

IAEA Radiological Protection of Patients

The IAEA have produced a comprehensive package of advice and training material for use by practitioners in the medical sector. It is split into three initial windows with **Information for** various groups, including health professionals and patients, **Additional resources**, namely teaching material, and **Special Groups**, namely pregnant women and children.

Material can be accessed and downloaded from:

<http://rpop.iaea.org/RPoP/RPoP/Content/index.htm>

<http://rpop.iaea.org/RPoP/RPoP/Content/AdditionalResources/Training/index.htm>

Information for Health Professionals

Under Information for Health Professionals, there is general information about techniques and answers to questions that might be asked. There are sections on radiology, radiotherapy, nuclear medicine, interventional radiology, cardiology and other clinical specialities.

Additional Resources

There is under Additional Resources a wide range of course material including lecture notes, slide presentations, and course work. The PowerPoint presentations could be used as the basis for lectures in their own right, but images may also be used to illustrate and enhance existing PowerPoint Lectures. A significant amount of work has been put into assembling the material and it is well worth anyone who is putting together a new course or revising their existing one visiting the site.

COMMENTS ON IAEA TRAINING MATERIAL IN RADIATION PROTECTION

The Medical Sector Committee provided comments for the IAEA on the original packages. The packages were reviewed and comments passed to the IAEA in the first half of 2006. An edited version of some of the comments relevant to the user is given here. However, the website is so extensive that it is impossible to do it justice and all those involved or with an interest in Radiation Protection for the Medical Sector are urged to visit the site themselves.

The packages provide a very comprehensive collection of teaching material, which should be useful to all those involved in teaching radiation protection. Some parts are excellent, while others do not exactly fit with UK practice, but nevertheless will provide some useful material that lecturers can use.

The packages are designed to meet requirements of an international clientele, so some terminology and methodologies may not be the same as standard practices in the UK. However, hospital RPAs or RPSs should be able to identify aspects, which do not fit with standard practice in their hospitals. The material is divided into parts linked to different areas of application; radiotherapy; nuclear medicine; radiology, cardiology,

with a section on prevention of accidental exposure. Course material on some aspects is repeated in each of the parts, but often with a slightly different approach and emphasis. It could be argued that core subjects eg. Radiation interaction, biological effects, etc. could be covered once/centrally. However, there is some benefit in having several slightly different presentations on the same subject.

For example there are sections on biological effects in each part. We all have various Powerpoint presentations on this that we have developed over the years for this, but found there were useful aspects within the IAEA material that both illustrated and extended the information on effects in our own presentations. There was often a lot of tabulated data, which might be too much in a presentation, but being able to pick out the pictures that were appropriate was very useful. I would have found that just using the sets as they were presented would have been more difficult, and sometimes dilute the message. However, it is useful to have the extra material, because lecturers can then select the parts that are appropriate for their task.

Nuclear Medicine:

The material includes lots of information that could be used either directly or in the development of local training presentations. The material progressively covers all aspects of radiation protection in healthcare. It is probably at its best in the basic underpinning physics and at its worst when dealing with more practical perhaps country specific issues.

Some pictures appear dated and do not reflect UK practice. Eg. Slide 25 of part 4 showing a lead apron being worn during an administration, a picture of a source safe circa UK 1950. Slide 60 in part 5 is consistent with part 4 in supporting the use of lead aprons in NM. The term RPO is mentioned in presentations and guidance and may not be understood in the UK without explanation. The term Local Rules is used to describe patient protection protocols/procedures and referrer is used with a different meaning to that defined in IRMER. The scare stories in the misadministrations section in section 11 may help avoid the post prandial sleep.

Although Fluorine-18 is mentioned elsewhere, it is not considered in part 4 (design). Similarly we have not found consideration of hybrid imaging –eg. Gamma camera/Multi slice CT or shielding for betas.

Diagnostic radiology:

The whole subject is covered and no assumptions are made concerning existing knowledge. Individuals within countries with poorly established radiation protection legislative framework or training will find it very useful. In more developed countries clinical scientists and radiographers will find it useful reference/back up to material for established training programmes or for new ones.

Cardiology:

This package seems to be aimed at cardiologists and radiographers perhaps reflecting the significant role they have in optimising doses. The underlying physics is not covered in as much detail but there is a strong emphasis on practical protection. One thing which was of slight concern was that L7 suggests standing behind someone else to protect yourself, which although would work, which would not usually be specifically recommended. This section also recommends wearing two personal

dosimeters (one beneath and one on top of lead apron), which is not a universal practice.

General Comments:

With the exception of the radiotherapy module, some files are very large and may not run well on lower specification computers that might be used in developing countries. Some of the longer presentations may be hard to deliver and hard to use as source material. Some attempt seems to have been made in radiotherapy to split presentations into more manageable file sizes.

It is useful that a timetable and guidelines have been included to indicate how much time is required to deliver various parts of the material dependent on the staff groups.

The practical exercises look useful.

Considering the huge amount of information within the different packages, it is well presented and easily accessible. Given the broad treatment of radiation protection within each modality, we expect the packages to be of significant benefit regardless of the extent of development of radiation protection systems in the user country.

Colin Martin
Mark Singleton
Tracy Soanes
Giles Morrison
Jill Reay

June 2006