The European core curriculum on radiotherapy

J. W. H. Leer, J. Overgaard and G. Heeren*

ESTRO Committee on Education, ESTRO Secretariat, Department of Radiotherapy, University Hospital, Capucijnenvoer 35, Leuven, Belgium

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For the radiotherapy community in Europe, 4th March, 1991 marked a historic date. On that day representatives from national radiotherapy societies in Europe officially signed a document now known as the "Minimum Curriculum for the Postgraduate Training of Medical Practitioners in the Modality Radiotherapy Within Europe".

This document marks the completion of nearly 5 years' work by the Committee on Education of the European Society for Therapeutic Radiology and Oncology (ESTRO) and an intensified endeavour towards harmonisation of training in radiotherapy in Europe.

The beginnings of this project can be traced back to June 1985, when a small group of colleagues, during the ECCO meeting held in Stockholm, decided to form a Committee on Education within ESTRO. In 1986 European societies actively involved in radiotherapy training were sent a questionnaire.

The first questionnaire was designed to provide an inventory that would give an insight into training in oncology during basic medical training; the way the speciality was organised in the different countries; and the way training in radiation oncology was organised in these countries. Our prime interest was the theoretical part of the training programmes. Although we were aware of the potential bias caused by the selection of colleagues invited to complete the forms and although the analysis of the data turned out to be extremely difficult due to differences in the organisation of the speciality, some general conclusions could be drawn.

Firstly, there is, or was, hardly any country in which oncology was a recognisable independent part of the basic training of medical doctors, as was also concluded by the educational branch of the EORTC. Secondly, in most countries, radiation oncology was an independent speciality (or was becoming so) either in itself or integrated in oncology. We concluded that radiotherapists formed the largest group of full-time oncologists in Europe. Thirdly, there was an enormous variation in the regulations and rules applied to the training of medical specialists in Europe. This resulted in a great variety of training programmes.

Although there were many points of similarity, there was no such a thing as a European training programme for radiotherapy, neither with respect to the content of the training, the training organisation nor certification and rules for examinations. It was clear that it would be impossible to change this picture rapidly, it was also felt that it would not be very useful to try it. However, in view of the political changes taking place in Europe and the increasing mobility of students and professionals, stimulated by the EEC programmes (ERASMUS; TEMPUS), it seemed worthwhile to define a set of standards which could serve as a reference for national training programmes.

In 1989 a second questionnaire was sent out. This questionnaire was forwarded to one or more representatives of national radiotherapy societies. In this way the answers could be considered to reflect more accurately the situation in a certain country. This second questionnaire aimed at collecting more detailed information on the organisation of the speciality and the training programme. The outcome served as the basis for a draft of a core curriculum in radiation oncology which was prepared by a small working party of ESTRO's Committee on Education. With the support of the ERASMUS Programme of the EEC, the committee was able to organise two meetings, one in May

1990 and one in March 1991, with the representatives of the national societies. Here the results of the second questionnaire and the curriculum were discussed.

The “Minimum Curriculum for the Postgraduate Training of Medical Practitioners in Radiation Oncology Within Europe” is in two parts. In the first part the speciality and its position in the field of oncology are defined. This is important because this part describes, implicitly, the endpoints of the training programme. The second part is the curriculum itself, subdivided into the four main areas to be covered in the training programme:

(1) General oncology
(2) Principles of cancer treatment
(3) Therapeutic use of ionising radiation
(4) Clinical research.

Future developments

Firstly, the core curriculum can serve as a point of reference for national training programmes. A process of a slow growth towards uniformity and mutual recognition will thus begin. Secondly, the Committee of Education will continue seeking to define a level of knowledge recommended for each issue mentioned in the curriculum. At the same time the Committee will start to work on a description of basic practical training in radiation oncology.

There is still a long way to go but we are confident that we can be successful in this enterprise. We are also aware that we have to continue on this path if we want our speciality to grow and expand in Europe. This minimum curriculum might seem a small step. It is not. It is an important foundation on which we can build our future.

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Recommended Minimum Curriculum for the Postgraduate Training of Medical Practitioners in Radiotherapy (Radiation Oncology) Within Europe

Radiotherapy (radiation oncology) is the use by medical practitioners of ionising radiation, either alone or in combination with other modalities, for the treatment of patients with malignant and other diseases.

It can be practised as an independent oncological speciality or it may be integrated into broader medical practice.

Radiotherapy (radiation oncology) includes, in a multidisciplinary approach, responsibility for the diagnosis, treatment, follow up and supportive care of the cancer patient.

The term “radiotherapy” has been used in this document in reference to “radiation oncology” because the former term is that under which this specialised area of medicine is recognised in many countries at the present time. In particular it is the recognised term in most member states of the European Community and is the term used in EC legislation on medical training (directives 75/362 and 75/363/EEC of June 1975).

1. General oncology
   1.1. Cancer biology
   1.2. Epidemiology of cancer
   1.3. Cancer prevention, screening, early detection and education of the public
   1.4. Pathology of malignant tumours and related diseases
   1.5. Symptoms and signs of neoplastic diseases
   1.6. Diagnostic procedures
   1.7. Classification, stage grouping and prognostic factors of malignant diseases

2. Principles of cancer treatment
   2.1. Treatment with surgery
   2.2. Treatment with radiation
   2.3. Chemotherapy and endocrine therapy
   2.4. Other forms of treatment
   2.5. Decision making: treatment aim and choice of modality
   2.6. Follow up of patients
   2.7. Supportive care
2.8. Psychosocial aspects and quality of life
2.9. Terminal care

3. Therapeutic use of ionising radiation
   3.1. Biological basis of radiation effects
   3.2. Response of tumours to irradiation
   3.3. Early and late radiation effects in normal tissues
   3.4. Optimal radiation therapy in relation to disease type and location
   3.5. Physics applied to radiotherapy
   3.6. Techniques and equipment for radiotherapy
   3.7. Treatment planning and dosimetry for external beam radiotherapy and brachytherapy
   3.8. Therapeutic use of radionuclides
   3.9. Radiation protection and safety
   3.10. Quality assurance and auditing in radiation oncology
   3.11. Interactions of radiotherapy with other treatment modalities
   3.12. Role of radiotherapy in non-malignant diseases

Austria, Belgium, Czechoslovakia, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, Yugoslavia

4. Clinical research in oncology
   4.1. Principles and methodology of clinical research
   4.2. Quantification of tumour response
   4.3. Description and quantification of normal tissue reactions
   4.4. Design, conduct and evaluation of clinical trials
   4.5. Medical statistics
   4.6. Ethical aspects

The following curriculum outlines the minimum requirements which the representatives of responsible national societies and/or representative teaching bodies have agreed upon to serve as a basis for the training in radiotherapy. To conform with the EC directives, such training should consist of a minimum of four years full-time theoretical and practical instruction.

The responsibility for the teaching of radiotherapy (radiation oncology), as set out in this document, will lie with the local and/or national training bodies.

The above curriculum has been endorsed on March 4, 1991 by the national societies of:

Austria, Belgium, Czechoslovakia, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, Yugoslavia

The ESTRO staff, educational committee and participants from 22 European countries after signing of the curriculum in Leuven on March 4, 1991.