Elaboration of training scheme on radiation protection of patients The French experience

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Presentation outline

- What is the current regulation relative to the radiation protection of patients exposed to ionising radiation ?

- What do we learn with the assessment of this training ?

- How developping a training strategy ?
  - ✓Involving stakeholders
  - ✓Building a training engineering process

According to the article L. 1333-11 of the French public health code (PHC), since the 20th of July 2009 :

- Practitioners
- Individuals involved in the practical aspects of medical radiological procedures
- Individuals who perform the quality assurance program of equipments

must have followed a theoretical and practical training on radiation protection of patients.

Whatever the case, a knowledge refresher training must be provided every 10 years at least.

The ministerial order of the 18th May 2004 defines for each professional the program of the training. Organisms which deliver training just have to follow the program defined by the order.

Order of 18th May 2004 amended by the order of 22nd September 2006 relative to training programmes concerning the RP of patients exposed to IR

The content of the training programmes in RP must, for all the professions concerned, satisfy the conditions specified in appendix I of this order, for both theory and practical training.

This training is supplemented for each professional category listed in the order in accordance with the programmes specified in appendix II

On completion of the training, the organisation shall deliver to the person having followed the course, a certificate validating this training.

Assessment of the training was done by ASN in 2010-2011 with the help of CEPN and an expert in training.

Assessment of the basic curriculum of medical and dental schools is in progress.

The main objectives of the assessment were :

- **-assess the training program : does it fit with the mandatory program?**
- **-assess the training organisation (number of trainees, supports, assessment of the trainee…)**
- **-collect data on the quality of the training**
- **-make recommendations to improve the process**

CEPN 2010-2011 Report

This assessment points out some positive results:

- **the program of the training on RP which is mandatory by the order is followed**

- **the rate of professional who were trained is satisfactory except for specific medical staff** (physicians using ionising radiation for diagnostic or therapeutic purposes or surgical procedures without being qualified in radiology, nuclear medicine or radiotherapy)

CEPN 2010-2011 Report

But heterogeneity has been noticed concerning:

- the duration of the training
- the number of people trained in a same session
- the quality of the pedagogic methods and the supports of the training
- the methods for the assessment of the trainees.

The assessment reveals that the objectives of the training are not clearly defined in the order and that this may partly explain the heterogeneity of training.

CEPN 2010-2011 Report : Recommendations

- A need to define a strategy for training
- A need to define the objectives and not only describe the content of the program (a training scheme that could be adapted for each professional category)
- A need to reinforce pedagogical skills for trainers
- A need to revise the ministerial order

Involving stakeholders

- A project group has been set up with the professional societies and the French National Authority for Health (HAS) in order to monitor the project. ASN is the leader of the group.

physicians, physicists, radiographers,
technologists, radiophamacists

- 2 working groups have been set up associating :
  - ✓ representatives of the people who perform maintenance and quality control and the french health product Agency (ANSM)
  - ✓ organisations that deliver training

A training engineering process was carried out with the help of CEPN and an expert in training

Four different groups with healthcare professionals and ASN have been involved in an experimental approach in order to develop a training framework => radiographers, cardiologists, a multidisciplinary group for radiotherapy (physicians, physicists, radiographers), dental surgeons

- They were asked to define :

The purpose of the training – what wants the radiation protection authority (ASN) according to the regulation,

The general objectives of the training – what we want that trainees should know and be able to do (learning, skills)

Educational and operational objectives (which specify the progression of learning),

The duration which must correspond to the acquisition of skills

The purpose and the general objectives appear relevant to all healthcare professions or domain

=>were approved by the project group

=>to be selected and developed in educational and operational objectives taking into account initial education and depending on sectors and applications

The training purpose :

"Continuing education and training of healthcare professionals in radiation protection of patients aims to stimulate, promote and maintain a culture of radiation protection to enhance patient safety. More specifically, this training aims to implement, operably and continuous, the principles of justification of exposure to ionizing radiation and of optimization of the radiation protection of the patients and the medical staff. The actors must acquire the meaning of these principles and must master the know how".

The general objectives :

Objective 1: the trainee must be able to join in a process of risk management

Objective 2: the trainee must be able to accurately identify regulatory requirements relative to RP

Objective 3: the trainee must be able to implement, in an operational way, the principle of justification of exposure

Objective 4: the trainee must be able to implement, in an operational way, the principle of optimization of radiation protection of patients

Objective 5: the trainee must be able to analyze his own professional practice to improve it, in terms of risk management, of justification of exposure and optimization of radiation protection

2 pedagogical conductors were developed for radiographers in radiology and cardiologists (operational objectives, pedagogical methods, duration, prerequisite).

Operational objectives have been defined for the dental surgeons

3 of the general objectives have been judged relevant for radiotherapy (general objective 1, 2 and 5) and operational objectives are still being defined.

Work is in progress for the others (professions, nuclear medicine, people involved in maintenance and CQ).

=>develop the relevant general objectives taking into account the initial education, sector and application and according to a graded approach based on risk

Objectives for radiographer

General objective

4. A l'issue de la f…n, le participant est capable de
mettre en oe… de façon opérationnelle le principe d'optimisati…n de la radioprotection des patients

Educational objective

Identifier les **exigences réglementaires** par ra… à l'optimisation de …

Identifier les **ressources humaines et matérielles**

Adapter le protocole en fonction de la **personne concernée** et du **type d'acte** à réaliser

Operational objective

Identifier les **personnes ressourc…**

Ide… **guides de …cédures et de …onnes pratiques**

Identifier les **protocoles locaux**

Maitriser les **paramètres techniques** d'exposition et les **moyens matériels** sur lesquels le MERM peut agir pour réduire les expositions

Prendre en compte les **spécificités du patient**

Operational objective to be developed if necessary

Pedagogical conductor : radiographer

Objectif 4. Mettre en œuvre de façon opérationnelle le principe d'optimisation de la radioprotection d
Objectifs de la séquence : **à l'issue d'une séquence de 60 minutes**, le st e est capable de :

b. Identifier les ressources humaines et matérielles

Objectifs opérationnels	Contenus	durée	Attention	Pluri-professionnel
Identifier les personnes ressources	**Méthode interrogative** : Dans un premier temps, le formateur demande aux s iaires de citer les professionnels concernés par l'optimisation d Une fois l'ensemble des acteurs not rganisés en binôme et définissent le rôle d). Les binômes présentent leu e synthèse en veillant à ce que le rôle d l'optimisation de la radioprot responsabilité, autorité en mat) soit clarifié : - Médecin - PSRPM - Ingénieur d'application - PCR - Ingénieur biomédical	30 min		oui
Identifier les guides de procédures et de bonnes pratiques	**Méthode expositive :** Présenter les guides des procédures d'imagerie édités par les sociétés savantes (Ex : guide de la SFR)	15 min		oui
Identifier les protocoles locaux	**Méthode expositive :** - Contenu d'un protocole - Rôle de ce protocole - Dans quel cas faut-il faire un protocole ?	15 min		oui

General objective

Educational objective

Operational objective

Description of the pedagogical method : expository? Interrogative?...

duration

Advice

Multi professional

Next step

For each profession or sector, professional societies must produce guides based on the requirements set by ASN :

- -Operational implementation of educational objectives
- -detailed scheme (pedagogical method, duration, prerequisite)
- -Tools: the teaching kit, e-Learning, ...
- -Assessment of the trainees

Requirements are still been discussing concerning :

- ➢The trainers (skills, experience in radiation protection, in education and training)
- ➢The assessment of the trainee
- ➢The traceability of the training programs
- ➢The traceability of the trainees and the persons trained

Next step

The ASN resolution will make mandatory :

- **the frame for the training,**
- **the purpose,**
- **the general and educational objectives**
- **the minimal requirements in terms of skill of the trainers**
- **the elaboration of the professional guides.**

THANK YOU FOR YOUR ATTENTION