

Clinical Oncology Module for the ESTRO Core Curriculum

Introduction

The 4th edition of the European Society for Radiotherapy and Oncology Core Curriculum for Radiation Oncology/Radiotherapy (ESTRO Curriculum) describes the minimum competences necessary to deliver ionising radiation therapy including when this forms part of combined modality treatments with systemic therapies¹. It identifies that “Radiotherapy (Radiation Oncology) is the branch of clinical medicine that uses ionising radiation, either alone or in combination with other therapeutic modalities, for the treatment of patients with malignant or benign disease. It may be practiced as an independent oncological specialty or may be integrated in the broader practice of clinical oncology,” that combines radiation oncology with medical oncology. Clinical oncology has been defined as the practice of physicians with the competences to, “Manage cancer patients with a wide variety of tumour types through the full disease pathway,” with specialists “Safely and effectively delivering and managing patients receiving standard systemic anti-cancer therapies in the curative, neo-adjuvant, adjuvant and palliative settings,”² in addition to demonstrating the competences related to radiation therapy described in the ESTRO Curriculum. Clinical oncologists contribute to research in systemic as well as radiation therapy. They are able to prescribe both modalities either as sole modalities or as a combinations of systemic and radiation therapy and are particularly skilled at treating side effects of these combination therapies. The specialty is therefore focused on supporting the patient through the whole of the cancer care pathway rather than being modality specific.

A questionnaire study sent to National Societies in Europe³ found a wide variation in training and practice with countries training all non-surgical oncologists as clinical oncologists, training medical and clinical oncologists or training medical and radiation oncologists. The scope of the practice of radiation oncology also varied with many radiation oncologists prescribing systemic therapies given as a combined treatment with radiation treatment.

The ESTRO Curriculum has received wide support by the clinical oncology as well as the radiation oncology community. It has been endorsed by 29 National Societies and adopted as the European Training Requirement (ETR) for Radiation Oncology/Radiotherapy by the European Union of Medical Specialists⁴. A study examining barriers to implementation of the curriculum⁵ found very high rates of agreement with the values and aims embodied in the curriculum and this was equally high in National Societies representing clinical oncologists as those representing radiation oncologists. It was therefore thought to be more appropriate to develop a clinical oncology module that could be combined with the ESTRO Curriculum than to develop a separate curriculum or to adopt a medical oncology curriculum such as the ETR for the Specialty of Medical Oncology⁶ or the ESMO/ASCO Recommendation for a Global Curriculum in Medical Oncology⁷. The module will enable trainees to follow a single curriculum.

Methods

A meeting of representatives of National Societies whose members practice clinical oncology and radiation oncologists, who regularly prescribe systemic therapy as part of combined therapy with radiation treatment, was held to discuss the value and feasibility of developing a clinical oncology curriculum. The group included a recently qualified specialist. The International Atomic Energy Authority (IAEA) is consulting with radiation oncologists from all their member states to determine the relevance and feasibility of implementing the ESTRO Curriculum. Clinical oncology, integrating the practice of radiation oncology and medical oncology, is widely practiced in countries in Africa and it is thought it would be valuable for these countries to have the possibility of moving towards training programmes that are based on an international curriculum. An oncologist from Senegal was therefore invited to be a member of the group to advise on the utility and feasibility of the clinical oncology curriculum for low- and middle-income countries during the development stage. The Clinical Oncology Module was developed with multiple iterations via email and a face to face meeting.

The recommendations for the basic science section of the ESTRO curriculum include the knowledge required for the practice of systemic anti-cancer therapy (SACT) as well as radiation therapy. The ESTRO curriculum is based on the CANMeds 2015 framework⁸ which includes the concept of Entrustable Professional Activities (EPAs), "A key task of a discipline that can be entrusted to an individual who possesses the appropriate level of competence." The EPAs, competences and enabling competences in six of the seven domains: leader, health advocate, scholar, professional, communicator and collaborator are thought to be appropriate and sufficient for the training of clinical oncologists. The EPAs and competencies in the medical expert role were also thought to be appropriate and sufficient. The group therefore concentrated on developing the additional enabling competences in the medical expert role required for the safe and effective practice of clinical oncology. The statements regarding the level of proficiency to be demonstrated by trainees at the completion of their training is expressed in the ESTRO Curriculum as the level of the EPAs that trainees are expected to achieve in relation to each tumour site. This includes the management of the primary tumour and metastases arising from it. The ESTRO Curriculum states that clinical oncology trainees will demonstrate competences in systemic as well as radiation therapy. We propose that in general the same level of EPAs should be recommended for SACT as for radiation competences. We have therefore only made statements about expected EPA levels for tumour sites that are not treated by radiation oncologists.

Clinical Oncology Module

This is designed to be read in conjunction with the ESTRO Curriculum.

Definition

Clinical oncologists are physicians with the competences to manage cancer patients with a wide variety of tumour types through the full disease pathway combining the competences of radiation and medical oncologists. Clinical oncologists safely and effectively deliver and manage patients receiving systemic anti-cancer therapies as well as treatments with ionising radiation in the curative, neo-adjuvant, adjuvant and palliative settings, either as sole modalities or in combination. Clinical oncologists take part in research using new systemic therapies. They also possess the competences to focus on symptom control, supportive care and palliative medicine, when neither modality is appropriate.

Objectives

The objective of the training programme is to educate and train physicians in the specialty of clinical oncology to the level of competency allowing them to practice as an independent specialist.

Length of training

The training period should be sufficient to obtain the competences to become an independent specialist. In general, the training programme should be at least five years full time or an equivalent period part-time. At least 80% of the programme should be spent in clinical work including time in education.

Components of training in addition to those in the ESTRO Curriculum

Organisation of programme

Organisational aspects of patient care and practical teaching vary widely between European institutions. In some institutions trainees will gain experience of managing patients receiving radiation treatment and patients receiving SACT at the same time while others will gain the experience in separate modules.

Programme Director

The Programme Director must be a highly qualified clinical oncologist or radiation oncologist with experience of administering concurrent SACT with radiotherapy. He or she should have considerable experience in trainee education and in organisational activities.

Medical teaching staff

Adequate staffing levels in clinical oncology departments are essential for training. Several clinical oncologists with responsibility for training should be appointed. These teaching staff members need to devote dedicated professional time to the teaching programme. It is recommended that the number of trainees does not exceed the number of full time equivalent staff clinical oncologists. Sufficient supervision of the trainees should be guaranteed.

Components of the educational programme

The training programme must provide the trainee with in-depth knowledge in the basic and clinical sciences in the field of clinical oncology and must train the trainee to be proficient in the clinical practice of clinical oncology.

Practical teaching sessions

Member of the teaching staff should schedule regular practical teaching sessions with the trainees. There should be continuous feed-back to the trainees about their management of patients including their competences in radiotherapy planning and SACT. A minimum of one and preferably several practical training sessions between the teacher and the trainee should be scheduled per week to enable the trainee to reach the required levels for the EPAs.

EPAs, competences and enabling competences

The Clinical Oncology Curriculum includes all the EPAs, competences and enabling competences of the ESTRO Curriculum. The table below lists the additional enabling competences required for the safe and effective practice of clinical oncology. Thus, for example, contributing effectively to discussions at the tumour board includes SACT enabling competences in the ESTRO Curriculum and they are not restated here.

Medical Expert

- 1) Develop a management plan for patients with a cancer diagnosis
- 2) Implement a treatment strategy
- 3) Develop and implement a management plan for survivorship

Competences	Enabling Competences
Undertake the initial outpatient consultation	Select the most appropriate SACT regimen according to national and international guidelines and associated supportive measures
	Recognise if there is an appropriate research trial and discuss this with the patient and their carers
	Design a management plan in situations of uncertainty
	Modify approach to address the specific needs of individual patients taking into account their beliefs, wishes, pregnancy, comorbidities, frailty and age

	<p>Discuss a SACT treatment strategy including:</p> <ul style="list-style-type: none"> Goals of treatment Benefits and risks Pre-treatment procedures such as appropriate investigations, insertion of long line Number and timing of cycles of treatment Plan for assessing response Acute toxicities and supportive measures Late toxicities
	Obtain a valid consent from the patient
	<p>Diagnose oncological emergencies including:</p> <ul style="list-style-type: none"> Spinal cord compression SVC obstruction Neutropenic sepsis Autoimmune reactions in patients receiving immunotherapy Thromboembolic disease Metabolic abnormalities such as hypercalcaemia, hyponatraemia and hyperkalaemia Major organ failure Reduced level of consciousness <p>Manage them effectively and recognise when referral to another specialty or the Intensive Care Unit is indicated</p>
Implement the treatment strategy	Coordinate the appropriate investigations, procedures and appointments effectively
	Generate a SACT prescription that is safe and accurate
	Assess toxicity of treatment at each appointment and modify treatment appropriately
	Provide appropriate supportive therapies for toxicities
	Manage patients receiving combined treatments including radiotherapy and SACT

	Coordinate appropriate investigations to assess response to treatment and toxicities of treatments.
	Evaluate response to treatment using RECIST, iRECIST and other commonly used criteria for formally evaluating response
	Discuss results of the investigations clearly and empathetically with the patient and their carers
	Organise follow up of patient including management of late toxicities either personally or in collaboration with colleagues
	Communicate clearly and in a timely manner with colleagues
Manage patients with relapsed or progressing disease	Explain the options if the cancer has relapsed or is progressing, eliciting the patient's wishes and clearly explaining the benefits and risks
	Identify when further SACT will not be beneficial to the patient and communicate this clearly and empathetically to the patient and their carers
	Design and implement a management plan to improve symptoms and provide support in the end of life setting including collaboration with appropriate colleagues

Proficiency in Treating Cancer at Different Sites

This is in line with the ESTRO Curriculum. The levels of the EPAs required for SACT, or radiation therapy combined with SACT, in general, are the same as those required for radiation competences for each site and are therefore not repeated here. In the management of patients with lymphomas clinical oncologists will be expected to demonstrate competencies in radiation therapy but may not possess competencies related to SACT. The level of EPAs required for cancers treated with SACT but not radiation therapy are listed in the table below:

Level	Site	Subsite or subtype
4-5	Lower gastrointestinal	Colon adenocarcinoma
4-5	Ovary	Epithelial cancer
2-5	Testis/Ovary/Other sites	Germ cell tumours
2-5	Gastrointestinal	GIST
2-5	Hepatobiliary	Hepatocellular carcinoma
2-5	Lung/Gastrointestinal/Other sites	Neuroendocrine carcinoma
1-3	Hepatobiliary	Cholangiocarcinoma

1-2	Ovary	Sex cord stromal tumours
1-2	Placenta	Gestational trophoblastic neoplasia

Assessment

Assessment should be as recommended in the ESTRO Curriculum. It is important that workplace based assessments include direct observation of interactions with patients receiving SACT.

Conclusion

A Clinical Oncology Module has been developed as an addition to the ESTRO Curriculum. Together they cover the entire cancer patient pathway rather than being modality specific. It is hoped this will benefit National Societies by establishing comparable standards of training in clinical oncology across Europe and trainees by providing a single curriculum for clinical oncology. It may also benefit low- and middle-income countries by providing an international clinical oncology curriculum on which they can base their training programmes.

