

The European Federation of Organisations for Medical Physics

Policy Statement No. 10

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Recommended Guidelines on National Schemes for Continuing Professional Development of Medical Physicists

1 Preamble

Modern Health Care Services are met with ever-increasing demands on competence, specialisation and cost effectiveness. The Medical Physics Services in hospitals face the same demands. Continuing Professional Development (CPD) is vital to the Medical Physics Profession to embrace the pace of change occurring in medical practice; it promotes excellence within the Profession, and assists in the protection of the Public against incompetence. Furthermore, CPD is a prerequisite of some statutory registration schemes, and is a requirement of the Medical Exposure Directive (2).

2 Introduction

Since its inauguration in 1980, the main objective of the European Federation of Organisations for Medical Physics (EFOMP) has been to harmonise and promote the best practice of Medical Physics in Europe. In order to accomplish this goal, EFOMP has presented a number of unanimously adopted Policy Statements, making recommendations on the appropriate general responsibilities and roles of the Medical Physicist and proposing guidelines for education, training and accreditation programmes in Medical Physics.

The requirement for knowledge, skill and experience in the field of Medical Physics has been the subject of several Policy Statements, the most recent issued in 1999: "Radiation Protection of the Patient in Europe: The Training of the Medical Physics Expert in Radiation Physics or Radiation Technology" (1). This Policy Statement constitutes the EFOMP response to the Medical Exposure Directive, Council Directive 97/43/Euratom of 30 June 1997 on health protection of individuals against the dangers of ionising radiation in relation to medical exposure, and repealing Directive 84/466/Euratom (2).

European legislation has been a driving force, leading many professional organisations to propose harmonised, high quality professional standards. For EFOMP, the European Union's Directives concerning basic safety standards and the radiation protection of the patient have given impetus to the discussion of education and training requirements in Medical Physics, especially Medical Radiation Physics. Whilst these Directives are binding only on EU Member States, they do affect every European country. Furthermore, whilst they deal primarily with Medical Radiation Physics, they effectively set the standards for the whole Medical Physics profession. In many European countries, Medical Physics Services extend beyond the traditional sphere of Medical Radiation Physics, encompassing scientific, technical and management support for medical technology throughout the hospital.

In the Medical Exposure Directive, the MEDICAL PHYSICS EXPERT is defined as an expert in their own right, with a well-defined professional role, requiring them to act as well as give advice. The definition also sets out requirements for appropriate theoretical and practical training. Member States are explicitly required to ensure that Medical Physicists have access to continuing education and training after qualification in addition to their basic theoretical and practical training. The above-mentioned Policy Statement (1) presents the EFOMP recommendations on the role and competency requirements of this MEDICAL PHYSICS EXPERT together with the principles of education, training

and Continuing Professional Development (CPD).

In the recent EFOMP Policy Statement, "Continuing Professional Development for the Medical Physicist" (3), general criteria for structured CPD were presented, aiming at fostering the growth of national CPD Schemes. Accordingly, all Medical Physicists who have completed their basic education and clinical training should be actively involved in CPD in order to maintain and increase competence and expertise after qualification.

3 Definitions

EFOMP has recommended a certain level of education and training to start working independently and to register as a QUALIFIED MEDICAL PHYSICIST (1,4). Continuing Professional Development activities (3) should continue directly after qualification, ensuring increasing competence and leading to a higher level of qualification, for example the level where the Medical Physicist may act as a MEDICAL PHYSICS EXPERT. The EFOMP approach is summarised in the definitions below:

3.1 CONTINUING PROFESSIONAL DEVELOPMENT [CPD]:

- CPD is the planned acquisition of knowledge, experience and skills (both technical and personal) required for professional practice throughout one's working life.
- CPD is an ethical and moral obligation for each Medical Physicist throughout their professional career in order to maintain the highest possible professional standards.

3.2 The QUALIFIED MEDICAL PHYSICIST:

- There is a significant divergence across Europe in the length and style of the academic component of physics qualifications. However, most countries will be able to recognise the Qualified Medical Physicist defined in the guidelines below.
- The entry criterion to Medical Physics education and training is a basic university education in physical sciences, engineering or equivalent.
- Recognition as a Qualified Medical Physicist is achieved by a further 2 to 4 years theoretical education and practical training in Medical Physics (depending on the national education system) under supervision of a Qualified Medical Physicist, preferably a Specialist Medical Physicist. At least half of the time should be spent in a clinical environment. The education and training should follow current EFOMP policies. (The total time for the basic education and the Medical Physics education and training would be around 7 years.)
- The Qualified Medical Physicist is competent to act independently.
- The Qualified Medical Physicist has the minimum qualifications required for enrolment in an EFOMP approved National Register for Medical Physicists.
- The Qualified Medical Physicist should have a formal recognition from a National Competent Authority, and should be enrolled in an EFOMP approved National Register for Medical Physicists (4).

3.3 The SPECIALIST MEDICAL PHYSICIST:

- Within the EU, as defined in the Medical Exposure Directive (2) "in relation to medical exposure", the Medical Physics Expert is equivalent to the Specialist Medical Physicist. In other disciplines, the term Medical Physics Expert is not relevant.
- The Qualified Medical Physicist qualifies to become a Specialist Medical Physicist by gaining advanced clinical experience and undergoing specialist training of at least two further years duration, mostly in one sub-speciality, within the first period of an EFOMP approved National CPD Scheme. (i.e. total education & training at least 9 years)
- The Specialist Medical Physicist is competent to give advice on all professional matters in their sub-speciality.
- The Specialist Medical Physicist may have a formal recognition from a National Competent Authority and should continue to be enrolled in an EFOMP approved National Register for Medical Physicists.

4 Aims and Objectives

The most important factor in the EFOMP approach to achieve harmonisation in the qualification of the Medical Physicist in Europe is the establishment of education, training and CPD schemes according to EFOMP recommendations.

The objectives of the Guidelines on Schemes for Continuing Professional Development are:

- To promote CPD in the medical physics community
- To provide a framework, which allows the National Member Organisations (NMOs) to create their own CPD schemes
- To guide the NMOs in establishing a credit system for CPD
- To ensure harmonisation in Europe in the assessment of CPD related activities.

As recommended in the EFOMP Policy Statement "Continuing Professional Development for the Medical Physicist" (3), all Medical Physicists should be involved in CPD after recognition as a QUALIFIED MEDICAL PHYSICIST. While EFOMP recognises that it has no statutory authority in this area, EFOMP fully supports CPD undertaken on a voluntary basis as a practical contribution to enhancing patient care.

In the field of the use of ionising radiation in radiology the European Association of Radiology (EAR) published, in 1997, Guidelines for Continuing Medical Education (5). Similarly, programmes for Continuing Professional Development have been and are being developed on the national level in the Medical Physics Community. These may be credit based or out-come based (e.g. portfolio). The NMOs of EFOMP have different work practices and varying training systems. The EFOMP Guidelines presented here are for a credit based CPD scheme. They are intentionally flexible, thus allowing the NMOs to set up their own detailed CPD schemes within this framework and under their present local and national circumstances and constraints. The concept of CPD is related to the knowledge, skill and experience acquired rather than to the amount of time used to acquire them. The outcome of CPD should lead to an improvement in professional practise. As quantitative out-come based systems are developed, these Guidelines may be revised.

EFOMP recommends that NMOs set up their own National Schemes for CPD, in agreement with the national Health Authorities and in accordance with the Guidelines presented here. National Member Organisations are then invited to submit their respective CPD Schemes to EFOMP for formal recognition.

Guidelines for formal recognition by EFOMP of National Registration Schemes for Medical Physicists have already been established in 1995 (4). EFOMP approval includes the requirement for "a regular renewal mechanism with a requirement for evidence of continuing activity in relevant areas". CPD is now being recommended as the best way to meet this requirement. National Member Organisations will be responsible for the administration of their National CPD schemes, in a similar manner to the EFOMP-approved National Registration Schemes.

If an NMO feels it needs to differ substantially from the guidelines set out in this policy document then, when seeking EFOMP recognition of their scheme, they should write formally to the registrar explaining in detail their reasons for non-compliance.

5 Recommended Guidelines

All National Member Organisations should develop their own detailed CPD Scheme according to the following general requirements. Each CPD Scheme should be based on a quantitative assessment of the individual's CPD activities. Both the CPD Scheme and the credit point system recommended here are intentionally very general and flexible, as mentioned above, and NMOs are challenged to design their own CPD Schemes and credit point systems to meet local requirements.

There are two forms of EFOMP recognition of the National CPD Schemes: conditional and full approval. Conditional approval is awarded for a time period of three years, if the CPD Scheme does not fully comply with the requirements. Full approval is awarded for a time period of five years. At the end of the approval period or in the case of a modification of a National CPD Scheme, a renewal of the approval is required.

5.1 General requirements on National CPD Schemes

The most important aspect of CPD is the outcome of the CPD activity rather than the length of time involved in its participation. Nevertheless the following quantitative guidelines are suggested.

5.1.1 Description of the CPD Scheme

To maintain professional competence 40-60 credit points of formally agreed and recorded CPD should be undertaken per annum. The CPD Scheme should be based on a 5-year cycle with a total of 240-300 credit points. Because circumstances vary from time to time and with them the opportunity to earn CPD points NMOs may feel it appropriate to maintain a five year rolling average of 40-60 credit points per annum. The minimum time of professional activity within the 5 year cycle, required for the renewal of registration, should be specified by the NMO. CPD activities should be classified into two categories:

- Category 1 (see 5.2.1) activities are attendance at pre-assessed COURSES, i.e. lectures, scientific meetings, workshops, refresher/training courses etc. The assessment of the COURSE should be related to its contents and relevance and should be regulated by the NMO.
- Category 2 (see 5.2.2) activities are different types of planned and agreed self-directed learning tasks.

5.1.2 Notification of current CPD status

- NMOs should develop a model for recording of credit points for the individual Medical Physicist.
- A National CPD record should be maintained by the NMO.
- All Qualified Medical Physicists and Specialist Medical Physicists enrolled in CPD should report their CPD credit point records to the NMO for validation and record keeping.

5.2 Requirements on the credit point system

- The credit point, cp, is the unit of CPD; 1 cp typically corresponds to one full hour of educational activity in Category 1. Since category 2 activities are diverse in character, there is no similar simple equivalence between credit points and hours spent.
- In order to ensure a well-balanced CPD over the five-year period, the total of 240-300 cp should be earned on the basis of about 40-60 cp per year.
- The 240-300 cp should be achieved as a mixture of Category 1 and 2 activities as prescribed below.
- Courses organised by other NMOs, specialist groups, or at an international level, where the course content is relevant to Medical Physics practice and where there is prior CPD approval by the hosting organisation, should give credit points recognised on that same basis.
- Credit points in excess of the required 240-300 cp should not be carried forward into the following cycle of five years, unless a the system of a rolling five year average has been adopted

5.2.1 Category 1 credit points:

- NMOs should require that all course organisers apply prospectively for CPD approval of the event and for credit point assessment. For repeated Courses, renewed application and CPD approval should be required.
- NMOs should notify course organisers as to the number of Category 1 credit points awarded, and this figure should be included in the advertisement of the event.
- Course organisers should provide the participants documents describing course content and, if combined with examination, results.
- Each participant in a Category 1 activity should retain a document, which includes the content of the course and the results of an examination if applicable.
- Category 1 events should be classified into events with and without examinations. Basically, one full hour of educational activity should correspond to one cp. However, events with examination should be ranked higher.
- A total of 100 - 150 cp of Category 1 is recommended per 5-year cycle. (This corresponds roughly to attending a 2-day meeting twice a year.) If an NMO feels that it needs to differ from this recommendation, at least 50 cp per

5-year cycle (corresponding roughly to attending one 2-day meeting per year) should be expected.

5.2.2 Category 2 credit points:

Due to the large variety and differing local availability of Category 2 events, EFOMP is recommending that the following classes of CPD activities may be considered. To allow for greater flexibility in setting up a National CPD Scheme, the credit points may vary within a range of $\pm 30\%$ of the recommended value.

- Formal local hospital educational activities, e.g. attendance at lectures, seminars, regular organised teaching activities: 1 cp per full lecture-hour or per meeting.
- On the job training activities and experiences, e.g. development of interpersonal skills, time management etc. Up to 10 cp per year
- Planned self-directed learning, e.g. reading of textbooks, journals etc., including computer-based "distance learning facilities": up to 10 cp per year.
- Preparation and delivery of formal lecture or seminar: up to 10 cp for the first time presentation and 3 cp for a repeated presentation.
- Visits to other departments for special training: up to 5 cp per year.
- Publication of a) a paper in a recognised scientific journal: up to 20 cp, depending on the type of the journal (e.g. peer reviewed / non-peer reviewed) and on the contribution of the author (single author, co-author); b) a textbook: up to 50 cp, depending on the authorship and the size of the contribution.
- Oral or poster presentation at a congress: up to 10 cp per presentation, depending on the type of congress (international, national, regional) and the authorship (single author, co-author).
- Implementation of new technologies/procedures with a significant impact of Medical Physics: up to 5 cp per activity and 10 cp per year for a documented implementation and development of new technologies and procedures, depending on the complexity of the technology.
- Active membership in tasks groups relevant to Medical Physics (working groups, standardisation committees and equivalent): up to 5 cp per membership and year, depending of type of group (international, national, regional, local) and scientific relevance (dosimetry protocols, equipment standardisation, radiation protection etc.), altogether not more than 15 cp per year.

6 Summary

The Guidelines presented here constitute a set of general requirements on the design of the CPD Scheme itself and the credit point system. CPD should be assessed on the basis of a 5-year cycle, and a total of 240-300 credit points should be earned during this period. Two categories of CPD activities are introduced, attendance at pre-assessed courses (Category 1) and self-directed learning (Category 2), and the credit points should be about equally balanced between both categories. Category 1 credit points should be awarded on the general basis of one credit point per full course hour. Category 2 credit points should be awarded according to the relative importance and relevance of CPD in 8 subgroups: formal local hospital education activities, reading of textbooks and articles, lecturing, training visits, publications, congress contributions, implementation of new technologies and active membership in task groups

EFOMP recommends that National Member Organisations encourage participation in CPD Schemes, to the benefit of the individual Medical Physicist, the employer, the patient and the Medical Physics Profession (3). All beneficiaries should share the responsibility for CPD resources, i.e. the individual Medical Physicists, their employers, professional bodies and public education and training bodies.

National Member Organisations that have set up Schemes for CPD according to the above Guidelines are invited to submit their respective CPD Schemes to EFOMP for formal recognition.

7 References

1. EFOMP Policy Statement No. 9: "Radiation Protection of the Patient in Europe: The Training of the Medical Physics Expert in Radiation Physics or Radiation Technology." To be published in *Physica Medica* (1999)
2. Directive 97/43/Euratom of 30 June 1997 on health protection of individuals against the dangers of ionising

- radiation in relation to medical exposure. Official Journal of the European Communities N. L190, 9.7.1997, p. 22
3. EFOMP Policy Statement No 8: "Continuing Professional Development for the Medical Physicist." *Physica Medica* 1998: XIV (2), 81-83
 4. EFOMP Policy Statement No 6: "Recommended guidelines on National Registration Schemes for Medical Physicists", *Physica Medica* 1995: XI (4); 157-159
 5. Continuing Medical Education CME Guidelines of the European Association of Radiology/UEMS Radiology Section and Board. *Eur. Radiol.* 7 (1997), 454-458

An example of a suitable credit point system

Category 1 activities

Attendance at pre-assessed courses (i.e. lectures, scientific meetings, workshops, refresher/training courses etc.), national and international	general rule, 1 cp/h events with examination 2cp/h
Total number of Cat. 1 credit points	100 - 150 cp per 5-year cycle

Category 2 activities

Attendance at formal local hospital educational activities (e.g. lectures, seminars, regular organised teaching activities)	1 cp/meeting or 1 cp/lecture-hour Max in this category 10 cp/year
On the job training activities and experiences, e.g includes development of interpersonal skills, time management etc	up to 10 cp/year
Planned self-directed learning (e.g. reading of textbooks, journals, including "distance learning facilities")	up to 10 cp/year
Preparation and delivery of formal lecture or seminar	10 cp for first time presentation 2 cp for repeated presentation Max in this category 15 cp/year
Special training visits to other departments	up to 5 cp/year
Publication of a) a paper in a recognised scientific journal b) a textbook	a) 2 to 20 cp, depending on the type of journal (e.g. peer-reviewed or not) and on the contribution of the author b) 5 to 30 cp, depending on the authorship and the size of the contribution Max in this category 30 cp/year
Oral or poster presentation at congress	2 to 10 cp per presentation, depending on type of congress (international, national, regional) and authorship (single author, co-author) Max in this category 15 cp/year
Implementation of new technologies/procedures	up to 5 cp per activity and 10 cp per year for a documented implementation and development of new technologies and procedures, depending on the complexity of the technology
Active membership in tasks groups (working groups, standardisation committees and	Up to 5 cp per membership and year, depending on type of group (international, national, regional, local) and scientific relevance

equivalent)	(dosimetry protocols, equipment standardisation, radiation protection etc.). Max in this category 15 cp/year
Total number of Cat. 2 credit points	100 - 150 cp per 5-year cycle
Total number of credit points	250 cp per 5-year cycle