt of the European Coordination Action SENTINEL to advance in this area.
- Patient dosimetry, transfer and collection of patient data, image visualization and optimisation of procedures with radiologists should be part of the priorities.